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Cooperative
ECONOMIC INSECT
REPORT

Issued by
PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE



AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS caused severe damage to wheat in several New Mexico counties. Treatments applied to about 60,000 acres of cropland in Curry County, about 183,000 acres of other land treated in Roosevelt and Curry Counties and about 85,000 acres will be treated in Colfax County. Many alfalfa fields averaged 40 per square yard in field and 65 per square yard in margins in Union County, South Dakota. (p. 596).

EUROPEAN CORN BORER infestations heavy in wheat in Talbot, Frederick and Prince Georges Counties, Maryland, and early corn heavily infested in Delaware. (p. 596). BLACK CUTWORM causing most concern of any insect thus far this season in Illinois. (p. 597).

ALFALFA WEEVIL extremely abundant most areas in Colorado. (p. 599).

DOUGLAS-FIR TUSSOCK MOTH heavy and damaging white fir on 18,000 acres in Cibola National Forest and 1,500 acres in Lincoln National Forest, New Mexico. Control underway. (p. 607).

HORN FLIES increasing in Oklahoma and DEER FLIES are abundant over New Jersey. (p. 610).

INSECT DETECTION: Southwestern corn borer collected for first time in Mississippi. (p. 599). A May beetle (*Phyllophaga aeruginosa*) discovered at Miami, Florida; first record in the United States. (p. 598). European pine sawfly collected for first time in Iowa. (p. 608). *Apanteles fumiferana* recorded in Pennsylvania for first time. (p. 611). New county records in California were *Apterona crenulella* in Butte County (p. 608) and brown-headed ash sawfly in Mariposa County (p. 609).

CORRECTIONS (p. 612).

ADDITIONAL NOTES (p. 612).

Reports in this issue are for the week ending June 26, unless otherwise designated.

WEATHER OF THE WEEK ENDING JUNE 29

Temperatures this week averaged generally near seasonal over most of the Nation. The northern tier of states, from the western Great Lakes to the Pacific Northwest experienced a cooling trend throughout the week, and by Monday cooler air reached southward to northern sections of California and Colorado and to the Great Lakes. Minimum temperatures over the northern Great Plains on Sunday and Monday generally reached the 40's and 50's, while maxima in the 50's and 60's were reported. Coastal New England was cooled by cloudy, showery weather in maritime air from the Atlantic, while widespread cloudiness and moderate to heavy rainfall held

(Weather continued on page 605)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - NEW MEXICO - Caused severe damage to wheat in Roosevelt, Curry, Quay, Harding, Lea and Colfax Counties. About 60,000 acres of cropland treated in Curry County with about 183,000 acres of other land treated in Roosevelt and Curry Counties. About 85,000 acres of rangeland will be treated in Colfax County. (N. M. Coop. Rpt.). TEXAS - Several range species, 1-30 per square yard, in fields in 3 panhandle and 3 high plains counties. Infestations 100 per square yard noted on soil bank land. (Russell et al.). Melanoplus differentialis caused heavy damage to several crops in many sections of State. (Tex. Coop. Rpt.). OKLAHOMA - Counts 3-6 per square yard on rangeland in Osage County; dominant species Melanoplus spp., Ageneotettix deorum and Amphitornus coloradus. Counts along crop margins in Tulsa, Rogers and Nowata Counties ranged 2-6 per square yard; dominant species Melanoplus spp. Development ranged 2-4th instars. (Robinson). Counts ranged 1-7 per square yard in pastures and field margins generally in Caddo, Custer, Washita and Kiowa Counties. (Hudson). KANSAS - Average counts of grasshoppers in field margins in southwestern, northwestern and west central counties ranged 1-50 per square yard, averaging 12-15 per square yard. Dominant species M. bivittatus, M. bilituratus and Hesperotettix speciosus. (Peters). WYOMING- Infestation of undetermined species northwest of Meeteetse, Park County, averaged 100 per square yard. About 98 percent in first instar. Area of infestations might be 1,000-5,000 acres. (Spackman). Infestation developing south of Buffalo, Johnson County. Grasshoppers in first, second and third instars. (Davison). Infestation of M. bilituratus, averaging 25-50 per square yard, destroyed first cutting of alfalfa in 40-acre field near Pine Bluffs. (Robb). UTAH - Undetermined species damaging on farms and rangeland in Boulder area of Garfield County. (Knowlton). SOUTH DAKOTA - Many alfalfa fields averaged 40 grasshoppers per square yard in field and 65 per square yard in margins in Union County. (Mast). WISCONSIN - Nymphs of Melanoplus femur-rubrum appear to be in greater numbers and more advanced in Green Lake, Marquette, Waushara, Waupaca and Adams Counties. (Wis. Coop. Sur.). ILLINOIS - Nymphs of undetermined species heavy in localized spots in grassy roadsides, but generally low. (Ill. Ins. Rpt.). LOUISIANA - Melanoplus sp. extremely abundant on grass in corn in St. Landry Parish. Some ragging noted. Neoconocephalus sp. increased on rice in Vermilion Parish. (Spink). MARYLAND - Small nymphs of undetermined species common on alfalfa and red clover in Queen Annes County. (U. Md. Ent. Dept.).

MORMON CRICKET (Anabrus simplex) - UTAH - Baiting complete on 6,000 acres in San Juan County and control is now moving to Daggett County infestation. (Thornley, Knowlton).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEW JERSEY - All sweet corn in untreated Cape May County field was damaged. Treated fields quite clean with only light tassel damage. Most larvae in fourth instar. (Ins. Dis. News1.). MARYLAND - Whorl and tassel infestations in sweet corn averaged 20-30 percent in Talbot and Queen Annes Counties. Field corn infestations on Eastern Shore ranged light to moderate generally, with an occasional field over 50 percent infested. Heavy in wheat in Talbot, Frederick and Prince Georges Counties. (U. Md., Ent. Dept.). DELAWARE - Very high infestations noted in all counties in early field and sweet corn. Fourth and fifth-instar larvae very common; tunnelling in main corn stalks noticeable. Adults of first generation probably starting to emerge. (Burbutis). VIRGINIA- Damage to corn heavy in several fields in Prince Edward County and medium in two areas of Albemarle County. (Rowell, Smith, Peery). INDIANA - Populations generally low throughout State. Plants showing whorl feeding range from 1-28 percent. Third-instar larvae observed on early-planted corn in Vigo County. (Matthew, Gould). ILLINOIS - Populations not sufficiently severe to warrant much control in field corn. Sweet corn and seed corn require treatments in some instances. Total egg masses per 100 corn

plants were 73.5 in northwest, 100 in northeast, 41.6 in central and 55 in east. Percent of plants infested by larvae were 35 in northwest, 33.5 in northeast, 23.3 in west, 23.8 in central and 18 in east. (Ill. Ins. Rpt.). WISCONSIN - Few moths appearing and some feeding observed. Egg masses averaged 1 per 25 plants in Dane County. (Wis. Coop. Sur.). MISSOURI - Emergence, egg laying and hatch complete in northern area. Some pupation of first brood noted in southeast. (Kyd, Thomas, Munson). SOUTH DAKOTA - Egg masses per 100 corn plants averaged 4 in Union County and 8 in Clay County. (Mast). Peak oviposition expected during latter part of June and first of July. Serious infestation may develop in eastern area. (Spawn). KANSAS - Corn plants up to 75 percent infested in Riley County and 0-50 percent of sorghum plants in Pottawatomie County infested. (Burkhardt).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSISSIPPI - Moths, reared from pupae in corn, submitted for identification on May 8 were determined by H. W. Capps. Collections were made at Clarksdale, Coahoma County. (Cox, Ingram). This is the first record in the State. (PPC).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - Damaged 1.8 percent of corn stalks examined in West Baton Rouge, St. Landry and Lafayette Parishes; 35 percent in 9 Acadia Parish fields; and 0-14 percent in 6 corn fields near Alexandria. Recent feeding signs found in 50 percent of sugarcane fields examined. Second-generation infestations lighter in northern sugarcane area than in southeastern or southwestern areas. Final first-generation counts show at least 500 deadhearts per acre in 47 percent of fields. First-generation borers were about 3 times as abundant in southeastern and southwestern areas as in northern area. (Spink).

SALT-MARSH CATERPILLAR (Estigmene acrea) - DELAWARE - Present on corn in New Castle and Kent and present on soybeans in Sussex Counties. (Burbutis).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Ranged 1-5 per head in grain sorghum in Burleson and Brazos Counties. (Randolph).

CORN EARWORM (Heliothis zea) - NEW JERSEY - About 5 percent of sweet corn silks in Cape May County had eggs on June 23. (Ins. Dis. Newsl.). MARYLAND - Generally light in whorls and tassels of field and sweet corn in Queen Annes County. (U. Md., Ent. Dept.). TEXAS - Averaged 1 per head in grain sorghum in Brazos and Burleson Counties. (Randolph). Heavy feeding in tassels of corn and young ears in many sections of State. (Tex. Coop. Rpt.). OKLAHOMA - Counts ranged 8-20 per 100 corn stalks in Tulsa, Rogers and Nowata Counties. (Ronbinson).

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - Few larvae observed in Dodge, Fond du Lac, Outagamie corn fields. (Wis. Coop. Sur.).

BEEF ARMYWORM (Laphygma exigua) - FLORIDA - Infesting about 40 acres of corn in association with L. frugiperda in Zellwood area. L. exigua feeding on silks. This is first State record of L. exigua on corn in State. (Fla. Coop. Sur.).

CUTWORMS (Agrotis spp.) - KANSAS - Damaging corn up to 3 feet tall in Butler, Dickinson, Shawnee and Riley Counties. Most larvae fully grown. (Burkhardt). INDIANA - Causing heavy damage to corn in many fields throughout State. Most larvae in last instar. (Matthew, Everly).

BLACK CUTWORM (Agrotis ypsilon) - ILLINOIS - Causing most concern of any insect thus far this season. Most severe damage to late-planted corn probably occurred in southeastern area. Corn in 2 townships in one county were either completely destroyed or at least stand severely reduced. Outbreak general throughout most of State. Average losses range 15-50 percent in infested fields. (Ill. Ins. Rpt.).

CHINCH BUG (Blissus leucopterus) - SOUTH CAROLINA - With continued dry weather in Piedmont, an increase in activity may be expected. (Nettles et al.).
MISSOURI - Migrations of nymphs and adults from small grain to corn and sorghum occurring throughout northern half of State. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged up to 4 per stalk in corn fields in Tulsa, Rogers and Nowata Counties (Robinson) and 10-15 per grain sorghum stalk in Grady and Caddo Counties (Pennington).

BILLBUGS - SOUTH CAROLINA - Major problem to corn in Florence County despite outstanding results from soil treatments. (Nettles et al.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Generally light on corn in Queen Annes, Wicomico and Worcester Counties. (U. Md., Ent. Dept.). OKLAHOMA - Counts ranged 10-20 per 100 stalks in corn and grain sorghum in Cleveland, Grady and Caddo Counties. (Pennington). DELAWARE - Common to prevalent on corn in most areas. (Burbutis).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - D. longicornis averaged 25 per corn plant in fields planted in corn for 3 or more years in succession. (Wis. Coop. Sur.). ILLINOIS - D. undecimpunctata howardi adults feeding on 0-10 per 100 plants. (Ill. Ins. Rpt.).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Severe on corn in 2 areas of King and Queen County (Sedivy). DELAWARE - Present in corn in Kent and Sussex Counties and very common in one soybean field in Kent County. (Burbutis). MARYLAND - Light on soybeans in Wicomico, Talbot and Queen Annes Counties. (U. Md., Ent. Dept.).

A MAY BEETLE (Phyllophaga aeruginosa) - FLORIDA - Discovered at Miami and seems to be well established in that area. This species had been known previously only from Cuba where it is listed as a pest of sugarcane in the "white grub" stage. Adults feed on foliage at night and were found feeding on at least 15 species of native and exotic trees in Miami. Damage was quite severe on several hosts. Surveys are being conducted to determine extent of infestation. Over 400 adults were collected in less than one hour on June 16 by hand picking and additional specimens were taken at a blacklight trap. All inspectors in southern part of State are requested to be on alert for these beetles and to check for them at lights at night. (Woodruff).

A WEEVIL (Anacetrinus deplanatus) - TEXAS - Averaged 1-2 larvae per stalk in grain sorghum in McLennan County; 80 percent of stalks infested. (Randolph).

WIREWORMS - MARYLAND - Injury to field corn in eastern Wicomico County has been heavy. Replanting necessary in some fields. (U. Md., Ent. Dept.).

COLASPIS (Colaspis spp.) - ILLINOIS - A Colaspis sp. damaged up to 25 percent of corn plants in upland fields in Monroe County. Infestations general in east, southeast, central and west southwest. (Ill. Ins. Rpt.). MISSOURI - Adults observed on corn, soybeans and alfalfa. Counts 0-2 per foot of row in soybeans and 0-1 per sweep in alfalfa. (Kyd, Thomas, Munson).

THRIPS (undetermined) - MARYLAND - Abundant and causing moderate injury to soybeans in many localities in Wicomico and Worcester Counties. (U. Md., Ent. Dept.). VIRGINIA - Heavily damaged corn some fields in Augusta and Rockbridge Counties. Infestation fairly general. Damage much less apparent than 7-10 days ago. (Woodside). INDIANA - Causing severe damage to small corn plants many fields in west central area of State. Counts diminishing somewhat in fields of knee-high growth. Controls being applied. (Matthew, Everly). MISSOURI - Damage to seedling corn noted throughout northern half of State. Counts 5-20 per plant on small corn. (Kyd, Thomas, Munson). KANSAS - Causing yellowing of sorghum plants in small areas of western Kansas. (Peters).

A THRIPS (Limothrips sp.) - WYOMING - Small numbers found in small grain fields in Campbell, Crook, Weston and Niobrara Counties. Counts 12-16 per 100 sweeps. (Davison).

STINK BUGS - NEW MEXICO - Thyanta pallidivirens spinosa and Chlorochroa sayi moderately heavy and damaging barley in Lea County. Much lighter in wheat in Curry, Roosevelt, Quay and Harding Counties. (N. M. Coop. Rpt.). TEXAS - Averaged 1-2 per grain sorghum head in Burleson and Brazos Counties, mostly Oebalus pugnax. (Randolph).

GREENBUG (Toxoptera graminum) - WISCONSIN - Reports from 33 counties indicate about 16,635 acres of oats have been treated. (Wis. Coop. Sur.).

A WHEAT APHID (Brachycolus tritici) - NEW MEXICO - Has been serious in several wheat fields in Curry and Roosevelt Counties. (N. M. Coop. Rpt.).

STALK BORER (Papaipema nebris) - PENNSYLVANIA - A 20-percent infestation in wheat reported in Lancaster County. (Udine, June 18).

WHEAT HEAD ARMYWORM (Faronta diffusa) - NEW MEXICO - Averaged about 6 per 100 sweeps in wheat fields near Mosquero, Harding County. (N. M. Coop. Rpt.).

HESSIAN FLY (Phytophaga destructor) - PENNSYLVANIA - Numbers present in wheat in Cumberland County. (Pepper).

BROWN WHEAT MITE (Petrobia latens) - NEW MEXICO - Heavy, damaging alfalfa and barley fields near Artesia in Eddy County. (N. M. Coop. Rpt.).

ALFALFA WEEVIL (Hypera postica) - COLORADO - All stages, extremely abundant most areas; particularly in untreated fields. New areas with heavy infestations of concern to growers. Parasitism by Bathyplectes curculionis as high as 50 percent in areas where species has been present for number of years. (Col. Ins. Sur.). WYOMING - Larvae averaged 400-500 per 100 sweeps in unsprayed alfalfa field in Platte County and 1000 per 100 sweeps in unsprayed field in Crook County. Damage was 25 and 30 percent respectively. Little or no damage observed in other fields checked in Lincoln, Platte, Campbell, Weston, Niobrara and Goshen Counties. (Davison). IDAHO - A 200-acre alfalfa field in Caribou County showing severe larval feeding damage. Larval injury present in many Bingham and Power County alfalfa fields. (Bishop).

ALFALFA LOOPER (Autographa californica) - WASHINGTON - Averaged 5 per 25 sweeps in red clover seed fields near Quincy; approximately 20 percent infested with granulosis virus disease. (Johansen).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - WYOMING - Larvae ranged 0-15 per 100 sweeps near Gillette, Campbell County. Little damage noted. (Davison).

A CLOVER BUD CATERPILLAR (Grapholitha conversana) - IDAHO - Half-grown larvae present in red clover heads from Grangeville and white clover heads from Donnelly. Infestations general with little damage evident. (Cook, Greenwell).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - DELAWARE - Larvae, first of season, found in one alfalfa field in Kent County. (Burbutis).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - TEXAS - Ranged 5-10 per sweep in alfalfa in Burleson and Brazos Counties; causing some damage. (Randolph).

FALSE CHINCH BUGS (Nysius spp.) - SOUTH DAKOTA - Counts as high as 6 per 10 sweeps in alfalfa and sweetclover in southeast area. (Mast). UTAH - Moderately numerous on alfalfa at Price, Ferron and Salina. (Knowlton).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Averaged 2 per sweep on alfalfa in Montgomery County and less than one per sweep in Carroll and Queen Annes Counties. (U. Md., Ent. Dept.). VIRGINIA - Building up on alfalfa some areas of State. (Morris). MISSOURI - Counts in alfalfa 6-8 per sweep in heavier fields in southeast and 0-12 per sweep in east central area. (Kyd, Thomas, Munson). WISCONSIN - Adults ranged 2-17 per sweep in alfalfa regrowth in Dane, Dodge and Fond du Lac Counties. Adults and nymphs found most uncut alfalfa fields in State. (Wis. Coop. Sur.). ILLINOIS - Adults averaged 523 and nymphs 229 per 100 sweeps in clover and alfalfa fields in northern half of State. (Ill. Ins. Rpt.). DELAWARE - Common to prevalent on clover and alfalfa in New Castle and Kent Counties. Becoming common on soybeans in Kent and Sussex Counties. (Burbutis).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Heaviest in blooming alfalfa fields near Estancia, Torrance County. Averaged about 6 adults and 45 nymphs per sweep. Growers treating alfalfa which is to be used for seed. Counts in these fields averaged less than 1 per 25 sweeps. (N. M. Coop. Rpt.). WYOMING - Present in all alfalfa fields in western and northeastern areas. Populations 4-40 per 100 sweeps in hay fields. (Davison). OKLAHOMA - Counts 4-6 per sweep in alfalfa in Bryan and Love Counties. (Vinson).

TARNISHED PLANT BUG (Lygus lineolaris) - MARYLAND - Common in Queen Annes County. (U. Md., Ent. Dept.). DELAWARE - Nymphs and adults present to abundant on alfalfa, clover and soybeans in areas of State. (Burbutis).

RAPID PLANT BUG (Adelphocoris rapidus) - DELAWARE - Nymphs present to common on alfalfa in New Castle and Kent Counties, very common on clover in New Castle County and becoming abundant on soybeans in Sussex County. (Burbutis).

PEA APHID (Macrosiphum pisi) - NEW MEXICO - Apparently light throughout State. (N. M. Coop. Rpt.). WYOMING - Counts per 100 sweeps were 60 in southern Lincoln County, 75 in northern Lincoln County, 20-40 in Platte County, 30 in Crook County and 800 in Goshen County. No damage observed. (Davison). OKLAHOMA - Counts 2-6 per sweep in alfalfa in Bryan and Love Counties. (Vinson). IDAHO - About 200 per sweep in alfalfa west of Idaho Falls. Populations in Bonneville County greater than normal this season. (Kohl). Populations 5-25 per sweep in alfalfa in Bingham and Power Counties. (Bishop).

SPOTTED ALFALFA APHID (Therioaphis maculata) - COLORADO - Reported along lower Colorado River in Mack, Loma and Fruita areas of Mesa County, in Montezuma County and the Arkansas River drainage. None observed in northeastern area to June 24. (Colo. Ins. Sur.). VIRGINIA - Damaging populations expected in several areas if hot, dry weather continues. (Morris). ILLINOIS - Counts 10 per 100 sweeps in alfalfa field near Havana. (Ill. Ins. Rpt.). OKLAHOMA - Counts 4-30 in alfalfa in Bryan and Love Counties (Vinson) and 2.5-3.5 per sweep in Custer and Kiowa Counties (Hudson). KANSAS - Few found in alfalfa field in Haskell County. (Peters).

SWEETCLOVER APHID (Myzocalidium riehmii) - VIRGINIA - Collected from sweetclover in Newport News dock area. Det. L. M. Russell. New area record for State. (Gentry).

YELLOW CLOVER APHID (Therioaphis trifolii) - DELAWARE - Fairly common in clover in Kent County. (Burbutis).

CLOVER APHID (Anuraphis bakeri) - WASHINGTON - Increased 10-fold in red clover fields near Quincy during past 2 weeks, up to 40 per 10 heads. Fields vary because cutting dates were up to 4 weeks apart. (Johansen).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Moderate injury to soybeans noted in Wicomico County. (U. Md., Ent. Dept.). ILLINOIS - Adults averaged 17 per 100 sweeps in soybean fields in northern half of State. (Ill. Ins. Rpt.). DELAWARE - Common to numerous on soybeans in Sussex County, causing moderate feeding injury some fields. (Burbutis).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Fairly heavy populations throughout State on soybeans. Some damage to cowpeas noted in Pee Dee area. (Nettles et al.). NEW MEXICO - Becoming a problem on beans in Estancia Valley, Tarrant County. Treatment necessary many fields. (N. M. Coop. Rpt.). DELAWARE - Present to common on soybeans in Kent and Sussex Counties, causing increased feeding injury some fields. (Burbutis).

PALE-STRIPED FLEA BEETLE (Systema blanda) - DELAWARE - Present to common on soybeans in Kent and Sussex Counties. Present to common on legumes in Kent and New Castle Counties. (Burbutis).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Very common to abundant on soybeans in Sussex County. Also present on alfalfa in New Castle County. (Burbutis).

MITES (undetermined) - MARYLAND - Spider mites heavy and injuring outer rows of soybeans at Easton, Talbot County. (U Md., Ent. Dept.). TEXAS - "Firing" grain sorghum severely in Willacy and Hidalgo Counties. (Deer).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW JERSEY - First-brood entries past peak in southern and central areas. (Ins. Dis. News1.). VIRGINIA - First brood still active in northern area apple orchards. Infestations normal to slightly heavy at present. (Hill). INDIANA - No adults have emerged from overwintering larvae in emergence cages since June 14 in Vincennes area. A few early first-brood larvae had begun to leave apples to pupate for second brood, June 18. (Hamilton). A few adults still emerging from packing houses in Orleans area. (Marshall). MICHIGAN - Spring adult activity is at peak. (Hutson, June 24). MISSOURI - New entries noted in Cape Girardeau area June 21. Young larvae found in Sedalia and Lees Summit on unsprayed apples. Indications are there will probably be continuous emergence the rest of the season. (Wkly. Rpt. Fr. Grs.).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MICHIGAN - First brood 85 percent pupated in vicinity of Coloma, Watervliet, Stevensville, Sodus and Benton Harbor, June 15. (Hutson). ILLINOIS - Peak of second-brood hatch has occurred in Carbondale area. (Meyer). VIRGINIA - Heavy in some apple orchards in northern area. (Hill). MISSOURI - Considerable numbers in south central area. (Wkly. Rpt. Fr. Grs.).

FRUIT TREE LEAF ROLLER (Archips argyrospila) - NEW MEXICO - Severely defoliated apple trees at Taos, Taos County. (N. M. Coop. Rpt.).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Severe on fruit trees in King and Queen County. (Sedivy).

EUROPEAN RED MITE (Panonychus ulmi) - ILLINOIS - Counts from a block of apple trees at Belleville were 5 per 100 leaves, June 2; 206 per 100 leaves, June 15; 1,000 per 100 leaves, June 23. Populations range from zero to destructive numbers over the State. (Meyer). VIRGINIA - Heavy in localized areas in northern area orchards but generally lighter than usual. (Hill). PENNSYLVANIA - Caused some browning of leaves in some Huntingdon County apple orchards. (Udine).

SPIDER MITES (Tetranychus spp.) - NEW MEXICO - Mostly light to moderate with occasional heavy infestation in apple orchards in Rio Arriba, Bernalillo, Sandoval, Lincoln and De Baca Counties. (N. M. Coop. Rpt.). SOUTH CAROLINA - T. telarius building up on apples near Walhalla. Heavy on peaches and causing damage in Edgefield County. (Nettles et al.). MISSOURI - T. telarius few to numerous nearly all apple and peach orchards statewide. (Wkly. Rpt. Fr. Grs.).

APPLE APHID (Aphis pomi) - VIRGINIA - Very heavy in northern area apple orchards around first of June, but have now fallen off some. (Hill). MISSOURI - Light to numerous on water sprouts of apple trees statewide. (Wkly. Rpt. Fr. Grs.).

ROSY APPLE APHID (Anuraphis roseus) - NEW MEXICO - Spotty, heavy infestations in several orchards in Taos County. (N. M. Coop. Rpt.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Many moderate to heavy infestations in apple orchards in Lincoln, Rio Arriba, Taos, Sandoval and Bernalillo Counties. (N. M. Coop. Rpt.).

CURRENT FRUIT FLY (Epochra canadensis) - CALIFORNIA - Heavy on currants in Willow Creek area of Humboldt County. (Cal. Coop. Rpt.).

HALL SCALE (Nilotaspis halli) - CALIFORNIA - Inspections during May were carried on in the Rath area and the community of Paradise in Butte County and Davis, Yolo County. The third and final survey of Davis was initiated during May. All dooryard hosts within a half-mile radius of the earlier infestation are being examined. The 14 treated blocks will be given a post-fumigation inspection, which will complete the planned inspection of Davis. Inspections during May have revealed no live Hall scale. (PPC, West. Reg.).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - MICHIGAN - Numerous in southern area to as far north as Grand Rapids. (Hutson).

GREEN PEACH APHID (Myzus persicae) - IDAHO - Movement of spring migrants from peach trees in upper Snake River Valley nearly complete. Still moderate on some apricot trees in this area. (Bishop).

BLACK PEACH APHID (Anuraphis persicae-niger) - NEW MEXICO - Heavy on peach trees at Riveonada, Rio Arriba County. (N. M. Coop. Rpt.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MICHIGAN - Damage from first-brood larvae ceased. (Hutson, June 24). ILLINOIS - Much of second-brood attack is over and generally under control in Carbondale area. (Meyer). MISSOURI - Numerous on peaches in Campbell area, June 19. (Wkly. Rpt. Fr. Grs.).

WESTERN CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - CALIFORNIA - By the end of May, 1,871 traps were in operation in Siskiyou, Humboldt and margins of Trinity Counties. During May, 601 host trees were removed. (Cal. Coop. Rpt., May Sum.).

FALL WEBWORM (Hyphantria cunea) - LOUISIANA - Infesting pecans generally throughout State. (Spink). GEORGIA - Larval nests beginning to show up on pecan trees in Athens area. (Snapp). NORTH CAROLINA - Skeletonizing and webbing apple foliage in Randolph County. (Stallings, Rabb).

WALNUT CATERPILLAR (Datana integerrima) - LOUISIANA - Doing some damage to pecan trees in the greater New Orleans area. (Spink).

ORANGE-DOG (Papilio cresphontes) - TEXAS - Larvae feeding on leaves of orange trees in Ft. Bend County. (Turney).

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Now occurring farther north than previously and is developing into a serious problem in central area. (Cal. Coop. Rpt., May Sum.) LOUISIANA - Still heavily infesting citrus in Plaquemines Parish. (Spink).

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Serious on citrus in West Sacramento, Yolo County, during May. Light to heavy in San Bernardino County and trace to light in Riverside and Orange Counties. (Cal. Coop. Rpt., May Sum.).

BLACK SCALE (*Saissetia oleae*) - CALIFORNIA - Light to heavy on citrus and several weeks ahead of normal. Heavier than for many years and increasing because of lack of parasitism in Orange County. (Cal. Coop. Rpt., May Sum.).

ORANGE TORTRIX (*Argyrotaenia citrana*) - CALIFORNIA - Moderate in 450 acres of bushberries and 13,000 acres of prunes in the Sebastopol area of Sonoma County. Infestation heavier than normal this year. (Cal. Coop. Rpt.).

A HORNTAIL (*Hartigia cressonii*) - CALIFORNIA - Moderate on blackberry plants in Jackson, Amador County. Damage very annoying to home gardeners in many locations of State. (Cal. Coop. Rpt.).

BLUEBERRY MAGGOT (*Rhagoletis pomonella*) - NEW JERSEY - Adult population very heavy in the Atlantic County area and ready to begin ovipositing. Traps there caught 675 flies through June 20 of this year, compared with 177 through July 4 of 1958. (Ins. Dis. Newsl.).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - IDAHO - Adult population several times greater this season in the Moscow area than during the past five years. Adults present in most upper Snake River Valley fields. Oviposition starting. Populations much higher at present than past two seasons. (Fitzgerald, Portman, Manning, Bishop).

POTATO FLEA BEETLE (*Epitrix cucumeris*) - DELAWARE - Abundant several large potato fields New Castle County; rather heavy injury. Present to common in potatoes in Kent County. (Burbutis, Conrad). WISCONSIN - Declining moderate to heavy populations several counties. (Wis. Coop. Sur.).

BLISTER BEETLES - NEW MEXICO - Moderately heavy and damaging potatoes near Lovington, Lea County. (N. M. Coop. Rpt.).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - DELAWARE - Common to very abundant, severallarge potato fields, Kent and New Castle Counties. (Burbutis).

GREEN PEACH APHID (*Myzus persicae*) - WASHINGTON - Moderate to heavy on potatoes and weeds in Yakima County. (Landis). MARYLAND - Increasing on peppers in northern Worcester County. Light in other sections. (U. Md., Ent. Dept.).

POTATO APHID (*Macrosiphum solanifolii*) - NEW JERSEY - Moderate on tomatoes in Delaware River areas. (Ins. Dis. Newsl.).

POTATO LEAFHOPPER (*Empoasca fabae*) - MARYLAND - Adults and nymphs abundant on potatoes at Easton; hopperburn evident. Light on beans in same area. (U. Md., Ent. Dept.). SOUTH DAKOTA - Large numbers in Brookings County; potato plants showing signs of burning. (Severin). DELAWARE - Present to common on beans in Sussex County and potatoes in New Castle and Kent Counties. (Burbutis).

SIX-SPOTTED LEAFHOPPER (*Macrosteles fascifrons*) - WISCONSIN - Light on potatoes in southeastern area but fairly heavy in the Oneida County area. (Wis. Coop. Sur.).

POTATO PSYLLID (*Paratrioza cockerelli*) - COLORADO - Continues high on lycium in Prowers, Bent, Otero and Pueblo Counties. Tomatoes infested and symptoms of yellows appearing in tomato patches in Larimer and Weld Counties. (Daniels). WYOMING - Occurred at the following rates per 100 sweeps on matrimonyvine: 2 at Pine Bluffs, 26 at Torrington and 4 at Douglas. (Robb, Davison)

POTATO TUBERWORM (Gnorimoschema operculella) - CALIFORNIA - Moderate on potatoes in Castroville area of Monterey County. (Cal. Coop. Rpt.).

GOLDEN NEMATODE (Heterodera rostochiensis) - Survey was begun in ARIZONA late in May in the potato-growing areas. Collecting of soil samples will continue during most of June in Maricopa, Pinal and Yuma Counties. When ARIZONA work is completed, it will terminate the survey for the Western Region that was begun in 1958. (PPC. West. Reg.).

AN APHID (Cavariella aegopodii) - CALIFORNIA - Moderate on carrots in Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) - CALIFORNIA - Damaged 15-20 percent of artichoke buds in San Mateo County. (Cal. Coop. Rpt., May Sum.).

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - The spring campaign was concluded the first of May with the treatment of 170 acres of second-generation leafhoppers which averaged 6-10 per 10 sweeps in Corral Hollow Canyon west of Tracy. This brought the total acres treated to 8,610. The survey in other areas showed from 0-3 per 10 sweeps in the Sacramento Valley, 1-4 per 100 sweeps Stockton to Newman, and Merced through Kern Counties showed no build up. An occasional leafhopper was found in the Santa Clara and Salinas Valleys, 1-4 per 100 sweeps in the Santa Maria Valley and 3 per 100 sweeps in the Tehachapi area. Winter vegetation now dried completely and no more migrations are expected from the breeding grounds. Final readings of virus tests of natural infectivity of leafhoppers collected in the breeding grounds are Big Panoche Canyon, 5 percent; Jacalitos Canyon, zero; Derby Acres, 38.2 percent; Edison Hills, zero; Corral Hollow, zero; and stock beets in Imperial Valley, 75.9 percent. (Cal. Coop. Rpt., May Sum.).

BEEF WEBWORM (Loxostege sticticalis) - COLORADO - Egg deposition on lettuce in Costilla and Alamosa Counties is of concern. (Daniels). UTAH - Still below normal in abundance and damage in central and northern areas. (Knowlton). IDAHO - Eggs being laid with some hatching at Idaho Falls. (Kohl).

THRIPS - NEW MEXICO - Heavy and damaging onions in Lea County. (N. M. Coop. Rpt.).

PEA APHID (Macrosiphum pisi) - WISCONSIN - Buildup in late peas has been slow in most areas. (Wis. Coop. Sur.). IDAHO - Light to scattered spots of heavy infestations on peas in Latah and Nez Perce Counties. Almost nonexistent in later maturing pea fields. (Futter, Kambitsch, Portman).

PLANT BUGS - DELAWARE - Adelphocoris rapidus and Lygus lineolaris common to abundant several bean fields in Sussex County and L. lineolaris prevalent on cucumbers and lettuce in Kent County. (Burbutis, Conrad).

HARLEQUIN BUG (Murgantia histrionica) - NEW MEXICO - Very heavy and damaging fields of cabbage in Lea and Valencia Counties. (N. M. Coop. Rpt.).

CABBAGE MAGGOT (Hylemya brassicae) - CALIFORNIA - Moderate to severe on crucifers in Eureka area, Humboldt County. (Cal. Coop. Rpt., May Sum.). WISCONSIN - As serious on cabbage as has been observed in nearly a decade. (Wis. Coop. Sur.).

A CHRYSOMELID BEETLE (Lema californica) - CALIFORNIA - Heavy on Datura sp. in El Cajon, San Diego County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults increasing on tobacco in Calvert and Prince Georges Counties. (U. Md., Ent. Dept.). VIRGINIA - Moderate in several fields in Pittsylvania County. (Dominick).

WIREWORMS - SOUTH CAROLINA - Damage unusually heavy on tobacco in Williamsburg County. (Nettles et al.).

HORNWORMS (*Protoparce* spp.) - MARYLAND - Continue to increase on tobacco in Calvert and Prince Georges Counties. (U. Md., Ent. Dept.). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

TOBACCO BUDWORMS (*Heliothis* spp.) - MARYLAND - *H. virescens* infestations averaged 4 percent on tobacco in southern Prince Georges County. (U. Md., Ent. Dept.). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

GREEN PEACH APHID (*Myzus persicae*) - MARYLAND - Light to date on tobacco in southern area. (U. Md., Ent. Dept.). VIRGINIA - Light to moderate on tobacco in Pittsylvania County. (Dominick). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

(Weather continued from page 595)

temperatures below average in the Texas-Oklahoma area. Above-normal temperatures for the week extended from the Far Southwest through the central Great Plains, the middle Mississippi and Ohio Valleys to the Middle and South Atlantic States. In the Middle Atlantic States a warming trend brought the hottest weather of the season, with humid days and warm nights. Afternoon temperatures of 100° were felt in central North Carolina and Maryland, and 90° readings extended to New York and into northern Vermont. Warm, humid weather from the Appalachians to the Rockies over the middle of the country produced the warmest week of the season in Indiana, Tennessee and Arkansas, and temperatures exceeded 100° on a few afternoons in western Kansas. In the West 90° temperatures extended to central Oregon and the northern Plateau at midweek, while readings reached well over 100° from interior California to southwest Texas, with Thermal, California, reporting 117°; Roswell, New Mexico, 110°; and Laredo, Texas, 101°.

Heaviest precipitation during the week was centered over wide areas from the southern Great Plains northeastward to southern New England and over the northern Great Plains and the upper Mississippi Valley. Although local rains up to 12 inches produced flash flooding on the Edwards Plateau in Texas, general showers from the lower Great Plains to the Ohio Valley were very beneficial. Moderate to heavy rains from Montana to Wisconsin and northern Illinois and Indiana brought relief from the dry spell, greatly improved soil moisture and benefited crops. Widely scattered but generally light showers and thunderstorms occurred in the Rocky Mountains, the Plateau and the Pacific Northwest. Amounts were generally below 1/2 inch, except in local areas of Utah, Wyoming and Idaho. No rains of consequence was reported from central California eastward to New Mexico, but conditions in irrigated sections are mostly favorable for rapid crop development. However, ranges are very short. In the Southeastern States light to moderate showers provided local moisture, but many areas from Alabama to the Virginias report soil-moisture deficits and a definite need for general rains. (Summary supplied by U. S. Weather Bureau.)

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Generally puncturing squares in Florence area. Occasional first-generation weevil in older cotton. (Fye et al.). Average infestation in treated fields, 4 percent; untreated, 13 percent. (Cott. Letter). TENNESSEE - Conditions favorable for buildup in southwestern counties. Heaviest concentration of weevils in smaller fields. (Locke). LOUISIANA - In 2 fields in Tensas Parish square infestation average 18 and 29 percent; in 3 presquaring fields there were 1 to 3 per 100 feet of row. (Spink). Population counts made in 59 fields in Tallulah area, 38 infested, average of 124 weevils per acre. Square inspection in 60 fields, all infested, average infestation 18 percent. Only a few farmers treating for boll weevil. (Smith et al.). MISSISSIPPI - Very light hatch expected in delta counties. Average square infestation 2.6 percent. (Merkl et al.). ARKANSAS - Statewide cotton insect situation looks good. Weevil infestation varies from field to field. First-generation weevils emerging in extreme southeast. (Ark. Ins. Rpt.). TEXAS - In Waco area infestations average 37 percent in 6 untreated and 8.5 percent in 25 treated fields. First-generation weevils appearing and weather favorable for development. (Parencia et al.). OKLAHOMA - Nine to 30 percent of squares punctured in fields checked in McCurtain County; no adults noted. (Goin). Punctured squares ranged from 0-4 per plant in Bryan, Marshall and Love Counties. (Vinson). MISSOURI - First evidence of boll weevil in Dunklin County this season; 6 fields had 1.5 punctured squares along margins. (Kyd, Thomas, Munson).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - No major damage reported in Florence area. Moth catches lighter than in 1958. (Fye et al.). TENNESSEE - Eggs increasing and some injury in western area. Predators very numerous. (Locke). LOUISIANA - Eggs averaged 2 per 100 terminals in 3 fields in Rapides Parish. (Spink). Average square infestation of 3 percent in 58 of 60 fields examined in Tallulah area. (Smith et al.). MISSISSIPPI - Moth catches low and egg deposition light in delta cotton. (Merkl et al.). ARKANSAS - Egg numbers lighter than last week. Predators controlling infestations in many areas. (Ark. Ins. Rpt.). TEXAS - Infestations increasing in Waco areas but egg deposition has not been heavy. Eggs averaged 4.4 and larvae 1.7 per 100 terminals in 39 fields. (Parencia et al.). OKLAHOMA - One to 5 eggs per stalk in McCurtain County. (Goin). MISSOURI - Of 730 fields scouted, 139 had light egg and larval counts, 0-5 eggs and 0-7 larvae per 100 terminals. (Kyd, Thomas, Munson). NEW MEXICO - Damage in Chaves and Eddy Counties. (N. M. Coop. Rpt.). CALIFORNIA - Medium infestation in Winterhaven area of Imperial County. (Cal. Coop. Rpt.).

SPIDER MITES - SOUTH CAROLINA - Reported from Dillon, Edgefield and Anderson Counties. (Cott. Letter). TENNESSEE - Some light infestations in western area. (Locke). MISSOURI - Marginal or small spots in 196 of 730 fields examined. (Kyd, Thomas, Munson). CALIFORNIA - Becoming serious in many fields in San Joaquin Valley, serious defoliation in some fields. (Leigh). Generally low in Imperial County. (Schulback). General in Fresno County. (Stromberg). Tetranychus pacificus, T. telarius, and T. atlanticus showing in many fields in Kern County. (Leigh, Beards).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - The 1959 aerial treatment program for eradication of pink bollworm from approximately 75,000 acres of cotton in Maricopa, Pinal, Pima and Graham Counties got underway on May 15. By end of May, there were 113 argon and blacklight traps in operation. One moth was taken May 8 in trap located in vicinity of Peoria, Maricopa County. CALIFORNIA - Total of 72 traps placed in operation in San Bernardino, Imperial, Riverside and San Diego Counties during May. Traps were inspected 640 times with negative results. (PPC, West. Reg., May Rpt.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Becoming a problem in cotton in Eddy and Chaves Counties. (N. M. Coop. Rpt.). CALIFORNIA - Generally low in Kern and Imperial Counties. (Leigh, Beards, Schulback).

TARNISHED PLANT BUG (Lygus lineolaris)-LOUISIANA - Sweeping in 32 fields in Tallulah area showed 4 per 100 sweeps. (Smith et al.). MISSISSIPPI - Remains number one cotton insect problem in delta counties. Counts in untreated fields ranged from 8-26 per 100 sweeps. Loss of early squares heavy in many untreated fields. (Merk1 et al.). MISSOURI - Plant bugs; mainly this species, ranged from 1 to 9 per 100 terminals. (Kyd, Thomas, Munson).

COTTON SQUARE BORER (Strymon melinus) - NEW MEXICO - Destroying terminals in Eddy and Chaves Counties. (N. M. Coop. Rpt.).

COTTON FLEAHOPPER (Psallus seriatus) - NEW MEXICO - Beginning to build up in Chaves, Eddy and Lea Counties. (N. M. Coop. Rpt.)

GRASSHOPPERS - NEW MEXICO - Damaging cotton on borders of fields in Lea and Roosevelt Counties. (N. M. Coop. Rpt.).

BEE T ARMYWORM (Laphygma exigua) - CALIFORNIA - Medium infestations in blossoms in areas of Imperial County. (Cal. Coop. Rpt.).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Heavy in Heber area. (Cal. Coop. Rpt.).

COTTON APHID (Aphis gossypii) - OKLAHOMA - Light populations in several areas. (Pennington et al.). NEW MEXICO - Heavy near Mesilla Park, Dona Ana County. (N. M. Coop. Rpt.).

A COLASPIS - TENNESSEE - Damaging foliage and squares in northwest part of cotton-growing area. Controls needed in many fields. (Locke).

A STALK BORER - TENNESSEE - Damage unusually heavy along margins of cotton fields. (Locke).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

DOUGLAS-FIR TUSsock MoTH (Hemerocampa pseudotsugata) - NEW MEXICO - Heavy infestations damaging white fir on 18,000 acres in Sandia Mountains, Cibola National Forest, and 1,500 acres in Lincoln National Forest, near Capitan, Lincoln County. Control underway. (N. M. Coop. Rpt.).

A FIR LOOPER (Galenara consimilis) - NEW MEXICO - Damaging about 1,500 acres of white fir in Lincoln National Forest. (N. M. Coop. Rpt.).

AN OLETHREUTID (Eucosma gloriola) - PENNSYLVANIA - Very light on Scotch, Austrian and red pines and Douglas-fir in Schuylkill County. Scotch and white pines in Berks County one-third to one-half infested. (Drooz). Heavy infestation in a 4-year-old Scotch pine plantation in Juniata County, where planting was done poorly, resulting in uneven growth. (Udine).

PINE CHAFER (Anomala obliuia) - PENNSYLVANIA - Averaged about 2 per tree in a 4-year-old Scotch pine plantation where planting was poorly done, resulting in uneven growth. (Udine).

SPITTLEBUGS (Aphrophora spp.) - MICHIGAN - Nymphs of A. parallela are in fifth instar and those of A. saratogensis in the fourth instar in Cheboygan County, June 16. (Hutson). WISCONSIN - A. parallela nymphs maturing and adult emergence underway in northwest area on June 19. Hatching of A. saratogensis apparently successful in northeast area. Locally heavy infestations expected in parts of Vilas and Marinette Counties. (Wis. Coop. Sur.).

BALSAM WOOLLY APHID (Chermes piceae) - VIRGINIA - Survey on Frazer fir on Mt. Rogers in southwest part of State was negative. (Nagel).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - IOWA - Larvae collected in Scott and Mahaska Counties, week ending June 1, constitute a new State record for this species. Det. B. D. Burks. (Iowa Ins. Inf., PPC). PENNSYLVANIA - Light infestation on Scotch pine in Juniata County. (Udine).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - MICHIGAN - Larvae hatching in Cheboygan County, June 16, but not in Otsego County June 18. (Hutson).

WISCONSIN - Still in larval stage in Sauk County, but adults were flying in Columbia County June 19. (Wis. Coop. Sur.).

JUNIPER WEBWORM (Dichomeris marginella) - NEW JERSEY - Damage is beginning to appear. (Ins. Dis. Newsl.). VIRGINIA - Damaging junipers locally in Spotsylvania County. (Rowell, Kash).

FALL CANKERWORM (Alsophila pomataria) - VIRGINIA - This species, in combination with Erannis tiliaria and Phigalia lutea, caused some defoliation of hardwoods on 1,500 acres near Burkes Garden, Tazewell County. (Nagel).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - During the third week of June, 10,500 traps were placed in eastern and central area. Seventeen counties involving 8,662 square miles are included in the survey. No infestations are known to exist in the State. (Nichols).

TENT CATERpillARS (Malacosoma spp.) - COLORADO - Infestations of M. fragilis and M. disstria observed in foothills in eastern areas. Control measures being initiated by Forest Service in some mountain park areas around Denver. (Colo. Ins. Sur.). NEW MEXICO - M. fragilis infestations damaging several thousand acres of aspen stands on Carson and Santa Fe National Forests in northern part of State. (N. M. Coop. Rpt.). UTAH - Unspecified species still causing some damage to shade trees, ornamentals and chokecherry in Morgan and Weber Counties. (Knowlton). DELAWARE - Fresh egg masses of M. americanum very abundant on wild cherry in New Castle County. (Burbutis).

BAGWORM (Thyridopteryx ephemeraeformis) - DELAWARE - Common on several hosts in New Castle County and infesting mimosa in Kent County. (Burbutis). MARYLAND - Heavy on junipers in Talbot County. (U. Md., Ent. Dept.).

A BAGWORM (Apterona crenulella) - CALIFORNIA - Medium on buckbrush (Ceanothus cuneatus) in Paradise area, Butte County. This is a first record for the county and represents an extension for this species. (Cal. Coop. Rpt.)

MIMOSA WEBWORM (Homadaula albizziae) - TENNESSEE - Becoming heavy in eastern part of the State. (Mullett). MARYLAND - Injury noted on honeylocust in Talbot County. (U. Md., Ent. Dept.). DELAWARE - Larvae on mimosa in Kent and New Castle Counties. (Burbutis). PENNSYLVANIA - Larvae plentiful on honeylocust in York County. (Negley). NORTH CAROLINA - Several infestations on honeylocust in Wake County. (Keller).

ELM CALLIGRAPH (Calligrapha scalaris) - OKLAHOMA - Moderate to heavy on some American elms in Stillwater area (Price) and averaged 5 per 100 leaves on elms at Minco, Grady County. (Pennington).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Adults ranged 5-15 and larvae averaged 10 per 100 leaves on elms at Minco, Grady County (Pennington). Second-generation larvae appearing in Stillwater area and first-generation adults continue to emerge. (Price).

IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) - PENNSYLVANIA - Very heavy leaf skeletonizing on all willows along streams and roadsides in Juniata County. Adults present. (Udine). NORTH CAROLINA - Adults taken on black willow in Wake County, which is a new record this far east in State. (Weisman).

A LEAF BEETLE (Anomoea hoegei) - OKLAHOMA - Medium on mimosa trees in Pauls Valley area and light on some mimosas in Oklahoma City area. (McLemore, Bower).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - First positive case of Dutch elm disease, carried by this species, for Columbia County. Diagnosed from a tree at Portage. Since the disease was first found in the State, in 1956, cases have been found in 12 southeastern counties. (Wis. Coop. Sur.). SOUTH DAKOTA - Working on elms in Oakwood State Park, Brookings County. (Severin).

LACE BUGS (Corythucha spp.) - MARYLAND - C. arcuata injuring foliage of white oaks at several Prince Georges County localities. (U. Md., Ent. Dept.). OKLAHOMA - Nymphs, probably C. cydoniae, heavy on pyracantha in Stillwater area. (Price).

BROWN-HEADED ASH SAWFLY (Tomostethus multicinctus) - CALIFORNIA - Many ash trees defoliated along Merced River above Briceburg. First record for Mariposa County. (Cal. Coop. Rpt., May Sum.).

APHIDS - VIRGINIA - Prociphilus tessellatus continued very heavy on maples in all parts of the State. (Morris). OKLAHOMA - Periphyllus populicola heavy on small cottonwood trees in Yuba area, Bryan County. (Vinson). UTAH - Eriosoma americanum numerous in Salt Lake City-Murray area, Salt Lake County. (Knowlton).

APHIDS (undetermined) - NEW JERSEY - Observed to be heavy on chrysanthemums. (Ins. Dis. Newsl.). VIRGINIA - Light on branches of maples in Nottoway County (Rowell, West) and heavy on leaves and young terminals of maples in an area of Craig County (Rowell, Fields).

SPITTLEBUGS (undetermined) - NEW MEXICO - Heavy on chokecherry trees near Taos. (N. M. Coop. Rpt.).

SCALE INSECTS - MARYLAND - Chrysomphalus obscurus heavy on oaks in sections of Prince Georges County. Aspidiotus perniciosus infesting pyracantha at University Park. (U. Md., Ent. Dept.). VIRGINIA - Lecanium fletcheri infesting arborvitae in Giles County. First-instar crawlers present. (Morris). TEXAS - Icerya purchasi causing heavy damage to many different shrubs in Mason County. (Texas Coop. Rpt.). INDIANA - Pulvinaria innumerabilis unusually abundant throughout the State. (Schuder). COLORADO - Gossyparia spuria hatching, crawlers abundant, in Montezuma, La Plata and Larimer Counties. Controls underway in some municipal areas. (Colo. Ins. Sur.).

JAPANESE BEETLE (Popillia japonica) - NEW JERSEY - Prevalent on ornamentals. (Ins. Dis. Newsl.). PENNSYLVANIA - Very heavy on Polygonum sp. in York County (Negley) and first noticed on flowers in Lebanon County June 14 (Sleesman). DELAWARE - Very abundant on wild cherry and causing heavy leaf injury locally in Kent County. (Burbutis). MARYLAND - Becoming abundant on roses and other ornamentals in most sections. (U. Md., Ent. Dept.). VIRGINIA - Medium on roses at Crewe (Cassell) and Danville (Morris).

ROSE CHAFER (Macrodactylus subspinosus) - WISCONSIN - Populations very heavy in many light soil areas of State. (Wis. Coop. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MINNESOTA - During period June 14-20, seventeen species were found in larval collections. Culex tarsalis, C. restuans and Culiseta inornata were found in 38 percent of collections, Aedes vexans in 7 percent. The latter species accounted for 85 percent of biting collections and 82 percent of light trap collections. Psorophora horrida was taken in two biting collections in Scott County. (Minn. Ins. Rpt.).

MOSQUITOES (undetermined) - WISCONSIN - Collections decreasing in Madison, probably due to cool nights. Have been bothering grazing cattle in some counties at night. (Wis. Coop. Sur.). WYOMING - Have been a problem throughout most of State during June. (Davison). UTAH - Annoying about homes in Logan, Millville and Smithfield, Cache County. (Knowlton).

CLEAR LAKE GNAT (Chaoborus astictopus) - CALIFORNIA - Heavy populations in Placerville, El Dorado County. (Cal. Coop. Rpt.).

CATTLE GRUBS (Hypoderma spp.) - WISCONSIN - Adult activity noted in Green County. (Wis. Coop. Sur.).

HORN FLY (Siphona irritans) - OKLAHOMA - Counts per animal on cattle checked were 50-75 in Pushmataha County (Goin), 200 in Johnston County (Vinson), 250-400 in Osage County (Stiles), 750 on untreated cattle in Tulsa area (Taylor) and 750-1,000 on untreated milking animals in Payne County (Henderson, Mount). TEXAS - Light on cattle in Wharton County. (Turney).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 10 per untreated animal on cattle checked in Tulsa area. (Taylor).

TABANIDS - NEW JERSEY - Chrysops spp. numerous over the State. (Ins. Dis. News1.). LOUISIANA - Tabanus sp. averaged 10 per 15-minute collecting period in St. Landry, Calcasieu and Tensas Parishes. (Spink). OKLAHOMA - Tabanus spp. averaged one per animal on cattle checked in Pushmataha County, ranged 4-8 per animal in Johnston County and averaged 2 per animal in Tulsa County. (Goin, Vinson, Taylor).

FLIES (undetermined) - INDIANA - Clustering about eyes and nostrils of cattle in pastures. Counts ranged to 200 per head and averaged about 40 per head. Present throughout the State. (Dobson, Matthew).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Mainly this species, ranged 2-8 per animal on cattle checked in Pushmataha County, with seed ticks and nymphs appearing in great numbers in pastures in wooded areas in southeast. (Goin). Ranged 10-30 per animal on cattle checked in Johnston County. (Vinson).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - ARIZONA - During May 2 new infestations were found in Maricopa County. NEW MEXICO - Two infestations were found during May, one involved stored-grain on a ranch near Separ, Grant County, and one was on a poultry farm at Hatch, Dona Ana County. (PPC, West. Reg.). OKLAHOMA - Checks of grain, feed and seed storage firms in Noble, Kay and Tulsa Counties were negative. (Robinson).

A DERMESTID (Trogoderma simplex) - WASHINGTON - Found in wheat at Port of Tacoma, Pierce County. (Halliday).

BENEFICIAL INSECTS

LADY BEETLES - SOUTH DAKOTA - Hippodamia spp. abundant in nearly all fields in southeastern area. (Mast). WYOMING - Hippodamia sp. adults averaged 2-3 per sweep in alfalfa near Torrington. (Fronk). In alfalfa, populations averaged 3-4 per sweep in Glendo area and 1-2 per sweep near Gillette. (Davison). COLORADO - Very heavy migration of Hippodamia convergens observed to red neon lights on night of June 23-24 at Ft. Collins, Larimer County. Apparently from foothills or mountains to the west. Numbers were in the thousands and quite general in the area. (Colo. Ins. Sur.). OKLAHOMA - Averaged 3 per sweep in alfalfa and ranged 2-5 per plant in cotton fields checked in McCurtain County (Goin); adults and larvae ranged 2-7 per sweep in alfalfa and 0-2 per plant in cotton fields checked in south central area (Vinson); ranged 0-0.3 per linear foot in southwestern area cotton fields checked (Hatfield); averaged 10 per sweep in alfalfa field and up to 5 per 100 plants in grain sorghum and cotton fields checked in central area (Pennington). LOUISIANA - Counts of several species ranged 500-2,000 per acre in 5 cotton fields examined in Tensas Parish. (Spink).

BIG-EYED BUGS (Geocoris spp.) - LOUISIANA - Ranged 3-6 per 100 feet of row in 5 cotton fields examined in Tensas Parish. (Spink).

NABIDS (Nabis spp.) - SOUTH DAKOTA - Abundant in nearly all southeastern area fields. (Mast).

LACEWINGS (Chrysopa spp.) - SOUTH DAKOTA - Larvae numerous in most fields in southeastern area of State. (Mast). OKLAHOMA - Ranged up to 2 per sweep in south central area alfalfa fields checked (Vinson), up to 5 per sweep in Chickasha area alfalfa field and averaged 5 per 100 plants in a cotton field in Verdon area (Pennington). UTAH - Numerous in alfalfa fields at Price and from Huntington to Ferron in Emery County. (Knowlton).

SYRPHIDS - OKLAHOMA - Averaged one per sweep in a McCurtain County alfalfa field. (Goin). UTAH - Larvae numerous in alfalfa fields at Nephi, Juab County. (Knowlton).

PARASITES - DELAWARE - Several adults of Lydella sp. noted on corn field in Dover area where releases were made in mid-June. (Burbutis). PENNSYLVANIA - Apanteles fumiferanae taken from Choristoneura sp. on Virginia pine is first record for the State. Det. C. F. W. Muesebeck. (Drooz).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - OKLAHOMA - Check of 16 traps near air fields in Tulsa and Muskogee Counties was negative. (Robinson). INDIANA - Pupation 25 percent July 19 in Newton County. No adults found. (Gould, Bills).

CICADAS - NEW MEXICO - Undetermined species very abundant on poplars along streams in Colfax and Taos Counties. (N. M. Coop. Rpt.). NORTH CAROLINA - About 10 percent of branches of maples injured by M. septendecim in Halifax County. Many with slits running 8-12 inches on the stem. (Peeden, Farrier). TENNESSEE - Brood XIX of Magiccicada septendecim emerging in Rhea County. (Bennett).

EUROPEAN EARWIG (Forficula auricularia) - CALIFORNIA - Appears heavier this year than in 1958 and as a greater nuisance. (Cal. Coop. Rpt., May Sum.). UTAH - Complaints increasing in towns and cities in northern part of State. (Knowlton).

AN ANT (Formica montana) - NEW MEXICO - Has become a serious problem in pasture land near Cerrillos, Sante Fe County, because of the numerous mounds being made. (N. M. Coop. Rpt.).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - DELAWARE - Large swarms noted in New Castle and Kent Counties. (Burbutis).

GRASSHOPPERS - CALIFORNIA - A fungus, Entomophthora grylli, has been widespread over the State on grasshoppers and has been very effective in reducing the threat. Apparently the fungus attacks only the nymphal stage in California. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 9(25) : 551 - TENT CATERPILLARS - CALIFORNIA - M. constricta should read M. constrictum.

CEIR 9(25) : 555 - ADDITIONAL NOTES - NEBRASKA - GRASSHOPPERS - Boopedon nubilium should read Boopedon nubilum.

CEIR 9(26) : 571 - CLOVER APHID (Aphis bakeri) should read (Anuraphis bakeri).

CEIR 9(26) : 585 - SAWFLIES - WISCONSIN - Pristiphora erichsonii should read Pristiphora erichsonii.

ADDITIONAL NOTES

MINNESOTA - EUROPEAN CORN BORER emergence ranges from 65 to 100 percent in central, southwest, west central, south central and southeast districts. Egg mass counts in southwest vary from 12 to 96 per 100 plants with highest counts in Rock County. Peak egg laying should occur by July 3 or 4 in southern counties. GREENBUG populations continue to decline and it appears that all grain is out of danger from further injury with possible exception of northern counties. Red leaf virus is now widespread especially in those fields which previously had high greenbug populations. GRASSHOPPER infestations were found noneconomic in all fields checked in central, southeast, south central and southwest districts. Populations somewhat higher in west central district. (Minn. Ins. Rpt.).

WEST VIRGINIA - EUROPEAN CHAFER survey in previously infested area was negative. CATALPA SPHINX heavy on catalpa in Pendleton, Grant and Upshur Counties. MEXICAN BEAN BEETLE is light to moderate on beans statewide. COLORADO POTATO BEETLE is light on potatoes in scattered localities. (W. Va. Ins. Sur.).

RHODE ISLAND - COLORADO POTATO BEETLE larvae abundant on untreated potatoes in southern county. THREE-LINED POTATO BEETLE larvae locally abundant on potatoes and petunias. SIX-SPOTTED LEAFHOPPER adults abundant on grasses and weeds in southern county. (Kerr, Hansen).

MAINE - Following insect conditions reported from Presque Isle. On untreated potatoes, several species of potato infesting APHIDS (Macrosiphum solanifolii, M. solani, Myzus persicae, Aphis abbreviata) were ending spring migrations. M. solanifolii is the most abundant species, followed in decreasing order of abundance by M. solani, A. abbreviata and M. persicae. Overall populations on untreated potatoes are very small, averaging 6.9 percent of plants infested. POTATO FLEA BEETLE populations and feeding injury of the overwintered adults is very light on potatoes and tomatoes most places; light in few places on untreated tomatoes. Moderate to severe damage by CUTWORMS observed or reported in gardens. (Shands).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ARKANSAS						
Fayetteville 6/18-24	11	12				53
Hope 6/18-24	6	9		17		13
Kelso 6/18-24	6	1	14			15
*Morrilton 6/18-24	6	14				4
FLORIDA						
Gainesville 6/23						1
ILLINOIS						
Urbana 6/19-25	131	13		119		
INDIANA (Counties)						
Lawrence 6/17,18,21	6	6		7	1	2
Tippecanoe 6/18-24	41	2		5	1	2
KANSAS						
Garden City 6/16-22	9	14		8	3	11
Hays 6/25	12					
Manhattan 6/20,23-26	55	18		51	1	50
Wathena 6/18-24	32	12		27	4	4
LOUISIANA						
Baton Rouge 6/19-25	1	2	3			6
Franklin 6/22,24	2	1				1
Tallulah 6/20-26						1
MAINE						
Orono 6/14-20	3					
MARYLAND						
Fairland 6/12-24				1	1	
Upper Marlboro 6/12-18	1				6	3
MISSISSIPPI						
*Stoneville 6/19-25	6	21		15	6	30
MISSOURI						
Columbia 6/19-26	28	6		14	3	10
NEBRASKA						
Alliance 6/12-18	299	28		18	4	8
Concord 6/13-19	76	6		1		6
Kearney 6/14-20	66	21		6	1	68
Lincoln 6/10-17	717	81		30		115
North Platte 6/16-22	50	27		39	5	14
Scotts Bluff 6/12-18	466	74		157	4	28
NORTH CAROLINA						
Clayton 6/25					1	1
Faison 6/25		8				24
SOUTH CAROLINA						
Clemson 6/20-26	1	2		6	3	7
Charleston 6/22-28	2	2	2	2		1
SOUTH DAKOTA						
Brookings 6/25	102	3				

*Two traps Morrilton; 3 traps- Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.	
TENNESSEE (County)							
Blount 6/16-22	5	2		7		2	
TEXAS							
Brownsville 6/13-19	4	132	112		3	2	170
Waco 6/20-26	10			41		1	129
WISCONSIN							
*Arlington 6/16-22	152	5		5			
Green Lake 6/16-22	18						
Middleton 6/19-24	23	3		1			
River Falls 6/17-20	6						
Rosendale 6/16-22	76						
*Theresa 6/16-22	165						
Waterford 6/15-22	153						

*Two traps - Arlington; 3 traps - Theresa

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

**PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE**

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS very abundant in alfalfa in Cliff-Gila area of Grant County and heavily infesting about 80 percent of the cropland in Mora County, New Mexico. Infestations generally considerably higher than expected in Indiana. All serious MORMON CRICKET infestations controlled in Utah. (p. 617).

EUROPEAN CORN BORER infesting 52 percent of early sweet corn at Columbus, Ohio; severe in areas of Indiana; and about 50 percent of fields in western and northern Illinois, warrant treatments. First brood low in northeast, northwest, east central and southeastern areas of Iowa. Considerable corn acreage treated in northern Alabama. (p. 618). BLACK CUTWORM damaging in Ohio, Iowa and California. (pp. 618, 619). CORN EARWORM medium to heavy in corn in northeastern Texas and heavy in Arkansas River bottoms in east central Oklahoma. (p. 619). The species of THRIPS causing economic damage to barley in North Dakota reported as Limothrips denticornis. (p. 620).

The MAY BEETLE reported in CEIR 9 (27):598 has been determined as Phyllophaga bruneri, and is not P. aeruginosa as was previously reported. P. bruneri was also known only from Cuba prior to the infestation in the Miami area. Little is known of its economic importance. (p. 621).

SPOTTED ALFALFA APHID increasing on alfalfa in areas of several western states. CLOVER APHID is unusually high in southwestern Idaho; many clover fields were treated. LYGUS BUGS heavy statewide in alfalfa in Arizona and in Grant and Luna Counties, New Mexico. (p. 621). POTATO LEAFHOPPER severe on alfalfa in north central Indiana. (p. 622).

COLORADO POTATO BEETLE high in areas of Idaho. (p. 624). EUROPEAN CORN BORER heavy on potatoes on Eastern Shore of Virginia and moderate to heavy in Worcester and Frederick Counties, Maryland. Fifth POTATO PSYLLID survey in Utah, Wyoming and Colorado. (p. 625). MEXICAN BEAN BEETLE building up in areas of Colorado. (p. 626). BEET WEBWORM populations high in Larimer and Boulder Counties, Colorado. (p. 627).

Average percent BOLL WEEVIL infestation was 23 in southern Georgia, about 25 in southern and central Alabama and 20 in southwestern Tennessee. (pp. 628, 636). BOLLWORMS required controls in Yuma Valley of Arizona and are causing heavy damage in east central Oklahoma. (p. 628).

PINE CHAFER causing very heavy damage on 10,000 acres of newly set pines in Columbus County, North Carolina. (p. 631).

Case of MOSQUITO-transmitted encephalitis in human reported from Box Elder County, Utah. (p. 634).

JAPANESE BEETLE adults noted in Rhode Island, New York, Ohio, Pennsylvania and Indiana. In Virginia, attracting more attention than any other species of insect. (p. 635)

INSECT DETECTION: Rice water weevil recorded for first time in California and the West Coast. (p. 620). Pear psylla recorded in San Luis Obispo County, California, for first time. County a considerable distance from nearest known infested county in California. (p. 624). Lesser cornstalk borer collected for first time in San Bernardino County, California. (p. 627). Pulvinaria acericola recorded for

(Continued on page 616)

Highlights of Insect Conditions - Continued

first time in Oklahoma and Aleyrodes spiraeoides in Florida. Record for A. spiraeoides first record for eastern United States. (p. 633). Musca autumnalis recorded in Ohio for first time. (p. 634). A cricket (Tafalisca lurida) was collected in Florida for second time. (p. 635).

CORRECTIONS (p. 636).

ADDITIONAL NOTES (p. 636).

Reports in this issue are for the week ending July 3, unless otherwise designated.

WEATHER BUREAU 30-DAY OUTLOOK

JULY 1959

The Weather Bureau's 30-day outlook for July calls for temperatures to average above seasonal normals over the southern half of the Nation, below normal over the northern third, and near normal in between. The first week of the month will see a break in the current heat wave over most eastern portions of the Nation. Precipitation is expected to exceed normal over most of the northern third of the country, while subnormal amounts are predicted over the Lower Mississippi Valley and the far Southwest. Near normal rainfall is indicated in unspecified areas.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING JULY 6

Two cool air outbreaks, early and late in the week, produced much-below-normal temperatures from the upper Mississippi Valley to the northern Plateau region with weekly departures of 12° in eastern Nebraska. Minimum temperatures fell to the middle 40's as far south as Iowa and Kansas, the 50's in Oklahoma and Arkansas, and to freezing at some higher stations in Wyoming and Colorado. Temperatures averaged near seasonal over the remainder of the Nation. The extremely hot and humid weather over much of the East was displaced by generally moderate conditions during the latter half of the week. Temperatures exceeded 100° from the Carolinas to Maryland, and ranged from the low to mid-90's in New England early in the week.

General showers and thunderstorms accompanied and preceded the cooler air outbreaks from the Great Plains eastward. Precipitation amounts varied widely, with locally excessive totals reported in Iowa, Nebraska, Kansas, and Mississippi and moderate to heavy amounts in many scattered areas from the Rocky Mountains eastward, but none fell in extreme southern and central Texas and small areas of the Middle Atlantic States and New England. Moisture conditions over the eastern two-thirds of the Nation range from dry in parts of the Southeast and Middle Atlantic States, the lower Great Lakes, and western Ohio Valley to surplus in local areas of the Midwest. In the Far West the first significant showers of the summer were reported in parts of Arizona, where Tucson and Douglas received more precipitation this week than in the previous 6 months. Scattered shower activity over the Rocky Mountain and Plateau States was generally very light, but good rains fell in Wyoming, and variable light to moderate amounts in the Pacific Northwest. No significant rains were recorded in California, where the fire hazard is critical, or in Nevada, where irrigation water shortages are serious in the north and poor range conditions prevail throughout the State. (Summary supplied by the U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - CALIFORNIA - Not moving into croplands. Many reports of light infestations. Threat of severe damage partly reduced by fungus Entomophthora grylli in many locations. Heavy nymphal populations reported from Hoopa area, Humboldt County. (Cal. Coop. Rpt.). **NEW MEXICO** - All stages, from adults to first-instar nymphs, very abundant in alfalfa in Cliff-Gila area, Grant County. About 80 percent of cropland heavily infested in Mora County. Treatments underway. (N. M. Coop. Rpt.). **UTAH** - Considerable hatch occurred throughout San Juan County; threatening some localities. Species involved include Melanoplus bilituratus, Camnula pellucida and Aulocara ellioti. (Thornley, Knowlton, June 27). Grasshoppers numerous to heavy in Monticello area of San Juan County, northern Box Elder County, many alfalfa and range areas in Duchesne County and in Ouray Valley, Uintah County. (Knowlton). **MONTANA** - Grasshoppers appear to be less of a problem than in past 5 years. Infestations presently are local and mostly noneconomic. So far, infestations reported from southern Rosebud and southeast Big Horn Counties, southern Blaine and Phillips Counties and spotted areas in Stillwater and Chouteau Counties. The foregoing infestations are on rangeland and are probably between 1 and 5 percent of total area infested in 1958. A few spots in wheat-growing areas also have infestations along field margins. (Roemhild, June 16-30). **TEXAS** - Dominant species M. bilituratus, A. ellioti, Ageneotettix deorum, Aeoloplides turnbulli, M. bivittatus, M. packardii, M. foedus, M. confusus and Philibostroma quadrimaculatum. Infestations averaged 5 per square yard on rangeland and 9 on margins in Hall and Donley Counties; 18 per square yard in field and 25 on margins in Hockley and Briscoe Counties; 5 per square yard in Cottle and Motley Counties; and 5-8 in Roberts, Lipscomb and Hemphill Counties. (PPC). Numerous Brachystola magna crossing highways and along roadsides in Bell, McLennan, Hill and Johnson Counties. (Hawkins). **OKLAHOMA** - Counts light through Arkansas River bottoms in east central area and ranged 3-6 per square yard in crop margins in Okfuskee and Pontotoc Counties. Dominant species, Melanoplus spp. (VanCleave, Robinson, et al.). Populations ranged 2-15 per square yard along crop margins and from 1-5 per square yard on pastures in Washita, Custer and Kiowa Counties. (Hudson).

KANSAS - Complex of several species of grasshoppers averaged 3-10 per square yard in pastures in Riley County. (Arnett). M. bivittatus and M. bilituratus ranged from less than 1 to about 4 per square yard in roadsides, margins and alfalfa fields in northeast and east central areas of State. (Peters). **SOUTH DAKOTA** - In barley field in west central area, counts per 10 sweeps averaged 5 M. bivittatus; 7 M. femur-rubrum; and 2 M. bilituratus. In alfalfa fields in west central area, counts per 10 sweeps averaged 8 M. bivittatus and 9 each of M. femur-rubrum and M. bilituratus. The cooperative spray program in portions of the Black Hills began on July 1. (Mast). **NORTH DAKOTA** - Grasshoppers noneconomic in legumes in Cass, Richland and Traill Counties. (N. D. Ins. Rpt.). **MINNESOTA** - Grasshoppers light in west central and northwestern districts and noneconomic in Anoka and Washington Counties. In south central area, M. femur-rubrum averaged 3-5 per square yard, generally in second instar. (Minn. Ins. Rpt.). **WISCONSIN** - No significant grasshopper populations found in Forest, Lincoln and Langlade Counties. Counts in Oconto and Marinette Counties averaged 1 or less and 3 or less per sweep, respectively. Counts of 8-10 per sweep in alfalfa common in Portage, Waupaca and Waushara Counties. Most M. femur-rubrum nymphs ranged from first through third instar. (Wis. Coop. Sur.). **INDIANA** - Infestations of Melanoplus spp. quite high in north central area of State. Generally, considerably higher than expected. (Wilson).

MORMON CRICKET (Anabrus simplex) - **UTAH** - Over 3,000 acres have been aircraft baited in Bear Mountain-Pipe Creek area of Daggett County. With 6,000 acres previously baited in San Juan County, all serious infestations have now been controlled. A light infestation is present near St. John, Tooele County. (Thornley, Knowlton).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEW YORK - In older sweet corn plantings in Hudson Valley, borers moving to upper stalks. Tassel breakage appearing. Borers mostly fourth and fifth instars. No new hatch noted. (N. Y. Wkly Rpt., June 26). DELAWARE - First-generation adults emerging over State. Larvae generally range from third to fifth instar in corn, with pupae fairly common. Late-planted corn free of borers; no egg masses noted to date. (Burbutis, Mason). MARYLAND - Whorl and tassel infestations in sweet corn averaged 15-25 percent in Queen Annes and Frederick Counties, with an occasional field over 60 percent infested. Field corn infestations averaged 7-10 percent in Worcester and Queen Annes Counties. (U. Md., Ent. Dept.). VIRGINIA - Light to heavy in corn throughout State. (Morris et al.). OHIO - Infesting 52 percent of untreated early sweet corn at Columbus, June 29. Larvae averaged 86 per 100 plants. Only 25 percent of larvae present were in ears. Summer pupation unusually early (6 percent). (Triplehorn). MICHIGAN - Second instar present June 25 at Grand Rapids, Lansing, Charlotte and Howell. (Hutson). INDIANA - Severe infestations in Ripley County. In La Porte County, infestations ranged to highs of 54 percent. Larval counts averaged about one per infested stalk. Feeding now common in mid-ribs; no stalk entries noted. (Matthew). Infestations severe on early-planted sweet corn in Lafayette area. (Chandler). ILLINOIS - Egg laying virtually complete. Maximum infestations range from 50 to 80 percent of plants showing fresh whorl feeding, with 2 to 7 small larvae per whorl with tassel ratios of 45 to 70. An estimated 50 percent of fields in western and northern areas warrant treatments. (Ill. Ins. Rpt.). WISCONSIN - Most all first-brood infestations are in south-western counties and are low as expected. (Wis. Coop. Sur.). MINNESOTA - Moth emergence in old corn essentially complete. Egg masses vary from light to heavy. Cool rainy weather and especially cool nights have deterred moth activity. Egg laying should be at peak now and "shot-holing" should be evident soon. (Minn. Ins. Rpt.). NORTH DAKOTA - Pupation complete in southeastern area. Emergence beginning, but oviposition light. Egg masses range 0-5 per 25 plants. Corn averaged 30-36 inches in height. (N. D. Ins. Rpt.). IOWA - First brood low in northeast, northwest, east central and southeastern areas. (Iowa Ins. Inf., June 27). MISSOURI - Some pupation occurring in central and north central areas. (Kyd, Thomas, Munson). KANSAS - Infesting only early corn in northeastern area. (Gates). Most corn fields examined in northeast and east central area infested. Early corn most heavily infested. (Peters). ALABAMA - Considerable corn acreage in northern area treated for first generation. Results very effective. (Eden, June 26).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - MARYLAND - Light in whorls and tassels of corn in St. Marys, Somerset and Worcester Counties. (U. Md., Ent. Dept.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ARIZONA - Heavy in young sorghum, both new and second growth, in all areas of Yuma County. Large areas in some fields 100 percent infested, with 1 and 2 larvae per plant. (Ariz. Coop. Sur.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Generally increased in Brazos River bottoms in Brazos, Burleson and Washington Counties (Randolph, Hawkins) and reported heavy in Dallas County (Tex. Coop. Rpt.).

BLACK CUTWORM (Agrotis ypsilon) - OHIO - Destructive to corn in 6 northwestern counties. (Holdsworth, Jr., June 26). IOWA - Many reports of damage received. Agrotis ypsilon and wireworms damaged 60 percent of replanted field in Jefferson County and cutworms destroyed replanted corn in southern Kossuth County. Dry weather forced cutworms to work deep in soil. By time damage was seen, June 12, cutworms were mostly half-grown or larger. (Iowa. Ins. Inf., June 27).

ILLINOIS - Populations variable, larvae maturing rapidly. Active in 2 of 20 corn fields checked in west southwest area. Present only in late fields. (Ill. Ins. Rpt.). CALIFORNIA - Heavy infestations damaging milo in San Joaquin County. (Cal. Coop. Rpt.).

CORN EARWORM (*Heliothis zea*) - ALABAMA - Infestations increasing. (Grimes, June 26). TEXAS - Spotty in sorghum in Williamson, Bell, McLennan, Hill, Johnson, Ellis and Navarro Counties. (Hawkins). Medium to heavy infestations in corn noted throughout northeast section of State. (Tex. Coop. Rpt.). OKLAHOMA - Heavy in corn in Arkansas River bottoms in east central area. From 90-100 percent of silks had eggs and 75 percent or more of developing ears contained larvae, many were mature. (VanCleave, Vinson, Washum). Counts 16-22 per 100 tassels in 4 corn fields in Hughes, Pontotoc, Seminole and Coal Counties. (Robinson). Heavy in terminals of peanuts in Antlers area. (Goin). OHIO - Infestation on earliest corn in Columbus area light, about 0.5 percent, on June 29. (Triplehorn). MARYLAND - Light to moderate in whorls and tassels of corn in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). NEW YORK - June brood lighter than usual on sweet corn in Hudson Valley. (N. Y. Wkly. Rpt., June 26).

CORN LEAF APHID (*Rhopalosiphum maidis*) - TEXAS - Causing very severe damage to young grain sorghum in Brazos River bottoms. (Randolph et al.). OKLAHOMA - Light in corn checked in east central area. (VanCleave, Vinson, Washum). Heavy in tassels and whorls of corn in 2 Hughes County fields and very light in corn checked in Pontotoc, Coal and Seminole Counties. (Robinson). KANSAS - Populations generally low in eastern area on sorghum. (Peters). MISSOURI - Light to moderate on late corn and sorghum; 10-40 percent of plants infested in central and north central area. (Kyd, Thomas, Munson). INDIANA - Damaging numbers on sorghum in Vermillion County. (Matthew). OHIO - First observed, June 29, on early sweet corn at Columbus. Large colonies present but localized on few plants. (Triplehorn). IDAHO - Moderate to very heavy in 2 small barley fields near Aberdeen; yellow dwarf disease extensive. (Bishop).

CHINCH BUG (*Blissus leucopterus*) - NORTH CAROLINA - About 90 percent of fields in Warren County affected. (Scott, Farrier). ILLINOIS - Light in marginal corn rows bordering newly cut wheat fields in Douglas, Sangamon, Morgan and Scott Counties. Newly emerged adults common. (Ill. Ins. Rpt.). MISSOURI - Continues to damage small corn and sorghum where planted next to a combined small grain field. (Kyd, Thomas, Munson). KANSAS - Damaging sorghum adjacent to harvested small grains in Chase and Marion Counties. (Peters). OKLAHOMA - Counts 2-3.5 per linear foot in 4 corn fields checked in Hughes, Coal, Pontotoc and Seminole Counties. (Robinson).

STINK BUGS - TEXAS - Caused extensive damage to grain sorghum in Brazos River area. (Randolph et al.).

JAPANESE BEETLE (*Popillia japonica*) - VIRGINIA - Damaging various cereal and forage crops locally in several areas of State. Damage to red clover extensive on farm in Orange County. (Morris et al.). DELAWARE - Damaging legumes and corn in areas of State. (Burbutis, Mason).

CORN FLEA BEETLE (*Chaetocnema pulicaria*) - ILLINOIS - Adults vary 0-6 per corn plant in west southwest and east southeast sections. (Ill. Ins. Rpt.).

BILLBUGS (*Calendra* spp.) - MISSOURI - River and creek bottom corn fields injured to point of replanting. From 60 to 90 percent of replanted corn shows feeding injury. (Kyd, Thomas, Munson).

SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) - ILLINOIS - Larval feeding found in 45 percent of fields checked in west southwest area. Most larvae now pupated and left fields. Average of 23.3 percent of corn plants show root damage. (Ill. Ins. Rpt.).

A NITIDULID (Glischrochilus quadrisignatus) - OHIO - Unusually abundant at Columbus on early sweet corn. Invariably associated with European corn borer tunnels in ears and stalks. (Triplehorn).

A PLANT BUG (Trigonotylus dohertyi) - DELAWARE - Adults numerous on corn throughout State. Some fields with 6-10 per plant. (Burbutis, Mason).

MITES - NEW MEXICO - Building up rapidly in field corn in Dona Ana County. Lower leaves heavily infested. (N. M. Coop. Rpt.). ARIZONA - Tetranychus telarius extremely heavy on heading grain sorghum in Yuma County. (Ariz. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - MICHIGAN - Local infestations at Stevensville, Berrien Springs and Sparta were controlled. (Hutson, June 26). WISCONSIN - Many adults trapped during first and second week of June. Recent rains and winds, favoring grassy growth and increase in lodged grain, present ideal conditions for localized outbreaks. (Wis. Coop. Sur.). MINNESOTA - No larval infestations observed. (Minn. Ins. Rpt.). NORTH DAKOTA - Moth flights down; no larvae observed in small grain. (N. D. Ins. Rpt.).

CUTWORMS (undetermined) - MONTANA - Causing scattered, general damage to grains in northeastern area. Species probably Agrotis orthogonia. (Roemhild, June 16-30).

GREENBUG (Toxoptera graminum) - WISCONSIN - Red leaf disease continues to be reported statewide. Symptoms becoming more pronounced in oats. Heavy rain reduced flight activity of aphids. (Wis. Coop. Sur.). MINNESOTA - Generally low throughout State; no further damage expected. Red leaf disease reported in 2 fields in Red Lake County. (Minn. Ins. Rpt.).

HESSIAN FLY (Phytophaga destructor) - OHIO - Causing severe damage to wheat in Mercer County. (Holdsworth, Jr., June 26).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - CALIFORNIA - Light infestation locally on 300 acres of rice and grasses near Biggs, Butte County. This is the first record for the State and the West Coast. Det. by R. E. Warner. (Dr. W. H. Lange). Delimiting survey in progress by State entomologists. (Cal. Coop. Rpt.).

RICE STINK BUG (Oebalus pugnax) - LOUISIANA - Increasing tremendously in rice fields where junglerice and barnyardgrass are heading. Rice is beginning to head in few fields in Acadia Parish and bugs can be expected to move to rice as this condition continues. (Spink).

THRIPS (determined) - DELAWARE - Sericothrips variabilis common to abundant some soybean fields in Kent and Sussex Counties and adults and nymphs of Anaphothrips obscurus prevalent in corn throughout State. (Burbutis, Mason). NORTH DAKOTA - Economic infestations of Limothrips denticornis in barley, 2 or more adults per stem in fields prior to heading, less numerous than in previous weeks. Previous reports of undetermined thrips on barley from State, carried in CEIR this season, are this species. (N. D. Ins. Rpt.).

THRIPS (undetermined) - INDIANA - Seriously damaging late-planted corn in Owen and Clay Counties. However, heavy rains over weekend reduced populations and corn is outgrowing damage. Nymphs ranged 60-70 per leaf. (Everly). OKLAHOMA - Light to medium in terminals of soybean plants in east central area. (VanCleave, Vinson, Washum). Medium to heavy in peanut fields in south central area (Vinson) and heavy on peanuts in field in Antlers area (Goin).

A SOD WEBWORM (probably Crambus teterrellus) - TENNESSEE - Damaging lawns in Knox County. (Bennett, Hammett, June 29).

A MAY BEETLE (Phyllophaga bruneri) - FLORIDA - The Phyllophaga reported in CEIR 9(27):598 has been checked by Dr. M. W. Sanderson of the Illinois Natural History Survey and found to be P. bruneri Chapin, a closely related species. This species is known in the literature from only the unique male type from Santiago de las Vegas, Havana, Cuba. However, Dr. Sanderson reports collecting specimens recently in Cuba. Several extensions of range have been found since the last report, but all are in the Greater Miami area. (Fla. Coop. Sur.).

HAIRY CHINCH BUG (Blissus leucopterus hirtus) - NEW JERSEY - Causing considerable damage to bentgrass lawns in some areas. (Ins. Dis. News1.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Increased in Douglas County, 50 per sweep some fields. (Lauderdale, Roberts, June 26). ARIZONA - Increasing in central area. (Ariz. Coop. Sur., June 27). COLORADO - In western area, steady movement noted; apparently up Colorado River. Reached Grand Junction week ending June 27. In Delta, Montrose and Garfield Counties, none taken to June 30. In southeastern La Plata County, counts 10-40 per 100 sweeps on June 24. In Arkansas River valley, populations increasing and spreading throughout area. Populations in Pueblo County ranged 20-40 per 100 sweeps. None taken in north-eastern counties to June 30. (Colo. Ins. Sur.). TEXAS - Light on alfalfa in Brazos River bottoms. (Randolph et al.). OKLAHOMA - Populations increased slightly in alfalfa in east central area. Counts continued light most fields. (VanCleave, Vinson, Washum). Populations light in Okfuskee and Pontotoc Counties (Robinson), very light in alfalfa checked in Choctaw County (Goin), 15-25 per sweep in central area (Pennington) and 2-4 per sweep in alfalfa checked in Washita County (Hudson). NEW MEXICO - Continued a problem in southern counties. Good initial control, but rapid reinfestation occurring many places. (N. M. Coop. Rpt.). KANSAS - Found in alfalfa in Lyon and Coffey Counties. Averaged less than 1 per sweep. (Peters). VIRGINIA - Light in alfalfa in Montgomery County field (Bishop, Crockett) and averaged 12 per sweep in Pittsylvania County field (Dominick).

CLOVER APHID (Anuraphis bakeri) - IDAHO - Red clover stems in Twin Falls County nearly 100 percent infested. (Foote, June 26). Numbers continue unusually high for so early in season in southwestern area. Many clover fields have been treated. (Waters).

ALFALFA WEEVIL (Hypera postica) - IDAHO - Third-instar larvae appearing in alfalfa in southwestern area. Much below normal. (Waters). Adults 1-3 per 10 sweeps in alfalfa near Weiser, larvae not common. (Foote). WYOMING - Adults and larvae ranged from none to over 1,000 per 100 sweeps in Riverton area. Percent damage ranged from none to 50 percent. Control underway. (Fronk). UTAH - Caused severe damage in areas of northern Box Elder County and locally in Salt Lake and Duchesne Counties. Larvae retarding new growth in many cut fields. (Knowlton). COLORADO - Populations dropping off generally throughout State. Second-growth sampling indicates a positive drop in numbers. Parasitism a factor. (Colo. Ins. Sur.). SOUTH DAKOTA - Adults averaged 12 and larvae 97 per 10 sweeps in west central area. (Mast). NEW JERSEY - Damage was general and severe. (Ins. Dis. News1.).

A BLISTER BEETLE (Epicauta pardalis) - NEW MEXICO - Heavy, spotty infestations damaging alfalfa at Gila, Grant County. (N. M. Coop. Rpt.).

A FLEA BEETLE (Systema taeniata) - SOUTH DAKOTA - Averaged 10 per 10 sweeps in alfalfa in Lawrence County. (Mast).

LYGUS BUGS (Lygus spp.) - ARIZONA - Very heavy in alfalfa, statewide. In Yuma County, some fields averaged as high as 100 adults and nymphs per 10 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Heavy in alfalfa in Grant and Luna Counties. (N. M. Coop. Rpt.). UTAH - Adults and nymphs moderately numerous in alfalfa seed fields in northern Box Elder County and in areas of Millard, Tooele and Duchesne Counties. (Knowlton). WYOMING - Counts ranged 0-35 per 100 sweeps in treated

fields and up to 140 per 100 sweeps in untreated fields in Riverton area. Ten percent damage noted in some untreated seed fields. Controls underway. (Fronk). IDAHO - Below normal in alfalfa in southwestern area. (Waters). OKLAHOMA - Populations 0.5-2 per sweep in alfalfa in east central area, ranged up to 6 per sweep in Muskogee County and 2-4 per sweep in Choctaw County. (VanCleave et al.). NORTH DAKOTA - Counts of 4-5 per 25 sweeps common in southeastern area. (N. D. Ins. Rpt.).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Remains abundant on soybeans in Sussex County and very common in Kent and New Castle Counties. Also prevalent on alfalfa in Kent and New Castle Counties. (Burbutis, Mason). ILLINOIS - Averaged 1,922 per 100 sweeps in clover and alfalfa in west southwest section of State. (Ill. Ins. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - MARYLAND - Averaged 2-6 per sweep on alfalfa in Frederick, Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). DELAWARE - Adults remain abundant on alfalfa and clover in New Castle and Kent Counties. Nymphs present on soybeans in New Castle and Kent Counties. (Burbutis, Mason).

PLANT BUGS (Adelphocoris spp.) - SOUTH DAKOTA - A. lineolatus averaged 16 per 10 sweeps on alfalfa in west central area. (Mast). DELAWARE - Nymphs of A. rapidus very common on clover and alfalfa in New Castle and Kent Counties. Adults also present. (Burbutis, Mason).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Increasing in alfalfa, statewide. (Ariz. Coop. Sur., June 27). TEXAS - Ranged 5-15 per sweep in alfalfa in Brazos River area. Heavy damage occurred. (Randolph et al.). OKLAHOMA - Becoming slightly more common in alfalfa in east central area. (VanCleave, Vinson, Washum). LOUISIANA - Averaged 20 per 100 sweeps in 9 soybean fields in East Baton Rouge, West Baton Rouge and St. Landry Parishes. (Spink).

POTATO LEAFHOPPER (Empoasca fabae) - INDIANA - Infestations caused severe damage to alfalfa in much of north central part of State. (Wilson). MARYLAND - Averaged 3-6 per sweep on alfalfa in Howard and Frederick Counties and 3 per 10 sweeps on alfalfa at Snow Hill, Worcester County. (U. Md., Ent. Dept.). DELAWARE - Present to common on soybeans throughout State. Remains numerous in alfalfa and clover in New Castle and Kent Counties. (Burbutis, Mason). MISSOURI - Yellowing of alfalfa occurs throughout State. Counts 5-40 adults and nymphs per sweep; mainly nymphs. (Kyd, Thomas, Munson). MINNESOTA - Numbers generally range from 0-14 per 10 sweeps in alfalfa, mostly 5 or less. (Minn. Ins. Rpt.). ILLINOIS - Adults average 37 per 100 sweeps on soybeans in west southwest section and 20 in eastern section. Nymphs average 20 in west southwest and 35 in eastern section. In clover and alfalfa in west southwest section, adults averaged 240 and nymphs 669 per 100 sweeps. (Ill. Ins. Rpt.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - OKLAHOMA - Common most alfalfa fields in east central area and averaged 1 per sweep most alfalfa fields in Grady and Cleveland Counties. (VanCleave et al.).

FALL ARMYWORM (Laphygma frugiperda) - KANSAS - Found in some alfalfa fields in northeast and east central areas. Counts ranged from less than 1 to about 10 per 10 sweeps. (Peters).

GREEN CLOVERWORM (Plathypena scabra) - INDIANA - First record for season on soybeans in Newton County, June 30. (Gould). MARYLAND - Common on alfalfa in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). DELAWARE - Common in several clover and alfalfa fields in New Castle and Kent Counties. Fairly heavy infestation in soybean field in Kent County. (Burbutis, Mason). OKLAHOMA - Counts 0.1-1 per sweep in alfalfa in east central area and ranged up to 1 per sweep in Muskogee County. (VanCleave et al.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Heavy infestation in field peas in Spalding County. (Dupree).

A SERPENTINE LEAF MINER (Liriomyza sp.) - ARIZONA - Heavy some alfalfa fields that need cutting in areas of Yuma County. (Ariz. Coop. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - NORTH DAKOTA - Infestations in flax light; 6-7 per 25 sweeps. (N. D. Ins. Rpt.).

COLASPIS BEETLES (Colaspis spp.) - MISSOURI - Heavy populations of adults feeding on silks of corn and leaves and pods of soybeans. Few fields damaged to point where controls were required. (Kyd, Thomas, Munson). LOUISIANA - Ranged 3-31 per 100 sweeps in 9 soybean fields in East Baton Rouge, West Baton Rouge and St. Landry Parishes. (Spink). ILLINOIS - Averaged 46 per 100 sweeps in soybeans and 110 per 100 sweeps in alfalfa and clover in west southwest section. (Ill. Ins. Rpt.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - LOUISIANA - Survey of 9 soybean fields in East Baton Rouge, West Baton Rouge and St. Landry Parishes was negative. (Spink).

A MILLIPEDE (Pleuronema butleri) - INDIANA - Cutting off soybeans near Elnora. Det. by Nell Causey. (Chandler).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - Heavy, 1-4 per linear foot, in fields of peanuts in Marshall, Bryan, Love and Johnston Counties. (Goin).

FRUIT INSECTS

ORCHARD MITES - INDIANA - Hot, dry temperatures have been ideal for development, and heavy populations present in some apple and peach orchards in the Vincennes area. (Hamilton). SOUTH CAROLINA - Building up on early peaches in Edgefield County. (Nettles et al.). NEW YORK - Panonychus ulmi building up in Ulster and Orleans Counties and in Niagara County on prunes. Persistent, and a problem in some Rockland County orchards. Tetranychus telarius moderate some orchards in Clinton County and increasing in Ulster County. (N. Y. Wkly. Rpt., June 29). MICHIGAN - P. ulmi increasing at Keeler and Coloma. Apparently fourth generation for these areas. (Hutson, June 25). KANSAS - P. ulmi causing bronzed foliage in some apple orchards in northeast area. (Eshbaugh). UTAH - Eriophyes pyri severe on apple foliage at Midway, Wasatch County. (Knowlton).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - ILLINOIS - Larvae, one-third to one-half grown, found in Carbondale area peach orchards. (Meyer). INDIANA - Second-brood larvae hatching at Terre Haute and Covington by June 24. Most first-brood moths had emerged at that time. (Hamilton). MASSACHUSETTS - Between broods at present. (Crop Pest Cont. Mess.). NEW JERSEY - Second brood active in southern area. (Ins. Dis. Newsl.). NEW YORK - Pupating in Niagara, Orleans and Monroe Counties. (N. Y. Wkly. Rpt., June 29).

CODLING MOTH (Carpocapsa pomonella) - ILLINOIS - Laying eggs in Carbondale area. (Meyer). MASSACHUSETTS - Between broods at present. (Crop Pest Cont. Mess.).

ROSY APPLE APHID (Anuraphis roseus) - UTAH - Serious problem at Heber, Coalville, Hoytsville, Morgan and generally through Wasatch and Summit Counties. (Knowlton).

APPLE APHID (Aphis pomi) - NEW YORK - Building up in apple orchards in Ulster, Clinton and Orleans Counties. (N. Y. Wkly. Rpt., June 29).

APPLE LEAFHOPPER (Empoasca maligna) - MICHIGAN - Numerous at Paw Paw, Keeler and Coloma. (Hutson, June 26).

APPLE MAGGOT (Rhagoletis pomonella) - NEW YORK - Emergence heavy in eastern area since June 20 and first found in Rockland County, June 23. (N. Y. Wkly. Rpt.). MICHIGAN - Became numerous at Baroda on June 25 and at Traverse City, June 29. (Hutson). MASSACHUSETTS - Abundant and active in South Amherst area. (Crop Pest Cont. Mess.).

PEAR PSYLLA (Psylla pyricola) - CALIFORNIA - Light on pear trees in Atascadero, San Luis Obispo County. First record for this county and represents a considerable distance from the nearest known infested county. (Cal. Coop. Rpt.). NEW YORK - About the heaviest noted for many years in Rockland County. (N. Y. Wkly. Rpt.).

GREEN PEACH APHID (Myzus persicae) - MICHIGAN - Becoming extremely scarce. (Hutson). IDAHO - Continues to multiply on some peach trees in Bingham County. (Bishop).

GREEN STINK BUG (Acrosternum hilare) - OHIO - Populations much higher than normal in Knox and Morrow Counties on wild hosts. (Rings).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - ILLINOIS - Laying eggs and causing some damage to peach trees in Carbondale area. (Meyer).

A PHYCITID (Acrobasis tricolorella) - IDAHO - Larvae found in 90 percent of fruits of semisweet cherries locally at Homedale. (Waters).

PLUM CURCULIO (Conotrachelus nenuphar) - ILLINOIS - Adults increasing in Carbondale area. (Meyer). MICHIGAN - Adults extremely hard to find and no recent activity apparent in vicinity of Watervliet, Paw Paw and Coloma. (Hutson).

A TENT CATERPILLAR (Malacosoma sp.) - CALIFORNIA - Heavy and defoliating Prunus sp. in the McCloud area, Siskiyou County. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Increasing in central area on fruit trees. (Grimes, June 26). GEORGIA - Light on pecan trees in 16 counties. (Johnson).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Heavy, 50 percent small nuts on native pecan trees infested in Leonard area. (VanCleave, Vinson).

RED-HUMPED CATERPILLAR (Schizura concinna) - CALIFORNIA - Moderate in local walnut plantings in Grass Valley area, Nevada County. Heavy at Dutch Flat, Placer County, and Placerville, El Dorado County. (Cal. Coop. Rpt.).

WALNUT BLISTER MITE (Aceria erinea) - CALIFORNIA - Moderate on walnut trees in Glenn, Glenn County. (Cal. Coop. Rpt.).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Numerous on grapes in South Hill area, Mecklenburg County (Copley, Morris), moderate on grapes in Shenandoah and Roanoke Counties (Coiner, Allen) and light damage to grapes in Amelia County. (Holmes).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - IDAHO - Generally high in south central counties and from Aberdeen north to Terreton. West of Burley, up to 15 larvae found on some plants and approximately 50 percent of plants examined had one or more larvae present. Numerous egg clusters observed. Larvae infesting potato fields at Aberdeen. (Foote). DELAWARE - Light injury to potatoes in Kent and New Castle Counties and very abundant on small plantings of potatoes and tomatoes in Sussex County, causing heavy injury. (Burbutis, Mason).

FLEA BEETLES - MARYLAND - Epitrix hirtipennis moderate on potatoes at Snow Hill. (U. Md., Ent. Dept.). MAINE - Overwintered E. cucumeris populations at Presque Isle rapidly diminishing and generally present only in trace numbers. Damage to potatoes has been generally light. (Shands). COLORADO - Systema blanda, E. tuberosa and other species appearing in numbers over State. (Colo. Ins. Sur.). WYOMING - Phyllotreta striolata averaged 40 per 100 sweeps in the Wheatland area. (Fronk).

FLEA BEETLES (undetermined) - NEW YORK - Considerable activity on potatoes in Steuben County. (N. Y. Wkly. Rpt.). MINNESOTA - Causing considerable "shot-holing" of leaves in all fields observed. (Minn. Ins. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - MARYLAND - Moderate to heavy in potato plants in Worcester and Frederick Counties. Emergence taking place in Worcester County. (U. Md., Ent. Dept.). VIRGINIA - Very heavy on potatoes on Eastern Shore. All fields infested, some up to 75 percent. Peak moth emergence of first brood occurred past week. (Hofmaster). KANSAS - Larvae found in green bean pods in northeast area. (Eshbaugh).

Potato Aphids in Maine - Overall populations still very light at Presque Isle but rate of increase fairly rapid. An average of 9.7 percent of the potato plants are infested. Macrosiphum solanifolii is by far the dominant species, followed by Aphis abbreviata, Myzus solani and M. persicae. (Shands).

GREEN PEACH APHID (Myzus persicae) - NEW JERSEY - General and threatening on potatoes. (Ins. Dis. Newsl.). MARYLAND - Generally light on peppers in Worcester and Dorchester Counties. (U. Md., Ent. Dept.). DELAWARE - Building up on peppers in Kent and Sussex Counties. (Burbutis, Mason). UTAH - Light to moderate on potatoes in some northern Davis County fields. (Knowlton).

LYGUS BUGS (Lygus spp.) - IDAHO - Heavy until reduced by control measures recently in carrot seed fields near Melba. (Foote, Barr). UTAH - Moderate on potatoes in areas of Millard County, northern Davis County and near Tooele. (Knowlton).

POTATO LEAFHOPPER (Empoasca fabae) - IOWA - Extremely abundant in potato patches. (Iowa Ins. Inf., June 27). INDIANA - More abundant on potatoes than for several years in Lafayette area. (Gould). MARYLAND - Nymphs and adults common on potatoes in Worcester County. (U. Md., Ent. Dept.).

Potato Psyllid Survey - The fifth and final potato psyllid survey was made in Utah, Wyoming and Colorado the week of June 30 - July 3. Weather was hot throughout the survey area. Lycium was well developed. Average psyllids per 100 sweeps are as follows: Utah - Salt Lake-Provo area 0.4; Wyoming - Greenriver-Rocksprings area zero, Laramie area 2.3, Torrington area 13.5; Colorado - Ault-Greeley area 52.8, Pueblo-La Junta area 3.6, Salida area 5.5 and Grand Junction area 1.5. (PPC).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Taken in the following areas and rates per 100 sweeps: Pine Bluffs 6, Torrington 12-15, Lingle 12, Wheatland 74. (Fronk).

TOMATO FRUITWORM (Heliothis zea) - NEW MEXICO - Heavy and causing considerable damage in a few fields in Luna County. (N. M. Coop. Rpt.).

HORNWORMS (Protoparce spp.) - MARYLAND - Eggs being deposited on peppers and larvae light to medium on tomatoes in Worcester County. (U. Md., Ent. Dept.). NEW MEXICO - Heavy and causing considerable damage in few fields in Luna County. (N. M. Coop. Rpt.).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Eggs now being found in central area. (Ins. Dis. Newsl.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - COLORADO - All stages building up and damage beginning to show in Larimer, Weld and Boulder Counties. In western area, movement into fields observed June 23-24 in Delta and Montrose Counties. (Ext. Ser., Exp. Sta.). NEW YORK - Hatching June 26 in Ulster County. (N. Y. Wkly. Rpt., June 29). NORTH CAROLINA - Injuring beans in Henderson and Transylvania Counties. (Kelley).

PEA APHID (Macrosiphum pisi) - WISCONSIN - Building up slowly in peas in Dodge and Washington County fields. Some fields in Columbia and Dane Counties have significant numbers. Counts range 25-60 per sweep some fields in northeast section. (Wis. Coop. Sur.). IDAHO - Light in Mt. Home district of Latah County and average 5 per tip in peas in Nezperce area. (Portman, Futter, Dailey). UTAH - Building up in some Cache County pea fields. (Knowlton).

SPIDER MITES - VIRGINIA - Becoming a problem on most vegetable crops due to hot, dry weather on Eastern Shore. (Hofmaster).

HARLEQUIN BUG (Murgantia histrionica) - ALABAMA - Heavy in garden crops in Chilton County. (Helms, June 26). TEXAS - Moderate on squash, eggplant and cabbage in Kaufman County. (Gaines). NEW MEXICO - Has ruined vegetable gardens in Dona Ana, Luna and Hidalgo Counties. Now feeding on corn and beans. (N. M. Coop. Rpt.). MINNESOTA - On turnips at Red Wing. (Minn. Ins. Rpt.). KANSAS - Injuring garden plantings in northeast area. (Eshbaugh).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Abundant on several crops in Sussex and Kent Counties. (Burbutis, Mason). MISSOURI - Attacking large variety of plants in most of State. (Wkly. Rpt. Fr. Grs.).

COWPEA CURCULIO (Chalcoedermus aeneus) - NORTH CAROLINA - Adults causing 1-5 punctures per snap bean pod in Wake County. (Farrier).

IMPORTED CABBAGEWORM (Pieris rapae) - INDIANA - Heavy on crucifers in the Lafayette area. (Chandler).

CELERY LOOPER (Anagrapha falcifera) - INDIANA - Heavy on crucifers in the Lafayette area. (Chandler).

CABBAGE MAGGOT (Hylemya brassicae) - NEW YORK - More troublesome to cabbage this year than most in Orleans County. (N. Y. Wkly. Rpt., June 29).

THRIPS - COLORADO - Moderate on onions most of Arkansas Valley area. (Colo. Ins. Sur.).

ONION THRIPS (Thrips tabaci) - IDAHO - Building up in onions in southwestern area. (Scott). COLORADO - Increased to 10-20 per plant in Olathe, Montrose County. (Colo. Ins. Sur.).

ONION MAGGOT (Hylemya antiqua) - IDAHO - First generation in southwestern area 100 percent pupated, with about 70 percent adult emergence. First-instar larvae of second generation now present in onions. (Scott). UTAH - Damage light to moderate in the Tremonton-Bothwell area of Box Elder County and the Ogden-Plain City area of Weber County. (Knowlton).

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - MONTANA - Further damage in Carbon County. (Roemhild, June 16-30).

SPINACH LEAF MINER (Pegomyia hyoscyami) - IDAHO - Adults abundant on sugar beets in Wilder area. (Foote).

BEEF WEBWORM (Loxostege sticticalis) - COLORADO - Populations high in Larimer and Boulder Counties. Ten to 15 larvae per plant some fields. (Colo. Ins. Sur.). WYOMING - Counts 30-40 per 100 sweeps on sugar beets in Meridan Valley area and 80 per 100 sweeps in Wheatland area. (Fronk). MONTANA - Scattered infestations appearing along the Clark Fork of the Yellowstone River and in Yellowstone Valleys. (Roemhild, June 16-30). MINNESOTA - Present in all early beet fields in the northwest district. (Minn. Ins. Rpt.).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - INDIANA - Abundant and causing serious damage to cucurbit crops in Tippecanoe County in late June. (Gould).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Severe infestations on beans and field peas reported in Chilton County. Crops completely destroyed in many areas. (Blake, Helms, June 26). CALIFORNIA - Light in cantaloup in Imperial area, Imperial County, and heavy in field peas in Mira Loma area, San Bernardino County. First record in San Bernardino County. (Cal. Coop. Rpt.).

STRAWBERRY LEAF ROLLER (Ancyliis comptana fragariae) - MONTANA - Common on strawberry plants in Yellowstone Valley from Billings east. (Roemhild, June 16-30).

ASPARAGUS BEETLE (Crioceris asparagi) - ALABAMA - Adults and larvae caused severe damage to asparagus in Lee County. (Guyton, June 26).

ARGUS TORTOISE BEETLE (Chelymorpha cassidea) - CALIFORNIA - Single adult taken in the Altura area of Modoc County, May 29, 1959. Det. by A. T. McClay and confirmed by Dr. M. W. Sanderson, Illinois Natural History Survey. Only known previous records in California were in San Bernardino County and San Diego County. (Cal. Coop. Rpt.).

AN APHID (Amphorophora sensoriata) - MARYLAND - Infesting lower leaves of raspberry at Oldtown, Allegany County. (U. Md., Ent. Dept.).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults averaged 3-6 per plant on early tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.). GEORGIA - Light in Berrien, Coffee, Bacon, Wayne and Tattnall Counties. (Johnson).

HORNWORMS (Protoparce spp.) - MARYLAND - Infestations 8-15 percent on untreated early tobacco in Charles, Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

TOBACCO BUDWORMS (Heliothis spp.) - MARYLAND - H. virescens light on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.). GEORGIA - Light on tobacco in 13 tobacco-growing counties. (Johnson).

STALK BORER (Papaipema nebris) - NORTH CAROLINA - Tunnelling midribs of lower two leaves of tobacco and affecting about one-fifth of plants in a field in Buncombe County. (Baker, Farrier).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Generally light on tobacco in Calvert, Charles and St. Marys Counties. (U. Md., Ent. Dept.). VIRGINIA - Infestations greatly decreased on tobacco as result of hot, dry weather in Pittsylvania County. (Dominick).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - NORTH CAROLINA - Activity increasing in upper Coastal Plain and Piedmont counties. (Cott. Lett.). SOUTH CAROLINA - First-generation adults generally emerging and attacking cotton freely in Florence area. Treated fields have low infestations. (Fye et al.). GEORGIA - Square counts made in 43 southern cotton fields. Percent punctured squares averaged 23 and ranged from 0-60. (Johnson). MISSISSIPPI - First-generation hatch out has been extremely light in delta counties. Infestations low most fields; average punctured squares was 1.2 percent. (Merkl et al.). TENNESSEE - Damaging populations found in southern tier of counties with heaviest infestations in southeast corner of the western area. Average percent of punctured squares was 20. Counts running higher due to scarcity of squares. Most fields in heavily infested part of State have been treated at least once. There are enough weevils present to cause severe damage if rains continue. (Locke). MISSOURI - Light marginal infestations in 8 out of 1,007 fields inspected. (Kyd, Thomas, Munson). ARKANSAS - First-generation adults emerging in early-planted cotton. Peak emergence will probably occur most areas by July 6-15. Infestations are light or nonexistent. (Ark. Ins. Sur.). LOUISIANA - Square infestations averaged 5.5 percent in 135 Morehouse Parish fields. In Allen, West Carroll, Franklin, Natchitoches, Richland, St. Landry, Webster and Grant Parishes, adults were reported light to heavy. (Spink). Percent squares infested averaged 6 in Madison Parish. Percent survival in hibernation cages at Tallulah was 2.96 to July 3 compared with 4.34 at same time in 1958. (Smith et al.). OKLAHOMA - Percent punctured squares ranged 2-32 in east central area. Most fields with about 10 percent punctured squares. (VanCleave, Vinson, Washum). Percent punctured squares averaged 10 and 50 in Muskogee County (Washum, Bower, Robinson), ranged 3-12 in 50 percent of cotton in Hughes and Coal Counties (Robinson) and light in cotton in Marshall and Carter Counties (Vinson). TEXAS - Continue to increase with only isolated heavy infestations reported. (Gaines). Percent punctured squares averaged 25.2 in untreated fields and 10.9 in treated fields in McLennan and Falls Counties. (Parencia et al.).

BOLLWORMS (*Heliothis* spp., et al.) - NORTH CAROLINA - First and second instars abundant enough in early cotton in Hoke County to warrant treatment in some fields. (Mistic). SOUTH CAROLINA - Damage increased in Florence area; may approach 1958 levels. (Fye et al.). GEORGIA - Counts made in 43 southern cotton fields. Eggs averaged 0.75 and larvae 2 per 100 terminals. (Johnson). MISSISSIPPI - Activity extremely low at present in delta counties. Egg deposition expected to be heavy on young corn and older cotton by July 12. (Merkl et al.). TENNESSEE - Few eggs and small larvae found in western area. Damage to squares light and predators numerous. (Locke). ARKANSAS - Eggs scarce and larvae not too numerous. Heavy moth emergence will probably occur week of July 13. (Ark. Ins. Rpt.). LOUISIANA - Eggs averaged less than 2 per 100 terminals in Tensas, Morehouse Parishes. (Spink). Average percent square infestation was 2 percent in Madison Parish. (Smith et al.). OKLAHOMA - Causing heavy damage many cotton fields in east central area. Counts 1-12 per 100 squares with 8-10 per 100 squares common. Eggs fairly common. (VanCleave, Vinson, Washum). Counts averaged 8 per 100 squares in cotton field in Muskogee County and damaged squares occasionally in Okfuskee, Seminole, Hughes, Pontotoc and Coal Counties. (Robinson et al.). Medium infestation noted in Marshall County. (Vinson) and up to 15 percent infestations noted in Harmon County with eggs present in considerable numbers (Hatfield). TEXAS - Continue to increase with isolated heavy infestations reported. (Gaines). Eggs averaged 5 and larvae 3.4 per 100 terminals in McLennan and Falls Counties, with square injury averaging 3.1 percent. Increased activity expected by July 10. (Parencia et al.). NEW MEXICO - Occasional larva found in cotton fields in Luna, Dona Ana, Hidalgo, Chaves and Eddy Counties. (N. M. Coop. Rpt.). ARIZONA - Controls being applied in Yuma Valley cotton fields. (Ariz. Coop. Sur., June 27). Treatments successful in Yuma County where infestations were heavy. However, in some fields where only one treatment was applied, counts of young larvae averaged 5 per 100 terminals. Egg counts also high some fields. (Ariz. Coop. Sur.). CALIFORNIA - Light on cotton in El Centro area of Imperial County. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Blossom inspection started June 22 in Kern County. A total of 1,496,739 blossoms inspected from approximately 24,000 acres of cotton in Imperial, Kern and Riverside Counties. Argon light traps were operated for total of 501 light nights in San Bernardino, Riverside, San Diego and Imperial Counties using 73 traps. All results of detection have been negative. (Cal. Coop. Rpt.). ARIZONA - No moth emergence has occurred in cage tests at Cotton Research Center since June 20. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Infestations light to medium on Yuma County Cotton. (Ariz. Coop. Sur.). CALIFORNIA - Increasing some areas. Skip row and cotton adjacent to stub plantings requiring treatment. (H. Schulback).

BROWN COTTON LEAFWORM (Acontia dacia) - TEXAS - Heavy infestation in Wharton County. (Gaines, June 26).

BEE T ARMYWORM (Laphygma exigua) - ARIZONA - Populations increasing in some Pinal County cotton fields. (Ariz. Coop. Sur.).

APHIDS - GEORGIA - Light infestations of Aphis gossypii on cotton in 4 counties and moderate to heavy infestations in 14 counties. (Johnson). MISSISSIPPI - Infestations spotty in delta counties. (Merkl et al.). OKLAHOMA - Populations of A. gossypii generally light on cotton. (VanCleave et al.). TEXAS - Infestations light in McLennan and Falls Counties. (Parenica et al.). CALIFORNIA - Occurring in local areas of some fields and required treatment in Tulare County. (A. G. George).

SPIDER MITES - GEORGIA - Light infestations in 6 counties and moderate infestations in 12 counties. (Johnson). MISSISSIPPI - Spotty infestations in delta counties. (Merkl et al.). TENNESSEE - Increasing in western area. (Locke). MISSOURI - Marginal and spot infestations in 320 of 1,007 fields scouted. (Kyd, Thomas, Munson). ARKANSAS - Appearing on field margins. (Ark. Ins. Rpt.). ARIZONA - Tetranychus spp. reached damaging numbers in some cotton fields in central area which are being treated under the pink bollworm program. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Adults moving from alfalfa into cotton in Tulare County. (A. G. George). Continue a problem on cotton in Imperial County; requiring some treatment. (H. Schulback). ARIZONA - Continue to increase in cotton Statewide, with considerable damage apparent in many fields. Average number per 100 sweeps as follows: Yuma County -25; Maricopa County - 15; Pinal County - 15. (Ariz. Coop. Sur.). NEW MEXICO - Light to moderate infestations reported in Eddy and Chaves Counties. Treatment of heavier infestations underway. (N. M. Coop. Rpt.). LOUISIANA - L. lineolaris averaged 4 per 100 sweeps in treated fields in Tallulah area. (Smith et al.). TENNESSEE - L. lineolaris present most fields in western area, but very light. (Locke). MISSISSIPPI - L. lineolaris remains the number one pest in delta counties. Movement into fields heavy, especially near alfalfa and pastures which are being mowed. Heavy losses of squares reported in some fields. (Merkl et al.).

STINK BUGS - NEW MEXICO - Light infestations on cotton in Dona Ana, Luna, Chaves and Eddy Counties. (N. M. Coop. Rpt.). ARIZONA - Light on cotton in central and southwestern areas of State. (Ariz. Coop. Sur.).

LEAFHOPPERS (Empoasca spp.) - CALIFORNIA - Few cotton fields requiring treatment, but populations decreasing generally in Imperial County. (H. Schulback).

FLEAHOPPERS - MISSISSIPPI - Light in delta counties. No economic damage reported. (Merkl et al.). TENNESSEE - Becoming numerous over cotton area in western section of State. Control needed some fields. (Locke). MISSOURI - Light infestations in 627 of 1,007 fields scouted. Populations range 1-10 per 100 terminals. (Kyd, Thomas, Munson). ARKANSAS - Present but not numerous. (Ark. Ins. Rpt.). OKLAHOMA - Light in cotton generally. (VanCleave et al.). TEXAS - General threat from migrating fleahoppers has abated except in cases of late-planted fields. (Gaines). Infestation averaged 12.5 per 100 terminals in 16 untreated fields in McLennan and Falls Counties and 11.2 in treated fields. (Parencia et al.). NEW MEXICO - Spanogonicus albofasciatus and Psallus seriatus averaged about 15 per 100 sweeps in cotton fields in Dona Ana County and were moderate to heavy in Eddy and Chaves Counties. Treatments underway in heavier infestations. (N. M. Coop. Rpt.). ARIZONA - S. albofasciatus continues heavy in many fields over State. However, overall decrease noted. Counts averaged 10 per 100 sweeps in Maricopa County. (Ariz. Coop. Sur.).

A GRAPE COLASPIS (Colaspis sp.) - TENNESSEE - Causing damage to squares and foliage of cotton in western area, mostly above Jackson. Controls justified in many cases. (Locke). MISSOURI - Damage reported to foliage and bracts of squares in Dunklin and Stoddard Counties. (Kyd, Thomas, Munson). ARKANSAS - Feeding rather general on cotton. (Ark. Ins. Rpt.).

FLEA BEETLES (Systema spp.) - ARIZONA - Heavy in some Yuma Valley cotton fields in Yuma County. Adults ragging bracts of squares, but not feeding on fruit or leaves. Counts averaged 50 adults per 100 sweeps. (Ariz. Coop. Sur.).

THRIPS - OKLAHOMA - Generally light over State. Plants indicate heavy infestations were common in east central area during early growth. Most fields now recovering satisfactorily. (VanCleave et al.). TEXAS - Infestations continue to cause concern in north and south plains area. (Gaines). ARIZONA - Heavy in some Pinal County fields, particularly in Stanfield area. (Ariz. Coop. Sur., June 27).

GRASSHOPPERS - TEXAS - Continue a problem in cotton in many areas of State. (Gaines).

LEAF MINERS - TEXAS - Heavy infestations observed in cotton in Williamson County, some shedding of leaves noted. (Gaines).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

JACK-PINE BUDWORM (Choristoneura pinus) - MINNESOTA - Moderate infestations spotted along Highway 4 south of Gilbert, St. Louis County. Population general but extremely light around Brainerd, Crow Wing County, and Backus, Cass County. No apparent defoliation in Crow Wing County and light defoliation in Cass County. Defoliation noticeable in Hubbard County with most new growth showing injury; samples yielded up to 150 larvae and pupae per tree. South of Lake George on Hubbard County road number 4, sample average was 130 larvae and pupae per tree, and at Lake George the count was 48. (Minn. Ins. Rpt.).

PINE WEBWORM (Tetralopha robustella) - NORTH CAROLINA - Caused severe defoliation in a Rutherford County pine plantation. (Long).

BAGWORM (Thyridopteryx ephemeraeformis) - DELAWARE - Feeding injury on willow, sycamore, elm and wild cherry increasingly noticeable in eastern New Castle County. (Burbutis, Mason). MARYLAND - Heavy on over 80 cedar trees at Harmons, Anne Arundel County, and medium on evergreens in Howard and Montgomery Counties. (U. Md., Ent. Dept.). INDIANA - Heavy on white pine windbreak in Dubois County. (Schuder). OKLAHOMA - Heavy on some evergreens in Bixby area. (VanCleave, Vinson). Heavy on same hosts in Madill, Marshall* County. (Vinson).

WHITE-PINE WEEVIL (Pissodes strobi) - PENNSYLVANIA - Causing heavy damage to white pines in scattered localities in northeastern part of State. (Nichols).

PINE CHAFER (Anomala oblivia) - NORTH CAROLINA - Causing very severe injury on 10,000 acres of newly set pines in Columbus County by feeding at base of needles. (Green).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - MONTANA - Much more abundant in 1959 than usual. (Roemhild, June 18-30). IDAHO - Infesting twigs of Douglas-fir at Challis. (Stevenson).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - MONTANA - Common on ornamental spruce in southern half of State. (Roemhild, June 16-30).

INTRODUCED PINE SAWFLY (Diprion similis) - MINNESOTA - General occurrence on jack pine, but there is no noticeable injury. Some larvae in fifth instar. (Minn. Ins. Rpt.).

SAWFLIES - MINNESOTA - Pikonema alaskensis defoliating ornamental spruce at Colquet, Culver, Cotton, Canyon, Kelsey, North Duluth and in vicinity of Eveleth. Pristiphora erichsonii larvae in first and second instars and also mature in Alborn and Cotton areas. (Minn. Ins. Rpt.). IDAHO - Undetermined species damaging spruce trees in Donnelly, Valley County. (Greenwell).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - Webbing on mimosa foliage becoming noticeable in Prince Georges County. (U. Md., Ent. Dept.). PENNSYLVANIA - Present in Philadelphia on mimosa. (Ford).

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) - NEW YORK - Mines present on scrub oaks at Riverhead, Suffolk County, June 19. (N. Y. Wkly. Rpt.). NEW JERSEY - Large numbers of adults observed in Essex Fells area, Essex County. (Ins. Dis. Newsl.). VIRGINIA - Probably this species, caused very heavy damage to leaves of several white oaks in Clark County. (Gerkin, Morris).

SPRING CANKERWORM (Paleacrita vernata) - SOUTH DAKOTA - Very active and defoliating trees in Spearfish area, Lawrence County. (Mast).

TENT CATERPILLARS (Malacosoma spp.) - VIRGINIA - M. disstria had partially defoliated some oaks and maples in small areas of forests in Shaenadoah County by June 24. Large numbers of parasitized pupae still on trees but few adults were observed. (Morris, Duke, Morgan). UTAH - Continue to damage ornamentals and shade trees in areas of Tooele, Box Elder and San Juan Counties. (Knowlton).

A TORTRICID (Argyrotoxa semipurpurana) - PENNSYLVANIA - Caused considerable defoliation on ridge top oaks in Fulton County. (Drooz).

UGLY-NEST CATERPILLAR (Archips cerasivorana) - PENNSYLVANIA - Heavy on wild cherry in scattered areas of Lackawanna County and in one instance in Wayne County, webbing extended 200 feet along roadside. (Nichols).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - The total number of positive cases of Dutch elm disease, transmitted by this species, diagnosed in 1959 rose to 1,122, which is nearly double the total of one week ago. (Wis. Coop. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEW JERSEY - Larvae abundant in some areas and causing considerable feeding damage to elm leaves. (Ins. Dis. Newsl.). DELAWARE - Very heavy feeding by larvae and adults on some elms in Seaford, Sussex County. (Burbutis, Mason). NORTH CAROLINA - Caused complete defoliation of Chinese elm locally in Wake County. (Farrier). IDAHO - Larval attack on elms 1-2 weeks later than usual in Parma area. Few elms now largely defoliated and nearly all trees show some light damage. (Scott). UTAH - Injury increasing in Salt Lake City-Holladay area. (Knowlton). NEVADA - First mature larvae moving to trunks prior to pupation in Reno-Sparks area. (Nev. Coop. Rpt., June 26). OKLAHOMA - Medium to heavy on many elms throughout east central area. (VanCleave, Vinson, Washum).

LEAF BEETLES (Chrysomela spp.) - NORTH DAKOTA - C. tremula more abundant than at any time during past 10 years and reported from Bottineau, McLean, Ward and Dickey Counties. No severe damage reported. (Post). OKLAHOMA - C. interrupta caused medium to heavy damage to willows in the Sequoyah State Park area. (VanCleave, Vinson).

LOCUST LEAF MINER (Chalepus dorsalis) - INDIANA - Infesting groves of black locust in Pulaski County. (Schuder).

POPLAR AND WILLOW BORER (Sternochetus lapathi) - NORTH CAROLINA - Adults feeding on black willow as early as June 22 in Wake County. Previous early records were August 5, 1954, in Alleghany County; August 4, 1955, in Watauga County; and August 10-24, 1955, in Caldwell County. (Weisman).

A SCARABAEID (Anomala sp.) - MISSOURI - Heavy numbers of adults occurring on flowers, shrubs and trees; especially mimosa and honeylocust. (Kyd, Thomas, Munson).

JAPANESE BEETLE (Popillia japonica) - NEW JERSEY - Large numbers of adults damaging shrubs, flowers and deciduous trees in many areas. (Ins. Dis. Newsl.). MARYLAND - Medium to heavy on ornamentals in Howard, Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.). INDIANA - Causing some damage to ornamentals and flowers in South Bend-Mishawaka area. (Matthew).

ASH PLANT BUG (Neoborus amoenus) - MONTANA - Infestations common on ash statewide. Above normal in numbers. (Roemhild, June 16-30).

LACE BUGS (Corythucha spp.) - DELAWARE - C. ciliata common on sycamore in area of New Castle County. (Burbutis, Mason). NORTH CAROLINA - C. ciliata severely injured sycamore and C. cydoniae caused severe injury to pyracantha locally in Wake County. (Scott, Farrier). CALIFORNIA - Probably Corythucha sp., medium on poplar trees in Chico, Butte County. (Cal. Coop. Rpt.).

APHIDS - PENNSYLVANIA - Prociphilus tessellatus heavy on maples in Monroe County (Nichols) and heavy on ornamentals in Butler County (Udine). IDAHO - Periphyllus lyropictus heavy on maples in Parma area, with some trees dropping leaves. (Scott). NEW MEXICO - Galls of Pemphigus populi-transversus very numerous on poplar trees in Animas, Virden Valley, Hidalgo County, and in Gila-Cliff area, Grant County. (N. M. Coop. Rpt.).

APHIDS (undetermined) - VIRGINIA - Severe on willow trees in central Cumberland County, leaves turning yellow. (Seay). IDAHO - Several species unusually abundant on deciduous and coniferous trees and shrubs in Moscow area. (Barr, Foote, Manis). An undetermined species heavily infesting growing tips of evergreens, especially Norway spruce, in Mohler and Nezperce; causing some wilting. (Dailey).

A WHITEFLY (Aleyrodes spiraeoides) - FLORIDA - Adult and immature stages collected on Iris sp. at Tallahassee, Leon County, April 10, 1959. First U. S. N. M. record for the eastern United States. Det. L. M. Russell. (Fla. Coop. Sur.).

SCALE INSECTS - MINNESOTA - Lecanium fletcheri hatching on evergreens in Twin City area. (Minn. Ins. Rpt.). SOUTH DAKOTA - Gossyparia spuria heavy on American elms in Spearfish area of Lawrence County. (Mast). OKLAHOMA - Lecanium corni complex medium on some elms and maples in Wagoner and Muskogee. All infestations heavily parasitized. Kermes pubescens medium on some post oaks in east central area. (VanCleave, Vinson, Washum). Pulvinaria acericola very heavy on foliage and twigs of native persimmon in McCurtain County. This is the first record of this species in the State. (Apt). CALIFORNIA - Stomacoccus platani heavy on sycamores in Vacaville, Solano County. Gossyparia spuria heavy on elms in Auburn, Placer County, and Sacramento, Sacramento County. (Cal. Coop. Rpt.).

BIRCH LEAF MINER (Fenusa pusilla) - INDIANA - Infesting foliage of ornamental birch trees at South Bend. (Schuder).

SPIDER MITES - PENNSYLVANIA - Tetranychus telarius and other species very heavy on nearly all evergreen nursery stock and ornamentals in northeastern area. Many plants off color. Heavier than in past several years. (Nichols). MARYLAND - Undetermined species medium on evergreens in Howard County. (U. Md., Ent. Dept.). NORTH CAROLINA - Oligonychus spp. bronzing willow oaks in Wake County. (Scott, Farrier). MONTANA - Unspecified species heavy on willows and cottonwoods in Prairie County. (Roemhild, June 16-30). NEVADA - Tetranychus spp. heavy on ornamental evergreens in Reno-Sparks area. (Nev. Coop. Rpt., June 26). CALIFORNIA - Eotetranychus willamettei heavy on boxelder in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

WALKINGSTICK (Diaperomera femorata) - MINNESOTA - Abundant in hazel and oak in a woodlot near Princeton, Mille Lacs County, with a small population on same hosts near Baxter, Crow Wing County. Approximately two-thirds of populations in second and third nymphal instars. (Minn. Ins. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - DELAWARE - A. sollicitans adults numerous and annoying in eastern Kent County. (Burbutis, Mason). MARYLAND - Severe outbreak of A. sollicitans occurring on lower Eastern Shore, June 30. (U. Md., Ent. Dept.). NORTH CAROLINA - Adults of Aedes taeniorhynchus and A. sollicitans blown in over Cape Hatteras, but most of coast not bothered greatly. (Ashton). MINNESOTA - Extensive accumulations of water, due to heavy rains in Scott, Dakota, Hennepin, Ramsey and Washington Counties, contain large numbers of Aedes spp., mainly A. vexans and A. trivittatus. Similar heavy broods are developing in Carver, Sibley, Le Sueur, Rice, Goodhue and more southerly counties which also experienced heavy rains. These heavy broods will give rise to severe annoyance to humans, livestock and wildlife beginning about July 7-9. (Minn. Ins. Rpt.).

MOSQUITOES (undetermined) - WISCONSIN - A peak emergence appears possible for many localities in 10-14 days which may increase control activities. Also expected to increase the number of cattle herds kept from grazing at night. (Wis. Coop. Sur.). UTAH - Troublesome about towns, camp grounds, range areas and meadows in various parts of the State. (Knowlton). Severe case of mosquito-transmitted encephalitis (diagnosed by physician) in human reported from Brigham City, Box Elder County. (Haws, Knowlton).

HORN FLY (Siphona irritans) - UTAH - Building up in parts of Tooele, Box Elder and Davis Counties. (Knowlton). OKLAHOMA - Averaged 125 per head on 40 cattle examined in Rattan area (Goin); 400 per animal on range cattle checked in Fort Gibson area (VanCleave, Vinson); and 300 per head on 400 range steers in Payne and Noble Counties (Howell).

A MUSCID (Musca autumnalis) - OHIO - Abundant around eyes and nose of cattle in June on Apple Creek State Hospital grounds, Apple Creek, Wayne County. Det. C. W. Sabrosky. (Neiswander). New Ohio record according to ARS files.

A SARCOPHAGID (Wohlfahrtia opaca) - UTAH - Attack on kit mink at Logan, Smithfield and elsewhere in Cache Valley, considered most severe to have occurred in northern part of State. Losses are extensive. (Knowlton, June 29).

STABLE FLY (Stomoxys calcitrans) - ALABAMA - Infestation on dairy cattle at Auburn ranged 23-27 per animal. (Hays, June 30.). OKLAHOMA - Averaged 3 per animal on 40 head of cattle examined in Rattan area (Goin) and 3 per animal in a dairy herd of 140 head in Payne County (Howell).

TABANIDS - MARYLAND - Chrysops spp. continue a nuisance in southern sections of the State. (U. Md., Ent. Dept.). NORTH CAROLINA - Chrysops spp. biting severely in Carteret County and biting in Vance County around Kerr Reservoir. (Ashton, Farrier). LOUISIANA - Tabanus spp. averaged 10.5 per 15-minute trapping period in St. Landry, Calcasieu and Tensas Parishes. (Spink). IDAHO - Chrysops sp. unusually abundant and annoying around Aberdeen, Bingham County. (Bishop, June 30). WYOMING - Chrysops sp. bothering field workers near Riverton, Fremont County. (Davison). UTAH - Tabanus spp. and Chrysops spp. troublesome in meadow areas of Tooele and Rich Counties; populations sometimes very high. Populations lower but troublesome in western Millard County fields; in meadows from Thatcher to Locomotive Springs, Box Elder County; and along rivers in Duchesne County. Also annoying cattle and horses in meadow areas of Wasatch and Summit Counties. (Knowlton).

SHEEP KED (Melophagus ovinus) - UTAH - Moderately numerous in home flocks of sheep in Fielding-Penrose area and in range flocks in San Juan County. (Knowlton).

MASKED HUNTER (Reduvius personatus) - UTAH - Child bitten at Young Ward several weeks ago and bites are still painful. Several adults found in Cache Valley homes recently at Young Ward and Logan. (Haws).

CHICKEN MITE (Dermanyssus gallinae) - RHODE ISLAND - Invading third floor apartment in Providence. Associated with pigeons. (Mathewson).

STORED-PRODUCT INSECTS

GRANARY WEEVIL (Sitophilus granarius) - MONTANA - Caused severe damage to stored barley in Columbia Falls, Flathead County. (Roemhild, June 16-30).

BENEFICIAL INSECTS

LADY BEETLES (Hippodamia spp.) - SOUTH DAKOTA - Adults averaged 4 per 10 sweeps in alfalfa. No larvae found. (Mast). IDAHO - Populations of unspecified species range from low to abundant in cereal and pea fields in Mt. Home area, Latah County. (Portman, Futter). OKLAHOMA - H. convergens ranged from light to common on several

crops in various areas of the State. (VanCleave et al.).

A MELYRID (Collops sp.) - IDAHO - Populations in cereal and pea fields in the Mt. Home area of Latah County range low to fairly abundant. (Portman, Futter).

NABIDS (Nabis spp.) - SOUTH DAKOTA - Averaged 6 per 10 sweeps on west central area alfalfa. (Mast). OKLAHOMA - Counts were 0.5-12 per sweep in alfalfa fields in east central area (VanCleave, Vinson, Washum); 1-6 per sweep in an alfalfa field in Muskogee County (Washum, Bower); and 1 per sweep in a Choctaw County alfalfa field (Goin).

LACEWINGS (Chrysopa spp.) - SOUTH DAKOTA - Small numbers of adults and larvae present in west central area. (Mast). IDAHO - Range low to fairly abundant in cereal and pea fields in vicinity of Mt. Home, Latah County. (Portman, Futter). OKLAHOMA - Adults and larvae ranged 0.1-0.3 per sweep in alfalfa fields and 0.1-0.2 per linear foot in cotton and soybean fields checked in east central area. Eggs common throughout area. (VanCleave, Vinson, Washum). Ranged 0.1-3 per sweep in alfalfa field checked in Muskogee County (Washum, Bower) and 5 per linear foot in a cotton field, with eggs common, in Hollis area (Hatfield).

SYRPHIDS -OKLAHOMA - Larvae ranged 0.5-1 per sweep in alfalfa fields checked in Muskogee County. (Washum, Bower).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - RHODE ISLAND - First adult emergence observed in Coventry area, July 1. (Hansen). NEW YORK - First trapped at Poughkeepsie June 29. Emergence began at least a week sooner in 1959 than for the 24 preceding years in Rockland County. (N. Y. Wkly. Rpt.). PENNSYLVANIA - Adults first observed in several localities over the State, June 13-26. (Nichols et al.). VIRGINIA - At present, attracting more attention than any other species of insect. (Morris). NORTH CAROLINA - Has emerged in Henderson and Transylvania Counties. (Kelley). OHIO - First adults reported at Cincinnati June 15. (PPC). Large numbers of adults present in all infested areas. Numbers on foliage considerably greater than usually found 10-14 days later. (Polivka, June 26). INDIANA - Nine adults taken June 22 in traps placed in Kentland area on June 18. (PPC). More numerous by June 30 than at same time in 1958. (Gould). MISSOURI - One beetle had been trapped by June 19 in St. Louis, in areas treated in December, 1958. (PPC).

ASIATIC GARDEN BEETLE (Autoserica castanea) - NEW YORK - Appeared in late June in traps at Stone Ridge, Ulster County, and Poughkeepsie, Dutchess County. (N. Y. Wkly. Rpt.).

GREEN JUNE BEETLE (Cotinis nitida) - TENNESSEE - Heavy in Knox County. (Bennett).

NORTHERN MASKED CHAFER (Cyclocephala borealis) - MARYLAND - Heavy flight occurred at Fairland, Montgomery County, week ending July 1, with 482 caught in light trap. (U. Md., Ent. Dept.).

ASH-GRAY BLISTER BEETLE (Epicauta fabricii) - SOUTH DAKOTA - Very high numbers in north central area of State. (Walstrom).

CRICKETS - FLORIDA - Male specimen of Tafalisca lurida collected in a house on the beach in St. Lucie County, May 13, 1959; second specimen collected in the State. (Fla. Coop. Sur.). ARIZONA - Acheta sp. continued very heavy in fields and around buildings in Yuma County. (Ariz. Coop. Sur.).

FLIES - INDIANA - A fungus, Entomophthora muscae, unusually common on flies throughout the State. Fungus determined by E. A. Steinhaus. (Chandler).

PAVEMENT ANT (Tetramorium caespitum) - RHODE ISLAND - Large numbers of complaints concerning alates in northern area of State. (Mathewson).

CORRECTIONS

CEIR 9(25) : 537 - A PLANT BUG (*Trigonotylus brevipes*) should read (*Trigonotylus dohertyi*).

CEIR 9(26) : 572 - CLOVER SEED CHALCID (*Bruchus pisorum*) should read CLOVER SEED CHALCID (*Bruchophagus gibbus*).

CEIR 9(26) : 578 - GARDEN CENTIPEDE should read GARDEN SYMPHYLID.

CEIR 9(26) : 586 - THRIPS - CALIFORNIA - Should read Julian, San Diego County.

CEIR 9(27) : 598 - A MAY BEETLE (*Phyllophaga aeruginosa*) should read (*P. bruneri*). (See page 621, this issue).

CEIR 9(27) : 601 - MEXICAN BEAN BEETLE - SOUTH CAROLINA - Should read: "Fairly heavy populations throughout State on snap beans...."

ADDITIONAL NOTES

IOWA - Field examinations of 55 to 65-inch corn in Crawford and Monona Counties showed 26-36 percent feeding by EUROPEAN CORN BORER; no egg masses seen. Oviposition is complete at Ankeny. First and second-instar DIFFERENTIAL and RED-LEGGED GRASSHOPPERS average 1-2 per square yard in alfalfa in western area. APPLE MAGGOT adults emerged on July 1 at Ames. GRAPE FLEA BEETLE adults are severely damaging grape at Ames. (Iowa Ins. Inf.).

NEVADA - Infestations of SPOTTED ALFALFA APHID declining in Lovelock area due to increase in predators and cutting of hay, averaged 5-10 per stem on some second-crop alfalfa fields in Reno area, averaged 5 per sweep in Fernley area, averaged 3 per sweep in lightly infested fields to 15 per sweep in heavily infested fields in Mason and Smith Valleys, Lyon County. PEA APHID is declining in Lyon, Pershing and southern Washoe Counties. SPIDER MITES are generally light to moderate in alfalfa in Lyon County. CORN LEAF APHID is spotted and localized in barley in Reno area. WOOLLY APPLE APHID is moderate on apples in Reno-Sparks area. GREEN PEACH APHID is light on potatoes in Smith and Mason Valleys of Lyon County and ONION THRIPS are light to heavy on onions in Smith Valley of Lyon County. Light trap collections for PINK BOLLWORM have been negative to date. LADY BEETLES increasing in most aphid infested alfalfa fields in Lyon, Pershing and southern Washoe Counties and Praon palitanis is generally present throughout Reno area of Washoe County. (Bechtel et al.).

ALABAMA - First-generation EUROPEAN CORN BORER larvae rapidly approaching maturity and adults of second generation expected to emerge about July 13-16. Damage to cotton was sufficient in at least 3 northern counties that farmers inquired about the pest. MEXICAN BEAN BEETLE has been more numerous than in recent years. Serious defoliation of beans and field peas noted over State. Heavy infestations of MELONWORM and PICKLEWORM observed in Lee County. Second-generation WHITEFLIES are very numerous throughout the State on gardenias and broadleaf evergreens. FALL WEBWORM numerous on pecan trees in central area. BOLL WEEVIL infestations throughout central and southern areas averaged about 25 percent. In northern area, only older cotton fields show any appreciable infestation. Scattered fields in northern area that have started to bloom show average of about 20 percent infested squares. BOLLWORMS in sufficient numbers in western area to require treatments. In other areas, no infestations justify control. SPIDER MITES present in most cotton fields in Tennessee Valley. Controls have been applied in many fields in area. HORN FLY averaged 400 per animal in Baldwin County and 100 in Lee County. STABLE FLY ranged 17-20 per animal in Lee County. A CHINCH BUG (*Blissus leucopterus insularis*) caused serious damage to many St. Augustine lawns in the southwestern area. (Ruffin, Hays, et al.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ALABAMA						
Auburn 6/21,23,26,30, 7/3	5	7	20	11		22 3
Crossville 6/19,23,25	1	2		3	59	19
Fairhope 6/24,26,29			10	2	13	6
ARIZONA						
Mesa 6/17-23				11		44
ARKANSAS						
Fayetteville 6/25-7/1	24	6				49
Hope 6/25-7/1	4	10		10		7
Kelso 6/25-7/1	3	2				13
*Morrilton 6/25-7/1	12	1	8			
FLORIDA						
Gainesville 6/30					1	2
Quincy 6/29					4	2 1
ILLINOIS						
Urbana 6/26-7/1	186	173		99		
INDIANA (Counties)						
Lawrence 6/23-28,30	71	2		24	7 11	1
Tippecanoe 6/25-7/1	107	3		9		1
KANSAS						
Garden City 6/24,26-28	78	103		28	4	24
Hays 6/27,30,7/2	30	5		6		16
Manhattan 6/30-7/3	88	31		54		95
Wathena 6/26-28	14	8		18	2	8
MAINE						
Orono 6/21-27	2					
*Presque Isle 6/21-27	3					
Sunset 6/21-27	1					
MARYLAND						
Fairland 6/25-7/1				3	1	
Upper Marlboro 6/19-26				6	12 7	
MISSISSIPPI						
*Stoneville 6/26-7/2	22	16		16	10	29
MISSOURI						
Sikeston 6/19-7/3	26	8		37		48
NEBRASKA						
Alliance 6/19-25	118	9		10	6	
Kearney 6/23-26	46	2		10		18 2
Lincoln 6/18-25	220	55		35		41
North Platte 6/23-29	367	101		344	21 2	16 2
Scotts Bluff 6/19-25	71	25		54		8 1
NORTH CAROLINA						
Clayton 7/3					5 1	5
Faison 7/3	3				3	5

(Continued on page 638)

*Two traps - Morrilton; 2 traps - Presque Isle; 3 traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
SOUTH CAROLINA						
Clemson 6/27-7/3	20	4		6	5 13	48
SOUTH DAKOTA						
Brookings 7/2	219	7		14		
TEXAS						
Brownsville 7/3		26	30	9	1	1 14
Waco 6/27-7/2	20	10		53		150 3
WISCONSIN						
*Arlington 6/23-29	440	6		6		
Green Lake 6/23-29	35					
Janesville 6/23-29	483					
La Crosse 6/1-18	1,265	87		23		
Middleton 6/25-30	153	8		9		
Platteville 6/18-25	720	40		20		
River Falls 6/21-27	23	3				
Rosendale 6/23-29	242					
Stevens Point 6/25-28	36					
*Theresa 6/23-29	466					
Waterford 6/22-29	285					

ADDITIONAL COLLECTIONS - VIRGINIA - Heavy catches of VARIEGATED CUTWORM (Peridroma margaritosa) occurred on Eastern Shore during past week. (Hofmaster).

*Two traps - Arlington; 3 traps - Theresa

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

**PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE**

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS heavy in several Texas counties. (p. 641). EUROPEAN CORN BORER infestations range 40-100 percent on early sweet corn in Queen Annes and Frederick Counties, Maryland, averaged 25 percent in northwestern Indiana and ranged 70-100 percent in early corn in southeastern Nebraska. (p. 641, 642). CORN EARWORM becoming a problem in sweet corn in southern New Mexico, heavy in sorghum and corn in Collin County, Texas, and heavy in untreated sweet corn in La Porte County, Indiana. (p. 642). SOUTHWESTERN CORN BORER caused considerable damage to corn in central Arizona. (p. 642). SORGHUM MIDGE heavy in sorghum in Caddo and Bossier Parishes, Louisiana. (p. 643). RICE WATER WEEVIL infesting rice in an area 10 by 18 miles in Butte County, California. (p. 644). WESTERN HARVESTER ANT continues serious on hundreds of acres of range and farm land in Utah. (p. 644).

CLOVER APHID infesting 90-100 percent of red clover in Canyon County, Idaho, and is extremely numerous in Logan-North Logan area of Utah. Many fields treated much earlier than usual in Idaho. (p. 645).

THRIPS abundant and heavy on soybeans from Talbot to Worcester Counties, Maryland, and have been extremely heavy on peanuts in southeastern Virginia. (p. 646).

ORCHARD MITES increasing and causing damage to fruit trees in several States. (p. 647). CITRUS RUST MITE expected to reach high level of infestation in citrus in Lake Alfred area of Florida during July. (p. 648).

COLORADO POTATO BEETLE continues heavy on untreated potatoes in Maryland, and is abundant on potatoes in Jerome and Minidoka Counties, Idaho. (p. 648). SOUTHERN POTATO WIREWORM survey in Charleston County, South Carolina. (p. 649). PEA APHID infestations in peas heavy in midseason and late peas in Oregon, moderately severe in area of Utah, and increased markedly in Wisconsin. MEXICAN BEAN BEETLE heavy on beans in several States. (p. 649).

BOLLWORMS beginning to increase in cotton in some States and causing damage in several areas. (p. 652). BOLL WEEVIL infestations in cotton noted over large area (see map). (p. 653). SPIDER MITES becoming heavy in cotton in a number of States. (p. 654).

BLACK PINE LEAF SCALE is abundant in many parts of northern California and heavy on pines in areas of Idaho. FALL WEBWORM extremely heavy on several deciduous trees in areas of Arkansas and continues to increase throughout central and southern Alabama. Infestations noted in West Virginia and Oklahoma. (p. 655). MIMOSA WEBWORM injury very noticeable in Kent County, Delaware, moderate to severe on ornamental mimosa in southern Maryland and present throughout southern Missouri. ASIATIC GARDEN BEETLE causing up to 90 percent kill of vegetation at high altitudes in Haywood County, North Carolina. (p. 656).

HORN FLY heavy on cattle in Norfolk County, Virginia, and moderate to numerous in areas of Sanpete and Davis Counties, Utah, and in Oklahoma. A MUSCID (*Musca autumnalis*) abundant on cattle in several Indiana Counties. (p. 657). TABANIDS troublesome in several States. (p. 657, 658).

INSECT DETECTION: Spotted alfalfa aphid recorded for first time in Etowah County, Alabama. (p. 644). Colorado potato beetle collected at Logan, Utah, for first time. (p. 648). Argus tortoise beetle reported in Modoc County, California, for first time. (p. 650). Musca autumnalis recorded for first time in Indiana. (p. 657) (Continued on page 640)

Highlights of Insect Conditions - Continued

CORRECTION (p. 659).

ADDITIONAL NOTES (p. 660).

INTERCEPTIONS of special interest at U. S. ports of entry. (p. 662).

HAWAIIAN insect notes. (p. 664).

SURVEY METHOD - Methods used for grain aphids in North Dakota. (p. 665).

Reports in this issue are for the week ending July 10, unless otherwise designated.

WEATHER OF THE WEEK ENDING JULY 13

Temperatures this week ranged from near seasonal levels along the Gulf coast and in the Southeast, Middle Atlantic States and the Ohio Valley to above normal over the Far Southwest, Pacific coast and New England, and below normal over the Great Plains, the Plateau and the upper Mississippi Valley. Cool, dry air, moving southward during the week, touched off numerous scattered showers and thunderstorms over the midsection of the Nation as it encountered warm, moist air from the south. Heaviest rains, with associated strong winds and some hail, occurred early in the week over the upper Mississippi Valley where Wadena, Minnesota, recorded 7.20 inches on the 7th and Ladysmith, Wisconsin, 7.48 inches in 2 days. General showers occurred in Oklahoma on Wednesday and Thursday, but in the remainder of the Great Plains showers were of a local and limited nature, and more moisture is needed, especially in the western Great Plains. Hurricane Cindy moved inland near Bull Bay, South Carolina, during the evening of the 8th, passed slowly over the Carolinas, and off the Middle Atlantic and New England coasts on the 10th and 11th. Winds reached slightly above hurricane force before the storm moved inland but were below hurricane intensity along the South Carolina coast and only moderate farther north. Wind damage from this storm was not excessive and heavy prolonged rains over the eastern Carolinas relieved drought conditions. Additional moderate to heavy rain over the Delaware-Maryland peninsula, New Jersey, eastern Pennsylvania, southeastern New York and New England was beneficial in terminating moisture shortages.

Along the Gulf coast almost daily scattered showers and thunderstorms occurred, with some locally heavy rainfall amounts. In the Kentucky-southern Illinois-southern Indiana area isolated thunderstorms were reported, but moisture is now seriously deficient in many localities. In several central Illinois counties, less than 1 inch of precipitation has been measured since June, and in west-central Indiana under 1-1/2 inches in the last 45 days, with only 1/3 inch in the last 4 weeks. Scattered thundershowers in the Rocky Mountain States were generally light with rain of consequence reported only in the lower Pecos Valley in New Mexico, central Wyoming and central Montana. In the Far West, showers were reported along the Washington and Oregon coast, and scattered thunderstorms over the mountains of California, Nevada, Utah and Arizona, but no amounts above 1/10 inch were recorded south of Oregon. Extreme heat extended to the coastal regions of California on Thursday and Friday when temperatures reached 103° in downtown Los Angeles, 97° at San Francisco and 105° at Paso Robles, and to the Pacific Northwest where 95° levels were recorded in central Washington. Some improvement in range conditions and moisture supplies have resulted from general showers in Arizona during the past 2 weeks, but most areas from western sections of Colorado and New Mexico to the Pacific coast are dry and no improvement in some regions is probable until spring. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - NORTH DAKOTA - Threatening to severe infestations occurring in 3 areas of Golden Valley County comprising about 15 sections of government-owned submarginal rangeland and 6 to 7 sections of privately owned range. Melanoplus bilituratus dominant species. Counts average 10-40 per square yard. Development ranges from 4th instar to adult. (N. D. Ins. Rpt.). MINNESOTA - Grasshoppers generally low throughout State. Occasional fields in central and west central districts have infestations rating as high as severe. (Minn. Ins. Rpt.). WISCONSIN - Grasshopper populations appear lower after rains. Nymphs averaged less than one per sweep except in central area where counts spotty but higher; 45 per square yard in one field. (Wis. Coop. Sur.). WYOMING - At Gendo, counts of Aulocara elliotti 15 and Cordillacris occipitalis 23 per 100 square feet in rangeland. Other species of grasshoppers, 132 per 100 square feet. (Pfadt, July 1-2). NEBRASKA - Melanoplus spp. generally low in southeast, with local areas in field margins having populations ranging up to 45 per square yard. (Webb). KANSAS - Grasshopper counts less than 3 per square yard in field margins and alfalfa fields in Riley, Wabaunsee, Pottawatomie, Clay, Washington and Marshall Counties. (Peters). OKLAHOMA - Grasshopper counts 4-20 per square yard on crop margins checked in Greer and Kiowa Counties and 0-8 per square yard on pasture areas checked in Roger Mills County. (Hudson). Brachystola magna common on highways and highway margins from Vinson to Mangum. Roadside counts in area averaged 1 per square yard. Mating was common. (VanCleave, Hatfield). COLORADO - Grasshoppers reaching 30 to 40 per square yard along foothills of eastern area. Areas infested very spotty. (Colo. Ins. Sur.). LOUISIANA - Very heavy populations of M. differentialis observed in weeds and grass in fence rows, roadsides and along ditch banks in Caddo and Bossier Parishes. Undetermined species of grasshoppers also reported as heavy in grassy areas in Richland, Ouachita and Caldwell Parishes. (Spink).

TEXAS - Light to heavy, spotted grasshopper infestations attacking corn, sorghum and pastures in Bastrop County. Heavy in sorghum and corn in Bosque County. Moving fast to new crops. (Texas Coop. Rpt.). M. differentialis is medium to heavy on rice and grasses on roadsides and levees in Calhoun, Jackson, Victoria, Wharton, Matagorda and Brazoria Counties. (Hawkins). NEW MEXICO - Grasshoppers continue to be a problem on cropland in De Baca, Curry, Lea, Roosevelt and Quay Counties. (N. M. Coop. Rpt.). ARIZONA - Grasshoppers increasing in two-year-old rye stands in soil bank land near Flagstaff in Coconino County. Populations mixed, but M. bilituratus, M. packardii noticeably abundant. (Ariz. Coop. Sur.). CALIFORNIA - Light infestations of M. devastator in fields in Sangus area of Los Angeles County. The fungus (Entomophthora grylli) still active in many locations in State and materially reducing nymphal grasshopper populations. (Cal. Coop. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - MASSACHUSETTS - Infestations generally light. (Crop Pest Cont. Mess.). DELAWARE - First-generation adults common throughout State. First egg masses of second generation found in several corn fields in New Castle and Kent Counties. First-generation larvae range from third to fifth instar. (Burbutus, Mason). MARYLAND - Infestations of 40-100 percent common in early sweet corn in Queen Annes and Frederick Counties. Generally light in mid-season to late corn. Second-generation emergence, principally from potatoes, taking place most sections. Egg masses noted on corn adjacent to potatoes in Worcester County. (U. Md., Ent. Dept.). VIRGINIA - Pupating in Sussex County; appear to be much lighter than in 1958. (Woodside). INDIANA - First-brood infestations in field corn range to highs of 50 percent, but averaged 25 percent in northwestern counties of State. Fourth-instar larvae found. (Matthew). ILLINOIS - Moths emerging in East St. Louis area. Pupation started in particularly early corn fields in central area, but most borers now in stalks will not pupate for 2 or 3 weeks. A prolonged egg laying for second generation expected. (Ill. Ins. Rpt.). WISCONSIN - In advance corn fields, counts generally show less than 3 percent of plants with leaf feeding. No unhatched egg masses in southern counties. Pupation should begin in southern counties by July 20. (Wis. Ins. Sur.).

MISSOURI - Egg masses, up to 10 per 100 plants, in southeast; most eggs hatched by end of week. (Keaster). KANSAS - Few fields of early corn in northeast and north central areas infested. (Peters). NEBRASKA - Early corn in southeast had heavy infestations ranging from 70 to 100 percent. Most corn planted later with infestations of 0-15 percent. Found also in oats up to 10 percent in Concord area. (Webb, Hill). MINNESOTA - Very few egg masses found, egg laying almost complete. Larval counts varied from 2 per 100 plants in south central to 58 per 100 plants in west central district. Southwest district averaged 41 larvae per 100 plants. Most of larval population in first and second instar. (Minn. Ins. Rpt.). NORTH DAKOTA - Egg mass counts low in southeastern counties. First and second-instar larvae feeding on sweet corn at Montpelier in Stutsman County. (N. D. Ins. Rpt.).

CORN EARWORM (*Heliothis zea*) - NEW JERSEY - Eggs very low on sweet corn silks in central area, 2 per 700 silks. (Ins. Dis. Newsl.). MARYLAND - Moderate number of eggs noted on fresh field corn silks at Easton, Talbot County. (U. Md., Ent. Dept.). DELAWARE - Late-instar larvae present in Kent and Sussex Counties. Feeding mostly in tassels of corn. (Burbutis, Mason). VIRGINIA - Causing considerable damage to corn in Washington County. (Morris, Groseclose). INDIANA - Heavy numbers in sweet corn in untreated commercial plantings in La Porte County. Mature larvae found. (Matthew). NEBRASKA - Small numbers feeding in whorls of early corn in southeast area. (Webb). KANSAS - Damaging tassels and ears in few corn fields in northeast and north central areas. (Peters). OKLAHOMA - Counts ranged from occasional larva to 0.5 per sweep in alfalfa fields surveyed in southwestern area. Counts in sorghum field near Humphrey showed 23 percent of heads infested with 1-4 larvae. Grain just reaching milk stage. (VanCleave, Hatfield). Averaged 1 per stalk in 2 corn fields in Choctaw County and infested 70 percent of corn in field in Haskell area. (Goin, Washum, Parham). TEXAS - Heavy in corn and sorghum in Collin County and light to medium on sorghum in Matagorda County. (Texas Coop. Rpt.). NEW MEXICO - Becoming a serious problem in sweet corn in southern area; 2 or 3 larvae often found on single ear. (N. M. Coop. Rpt.). UTAH - One adult taken in black light trap at Ogden to July 10. Larvae rare in earliest corn, with eggs very scarce on earliest silks. (Knowlton, Broadbent). IDAHO - First seasonal injury to corn tassels observed in Gem County. (Horn).

CUTWORMS - WISCONSIN - Reports subsided, about half of counties (mostly southern) had nearly 3,000 acres of corn replanted (some twice). This may be an underestimate. In Walworth and Vernon Counties, estimates indicate that 60 and 50 percent, respectively, of fields had noticeable plant reduction. (Wis. Coop. Sur.).

SUGARCANE BORER (*Diatraea saccharalis*) - LOUISIANA - In 21 corn fields examined in East Baton Rouge, Livingston, St. Helena and Tangipahoa Parishes, infestations ranged 0-34 percent and averaged 3 percent. In sugarcane, infestations ranged from very low to 25 percent in untreated fields in St. Mary and Iberia Parishes. (Spink).

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) - ARIZONA - Populations in central area corn have been high, with considerable damage occurring, particularly in sweet corn. Between generations at present. (Ariz. Coop. Sur.).

A NOCTUID (*Simyra henrici*) - ILLINOIS - Larvae infesting 3 of 7 corn fields examined in Hancock County, 6 to 90 larvae per 100 plants with 4 to 10 percent of plants infested. (Ill. Ins. Rpt.).

FALL ARMYWORM (*Laphygma frugiperda*) - LOUISIANA - This species and *L. exigua* heavily infesting corn about one foot high in field in Bossier Parish. (Spink).

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) - CALIFORNIA - Causing severe damage to corn plantings in Butte County. Larvae stripping foliage down to midrib in many fields. (Cal. Coop. Rpt.). OKLAHOMA - Common in alfalfa checked throughout southwestern area. Counts 0.2-0.8 per sweep. (VanCleave, Hatfield).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Light to medium on young sorghum in Matagorda County and medium on heading sorghum in Refugio County. (Texas Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - ILLINOIS - Reported from widely scattered locations in State. (Ill. Ins. Rpt.). WISCONSIN - First migrants found on corn about 2 weeks earlier than in 1958 at Madison. Small colonies appearing in whorls of corn in southwestern counties. (Wis. Coop. Sur.). MISSOURI - Grain sorghum 10-85 percent infested throughout State. (Kyd, Thomas, Munson). KANSAS - Found in all sorghum fields in Riley, Pottawatomie, Wabaunsee, Clay, Washington and Marshall Counties. Counts range 0-150 per plant. (Peters). UTAH - Infestation conspicuous on barley in scattered fields throughout Davis County and in south Weber and Cache Counties. (Knowlton).

RUSTY PLUM APHID (Hysteroneura setariae) - LOUISIANA - Infestations noted for first time in sugarcane fields in Iberia Parish. (Spink).

CORN FLEA BEETLE (Chaetocnema pulicaria) - DELAWARE - Remains fairly numerous on corn throughout most of State. (Burbutis, Conrad). MARYLAND - Adults averaged 6 per plant in sweet corn field in Queen Annes County. (U. Md., Ent. Dept.). ILLINOIS - Averaged 39 adults per 100 plants in western area. (Ill. Ins. Rpt.). KANSAS - Damaging small sorghum plants in Finney County. (DePew).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Adults common on sweet corn silks in Queen Annes County. (U. Md., Ent. Dept.). VIRGINIA - Infestations heavy in Comers Rock area of Grayson County on corn and alfalfa but damage not great as yet. (Moore). DELAWARE - Common on legumes, soybeans and corn in areas of State. (Burbutis, Mason).

SAP BEETLES - MARYLAND - Abundant in ears and tassels of sweet and field corn most sections; principally Carpophilus lugubris. (U. Md., Ent. Dept.). ILLINOIS - Glichrochilus quadrisignatus is the most abundant of any year in the past 10. They may be entering undamaged ears of silking sweet corn. (Ill. Ins. Rpt.). KANSAS - Larvae and adults of Carpophilus sp. feeding on residue deposited by Heliothis zea in sweet corn in Riley County. (Pedersen).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Damage to corn by larvae increased this year. Many fields severely damaged. (Webb, Roselle).

CHINCH BUG (Blissus leucopterus) - KANSAS - Counts low in corn and sorghum fields in Riley, Pottawatomie, Wabaunsee, Clay, Washington and Marshall Counties. (Peters).

SORGHUM MIDGE (Contarinia sorghicola) - LOUISIANA - Heavily infesting sorghum in Caddo and Bossier Parishes; populations increasing. In one older field of sorghum, loss appears to be about 40-50 percent. (Spink).

LEAF MINERS - NEBRASKA - Some late corn in southeast, with 80 to 100 percent infestation. Much less severe in early corn. (Webb).

ARMYWORM (Pseudaletia unipuncta) - NORTH DAKOTA - Small larvae observed in small grain north to Larimore and west to Valley City. Counts noneconomic. (N. D. Ins. Rpt.). MINNESOTA - Very light larval infestations found scattered in lodged barley in Ottertail and Wilkin Counties. No occasion for alarm at present; however, conditions favorable for armyworm development. (Minn. Ins. Rpt.). SOUTH DAKOTA - Light larval infestation noted in some lodged small grain in field in Brookings County. Only infestation reported at present. (Spawn, Hantsbarger). TEXAS - Heavy infestations attacking Sudan grass in Matagorda County. (Hawkins).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - CALIFORNIA - Delimiting survey in Biggs area of Butte County shows an area 10 by 18 miles containing rice plantings infested. Damage more noticeable on grass in pond margins. Infestation light to locally heavy. Two adults taken in light trap at Biggs. (Cal. Coop. Rpt.).

WHEAT STEM MAGGOT (Meromyza americana) - NORTH DAKOTA - Numerous spring wheat fields in southeastern counties have 5-10 percent of stems infested. Counts above normal. (N. D. Ins. Rpt.).

HESSIAN FLY (Phytophaga destructor) - NEBRASKA - Common in harvested wheat in southern area. (Fitchett).

A RICE DELPHACID (Sogata orizicola) - FLORIDA - Sweepings in wild host grasses made on 12 locations in Manatee, Hillsborough and Sarasota Counties during June and a survey was made of 150 acres at Rabbit Island near Belle Glade, Palm Beach County. All collections were negative. The Rabbit Island area was previously known to be infested with the disease Hoja blanca. (Fla. Coop. Sur.).

RICE STINK BUG (Oebalus pugnax) - TEXAS - Medium to heavy on rice in Brazoria County. (Hawkins, Whitaker).

A THRIPS (Limothrips sp.) - SOUTH DAKOTA - Prevalent on barley in eastern areas; counts up to 15 per plant. (Spawn, Hantsbarger).

WESTERN HARVESTER ANT (Pogonomyrmex occidentalis) - UTAH - Continues a serious problem, keeping hundreds of acres of rangeland and some farms free of vegetation. (Knowlton).

A CHINCH BUG (Blissus leucopterus insularius) - LOUISIANA - Continues to be very severe on St. Augustine grass lawns in southern area. (Spink).

A SOD WEBWORM (Crambus mutabilis) - OKLAHOMA - Heavy infestations in golf green in Oklahoma City, Stillwater and Ponca City (Wadsworth) and heavy in some Bermuda grass lawns at Elk City (Hess).

SPOTTED ALFALFA APHID (Therioaphis maculata) - VIRGINIA - Medium on alfalfa in Southampton County, averaged 35 plus per sweep in Norfolk County field and are severe on alfalfa in field in Amherst County. Winged and wingless forms present. (Morris et al.). ALABAMA - Heavy infestation observed in Etowah County, 25 per 10 sweeps common. First record for county. (Grimes). LOUISIANA - Infestations on alfalfa general but light in Caddo and Bossier Parishes. (Spink). OKLAHOMA - Population varied greatly from field to field throughout southwestern area. Counts ranged 10-100 per sweep. (VanCleave, Hatfield). Counts 8 and 25 per sweep in 2 alfalfa fields in Canadian County (Pennington), 0.5-10 per sweep in alfalfa checked in Johnson and Love Counties (Vinson) and 0-20 per sweep in alfalfa checked in Choctaw County (Goin). COLORADO - In western area, reached Garfield County in the Colorado River drainage. Numbers low, but detectable. No records for northeastern counties and the Platte River drainage. (Colo. Ins. Sur.). NEW MEXICO - Generally light in alfalfa throughout State, with occasional moderate to heavy infestations. Recent rains appear to have reduced populations considerably. (N. M. Coop. Rpt.). ARIZONA - Continuing to increase in central and southwestern area alfalfa fields. In Maricopa County, 10 fields of less susceptible varieties averaged 1.33 aphids per trifoliate leaf, with 5.6 per trifoliate leaf the highest average for any one field. Counts much higher in fields where susceptible varieties grown. Serious damage may occur in susceptible varieties. (Ariz. Coop. Sur.).

PEA APHID (Macrosiphum pisi) - DELAWARE - Present to common on alfalfa over State and prevalent on clover in Sussex County. (Burbutis, Mason). MINNESOTA - Counts in alfalfa in southwest and south central districts averaged 25-35 per 10 sweeps; counts in central district somewhat lower. West central district counts ranged 10-140 per 10 sweeps. (Minn. Ins. Rpt.). NEBRASKA - Found nearly all alfalfa

fields checked in southeast area. Counts usually ran between 0-25 per 10 sweeps, but 18 percent of fields had counts of 100-130 per 10 sweeps. (Webb). WYOMING - Counts range 10-600 per 100 sweeps in alfalfa. No damage reported. (Davison). IDAHO - Large numbers beginning to reappear in some alfalfa fields in Canyon and Owyhee Counties. (Waters). UTAH - Damaging numerous alfalfa fields in Cache and Box Elder Counties and at Riverton and Midvale in Salt Lake County. (Knowlton). NEW MEXICO - Generally light in alfalfa throughout State, with occasional moderate to heavy infestations. (N. M. Coop. Rpt.).

CLOVER APHID (Anuraphis bakeri) - IDAHO - Beginning to migrate from stems to heads in red clover fields in Canyon County. About 60 percent of all fields 90-100 percent infested in county and many fields have been treated much earlier than in previous years. (Waters). UTAH - Extremely numerous beneath red clover leaf sheaths in Logan-North Logan area. (Knowlton).

ALFALFA WEEVIL (Hypera postica) - UTAH - Damage severe in some fields in Coalville-Warship area of Summit County and in Morgan County. (Knowlton). Adults light to moderate in Cache County and damage was severe in most untreated alfalfa fields in Sanpete County. (Knowlton, Funk). WYOMING - Larval damage 5 percent in North Portal area. No damage noted in other fields surveyed. (Davison).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Larvae common all alfalfa fields checked in southwestern area. (VanCleave, Hatfield). Counts 2 and 2.5 per sweep in 2 alfalfa fields checked in Love and Johnston Counties, respectively. (Vinson). KANSAS - Counts up to 12 per 10 sweeps in alfalfa fields in Riley and Wabaunsee Counties. Counts in Pottawatomie, Clay, Washington and Marshall Counties much lower. Webbing evident on less than 5 percent of plants in heavier infested fields in Riley and Wabaunsee Counties. (Peters). NORTH DAKOTA - Larval injury to small grain and flax by L. sticticalis continues in many sections of State. Counts in weedy soil bank fields in Bottineau and Renville Counties ranged 1-50 larvae per sweep. (N. D. Ins. Rpt.).

FORAGE LOOPER (Caenurgina erechtea) - KANSAS - Observed on alfalfa in Riley, Wabaunsee, Pottawatomie, Clay, Washington and Marshall Counties. Highest counts 4 per 10 sweeps. (Peters).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - MARYLAND - Adults abundant in alfalfa and clover throughout State. (U. Md., Ent. Dept.).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Present to common on alfalfa and soybeans throughout State. (Burbutis, Mason). MARYLAND - Adults averaged 1-5 per sweep on alfalfa throughout State. (U. Md., Ent. Dept.). VIRGINIA - Building up fast on peanuts some fields in southeastern area. If buildup continues, controls will be needed in one or 2 weeks. They are heavy in some fields at present. (Boush, Clark). ILLINOIS - Some stunting, purpling and yellowing of alfalfa occurring. Counts 120-580 adults and 0-1,300 nymphs per 100 sweeps in western area. Adults 0-180 per 100 sweeps on soybeans in western area. (Ill. Ins. Rpt.). MISSOURI - Yellowing alfalfa throughout State. (Kyd, Thomas, Munson). NEBRASKA - Occurring in less than 20 percent of alfalfa fields in southeast, 2-4 per 10 sweeps. Large numbers around light trap at Lincoln. (Webb, Roselle).

CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) - SOUTH DAKOTA - Quite numerous in alfalfa fields. Counts up to 20 per sweep common in eastern area. (Spawn, Hantsbarger). DELAWARE - Present on clover and alfalfa in Kent and Sussex Counties. (Burbutis, Mason).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Increasing in alfalfa statewide; averaging 10 per 25 sweeps. (Ariz. Coop. Sur.). LOUISIANA - Building up on alfalfa in Caddo and Bossier Parishes; counts ranged 6-15 and averaged 10 per 100 sweeps on soybeans in Iberia and St. John the Baptist Parishes. (Spink).

RAPID PLANT BUG (Adelphocoris rapidus) - DELAWARE - Nymphs rather abundant in clover and alfalfa most areas of State. (Burbutis, Mason).

LYGUS BUGS (Lygus spp.) - WYOMING - Counts range 10-70 per 100 sweeps at North Portal, with 5 percent damage reported. No damage noted elsewhere. (Davison). UTAH - Adults and nymphs numerous in alfalfa at Sandy, Orem, Coalville and Ogden. (Knowlton).

TARNISHED PLANT BUG (Lygus lineolaris) - NEBRASKA - Present all alfalfa fields in southeast area, 3-18 per 10 sweeps. (Webb). MARYLAND - Adults common in alfalfa in central and southern sections of State. (U. Md., Ent. Dept.). DELAWARE - Prevalent to abundant in alfalfa and clover and present on soybeans throughout State. (Burbutis, Mason).

THRIPS (undetermined) - MARYLAND - General and abundant in soybean fields from Talbot to Worcester Counties. (U. Md., Ent. Dept.). VIRGINIA - Have been heavy on peanuts in southeastern area. (Boush). NEBRASKA - Shriveling few corn tops in some fields in southeast area. (Webb). NEW MEXICO - Extremely heavy populations in seed alfalfa fields near Tucumcari, Quay County. Most growers treated. (N. M. Coop. Rpt.).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Averaged 7 per 10 linear feet of row in soybeans in Worcester County. (U. Md., Ent. Dept.). DELAWARE - Present to common on alfalfa and clover most areas and present on soybeans in Sussex County. (Burbutis, Mason).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - Counts 0.15-3.0 per linear foot of row in peanut fields checked in Atoka, Johnston, Marshall and Love Counties. (Vinson).

SPIDER MITES - MARYLAND - Moderate to heavy many soybean fields from Talbot to Worcester Counties. Some fields requiring treatments. (U. Md., Ent. Dept.). DELAWARE - Building up on soybeans in Kent and Sussex Counties and especially heavy along end rows. Several fields of clover in Kent County with severe infestations. (Burbutis, Mason). MISSOURI - Tetranychus atlanticus causing severe leaf discoloration and defoliation of soybeans along margins of fields in southeast. (Kyd, Thomas, Munson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSOURI - Counts 0.5 to 4 per foot of row in soybeans in southeast and 0-6 in north central areas. (Kyd, Thomas, Munson). MARYLAND - Light to moderate on soybeans in Queen Annes and Dorchester Counties. (U. Md., Ent. Dept.). DELAWARE - Fairly common on soybeans in Kent and Sussex Counties, causing only moderately light injury. (Burbutis, Mason). LOUISIANA - Ranged 13-98 and averaged 56 per 100 sweeps in soybeans in Iberia and St. John the Baptist Parishes. (Spink).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - VIRGINIA - Adults have been low this season in peanut-growing areas of State. (Boush). DELAWARE - Common on soybeans in Kent County. (Burbutis, Mason).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Ranged 6-19 and averaged 12 per 100 sweeps in soybeans in Iberia and St. John the Baptist Parishes. (Spink).

COLASPIS BEETLES (Colaspis spp.) - MISSOURI - Adults feeding on soybeans in southeast; counts 1-7 per foot of row. (Kyd, Thomas, Munson).

BLISTER BEETLES (Epicauta spp.) - MISSOURI - Defoliating spots in soybean fields throughout southern half of State. (Kyd, Thomas, Munson).

FRUIT INSECTS

ORCHARD MITES - MASSACHUSETTS - Increasing in some blocks. (Crop Pest Cont. Mess.). DELAWARE - Heavy in some areas of State. (Kelsey). INDIANA - Weather conditions ideal in Vincennes area for development of all species. Severe enough in many apple and peach orchards to warrant control. (Hamilton). Showing great population pressure on apple and peach orchards in Orleans area. (Marshall). MARYLAND - Panonychus ulmi and Tetranychus telarius general on plums, peaches and apples in Hancock area. Heavy in some orchards. (U. Md., Ent. Dept.). OHIO - P. ulmi giving trouble in many apple orchards. T. telarius light and general to date. (Cutright). MISSOURI - P. ulmi and T. telarius becoming more noticeable as hot, dry weather continues. A heavy infestation of mites in peaches reported from the Kansas City area. (Wkly. Rpt. Fr. Grs.). UTAH - T. mcDanieli established in center growth of apple and other fruit trees in Roy-Sunset area of Davis and Weber Counties. (Davis). NEW MEXICO - Bryobia rubrioculus heavy and continues damage to apple foliage in orchards of Otero, Lincoln and De Baca Counties where proper control not used. Tetranychus spp. remain generally light in Otero, Lincoln and De Baca Counties, with occasional heavy spotty infestations. Heavy on apple foliage in Dona Ana County where controls not used. (N. M. Coop. Rpt.).

CODLING MOTH (Carpocapsa pomonella) - MISSOURI - Light and general over State. (Wkly. Rpt. Fr. Grs.). ILLINOIS - Generally under control in Carbondale area. Second-brood larvae entering fruit. (Meyer). INDIANA - First-brood adults emerging at Vincennes, June 30. Second-brood larvae will begin entering apples about July 8. All activity light. (Hamilton). OHIO - Adult emergence ended June 12, 3 weeks earlier than in 1958. First larvae leaving apples on June 22, 7 days earlier than average. Control generally good. (Cutright).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MARYLAND - Second brood light in apples to date at Hancock. (U. Md., Ent. Dept.). ILLINOIS - About 5 percent were in pupal stage in the Carbondale area on July 6, with remainder one-half to full grown larvae. (Meyer). MISSOURI - Larvae, all stages, readily found in southern and central areas. In other parts of State, broods appear to be more distinct and only very small larvae being found. (Wkly. Rpt. Fr. Grs.).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Adult emergence, July 4, in southeastern area and in Twin City area. (Minn. Ins. Rpt.). MASSACHUSETTS - Continues to emerge and becoming more abundant in both treated and untreated orchards. (Crop Pest Cont. Mess.).

LESSER PEACH TREE BORER (Synanthedon pictipes) - OHIO - Twenty-two adults emerged from 35 trees in Doylestown area. (Rings).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - INDIANA - Second-brood adults have started coming to traps in Vincennes area. Third-brood hatch expected about July 9. (Hamilton).

PEACH TREE BORER (Sanninoidea exitiosa) - GEORGIA - Heavy in many orchards in Fort Valley area; considerable damage to peach trees. (Snapp).

CATFACING INSECTS - VIRGINIA - Heavy on peaches in orchards in southeastern area. (Boush).

A LEAF MIDGE (probably Dasyneura pyri) - OREGON - Appearing in scattered districts in Willamette Valley in greater numbers than for several years. (Every).

PLUM CURCULIO (Conotrachelus nenuphar) - ILLINOIS - Activity high in untreated fruit in Carbondale area. (Meyer). OHIO - First adults of summer brood emerged at Wooster, July 10. (Rings). NORTH CAROLINA - Injuring apples in Craven County. (Jones, Farrier). GEORGIA - Second-generation larvae began to appear in harvested peaches from Dooly County first week of July. (Snapp).

APHIDS - UTAH - Chromaphis juglandicola severely infesting walnut foliage at Logan and at Pleasant Grove, Provo and Mapleton. Anuraphis roseus still serious problem on apple foliage in home orchards at Logan, Smithfield, and generally in Wasatch, Summit and Cache Counties. An undetermined species severely curling currant foliage in Coalville-Hoytsville area of Summit County. (Knowlton).
NEW MEXICO - Eriosoma lanigerum heavy in several orchards in Otero, De Baca and Lincoln Counties. (N. M. Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Seen for first time in Salt Lake County, in Salt Lake-Holladay area. Now present from north Ogden to Provo. (Knowlton).

ORANGE TORTRIX (Argyrotaenia citrana) - CALIFORNIA - Medium on orange fruit in Santa Barbara, Santa Barbara County. (Cal. Coop. Rpt.).

Citrus Insect Situation, Lake Alfred, Florida, Quarterly Outlook - PURPLE SCALE populations will be much lower than usual during the remainder of the year. FLORIDA RED SCALE infestations will subside greatly from the present high level, but are expected to be more abundant than usual this fall. CITRUS RED MITE infestations will remain below average through September and then increase. If the fall is dry, this mite will be abundant. CITRUS RUST MITE will rapidly increase in July and cause a high level of infestation until September. TEXAS CITRUS MITE will be scarce in August, but will be more abundant than usual from September until the end of the year. BLACK SCALE will be prevalent in many groves through the summer and will increase sooty mold. CHAFF SCALE populations are expected to be above average. (Simanton, July 8).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - NEW MEXICO - Moderately severe on grapes in Dona Ana, Dona Ana County. (N. M. Coop. Rpt.).

TRUCK CROP INSECTS

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ILLINOIS - Exceptionally abundant in home gardens in Champaign vicinity. Eating all silk from sweet corn and feeding heavily on potato, tomato and cabbage plants. (Ill. Ins. Rpt.).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata) - OREGON - Building up in Willamette Valley, with new generation emerging. (Crowell).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MARYLAND - Continues heavy on untreated potatoes most sections. (U. Md., Ent. Dept.). UTAH - Infesting potatoes in Layton-Clearfield areas of Davis County and some Weber County areas. L. decemlineata was apparently taken for first time at Logan, Cache County. (Knowlton, Burtenshaw). IDAHO - Light in potato fields in Canyon County. All stages abundant in potatoes in Jerome and Minidoka Counties, with complete defoliation of individual plants or small groups of plants in some fields. First-generation larvae now mature in Bingham County. (Bishop).

FLEA BEETLES - WISCONSIN - Heavy on eggplant in Racine and Kenosha Counties. (Wis. Coop. Sur.). MARYLAND - Epitrix cucumeris abundant and killing tops of potato plants at Flintstone, Allegany County. Phyllotreta sp. heavy on broccoli at Centreville, Queen Annes County. (U. Md., Ent. Dept.). DELAWARE - P. armoraciae very abundant and causing heavy injury in small horseradish planting in New Castle County. (Burbatis, Mason). OREGON - E. tuberis abundant on potatoes near Corvallis. (Crowell).

Southern Potato Wireworm Survey, Charleston County, South Carolina - Light to moderate populations of SOUTHERN POTATO WIREWORM (Conoderus falli) survived the 1958-59 winter in the vicinity of Charleston, South Carolina. In general, injury to the 1959 spring crop of potatoes was relatively light. Nine hundred shipping-point inspection certificates issued to Charleston County potato growers during June showed that no lots of potatoes had damage in excess of 6 percent. Damage in excess of 3 percent was found in 2 percent of the lots and damage of 1.5 to 2.9 percent in 13 percent of the lots. An average of 22.7 percent of tubers grown in 5 plots showed feeding injury and 3.9 percent showed damage. The proportion of injured tubers from these plots averaged 23.95 percent and the damaged ones averaged 4.7 percent. Wireworm damage exceeded 5 percent in two of the five plantings and 3 percent in one other. (F. P. Cuthbert, Day, Reid).

BET WORM (Laphygma exigua) - CALIFORNIA - Medium on tomatoes generally in Tustin area of Orange County and some areas of Ventura County. (Deal).

TOMATO HORNWORM (Protoparce quinquemaculata) - GEORGIA - Defoliating tomato plants and attacking tomato fruits at Fort Valley. (Snapp).

TOMATO FRUITWORM (Heliothis zea) - KANSAS - Tomatoes and sweet corn suffered severe damage in Sedgwick County area. Up to 4 larvae per ear in sweet corn. (Eshbaugh). CALIFORNIA - General on tomatoes and lima beans. (Cal. Coop. Rpt.).

Potato Aphids in Maine - Although still very small, aphid populations at Presque Isle continue to increase sharply on untreated potatoes. The increase over last week is 150 percent in plants infested and 300 percent in number of aphids per plant. In order of abundance, aphids are Macrosiphum solanifolii, Aphis abbreviata, Myzus persicae and M. solani. Parasitism of aphids increased towards end of the week. (Shands).

APHIDS - MASSACHUSETTS - Building up on many vegetable crops. (Crop Pest Cont. Mess.). NEW JERSEY - Myzus persicae persists in most potato fields. (Ins. Dis. News1.). UTAH - Cavariella aegopodii severely infesting carrots at Logan. (Knowlton). CALIFORNIA - M. persicae and M. solani heavy on potatoes in Stockton area, San Joaquin County, and M. solani medium on potatoes at Half Moon Bay, San Mateo County. Aphids, probably M. persicae, heavy on bell peppers in Merced County. Aphis gossypii heavy on summer squash in Encanto, San Diego County. Rhopalosiphum rufiabdominalis moderate on potatoes at Half Moon Bay, San Mateo County. (Cal. Coop. Rpt.).

TOMATO RUSSET MITE (Vasates lycopersici) - CALIFORNIA - Appearing in many fields and are medium to heavy in the Woodland area of Yolo County. (Zobel).

SPIDER MITES - VIRGINIA - Heavy on untreated beans, tomatoes and other vegetable crops in southeastern truck crop area. (Greenwood).

PEA APHID (Macrosiphum pisi) - OREGON - Migrating to peas growing at higher elevations. Infestations heavy in midseason and late peas as of June 26. (Hanna). IDAHO - Large increase in pea fields near Reubens and Gifford. (Kambitsch). UTAH - Moderately severe generally in Sanpete County, with some fields conspicuously damaged in Cache County. (Knowlton). WISCONSIN - Populations have risen markedly in late peas. Highest counts generally in northeast section. (Wis. Coop. Sur.).

BEAN APHID (Aphis fabae) - OREGON - Extensive on beans in Washington County, June 29, and building up in central and southern Willamette Valley. (Hanna, Morrison, Crowell).

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Abundant on untreated beans in Princess Anne and other southeastern counties. (Boush). ARKANSAS - Heavy on beans in Phillips County. (Ark. Ins. Rpt.). COLORADO - Movement into bean fields reached peak in Montrose area. Numerous egg masses in Weld and Larimer Counties. (Colo. Ins. Sur.). UTAH - Damage increasing in Davis and Weber Counties generally. (Knowlton).

ALFALFA LOOPER (Autographa californica) - OREGON - Second brood on peas, June 26. Infestations not extreme. (Hanna).

SOUTHERN GREEN STINK BUG (Nezara viridula) - TEXAS - Heavy, widespread on field peas in Smith County. (Tex. Coop. Rpt.).

IMPORTED CABBAGEWORM (Pieris rapae) - MARYLAND - Heavy on cabbage most sections. (U. Md., Ent. Dept.). WISCONSIN - All stages moderate in Racine, Kenosha, Dane and Columbia Counties. (Wis. Coop. Sur.).

HARLEQUIN BUG (Murgantia histrionica) - NEW MEXICO - Has been very serious on cabbage in Lea County. Now beginning to invade tomato and corn fields in large numbers. (N. M. Coop. Rpt.).

SPINACH LEAF MINER (Pegomya hyoscyami) - UTAH - Common but light on sugar beet leaves in northern area. (Knowlton).

PEA LEAF MINER (Liriomyza langei) - CALIFORNIA - Heavy on sugar beets in Salinas-Chualar-Gonzales areas of Monterey County. (Lange).

BET WEEBORM (Loxostege sticticalis) - COLORADO - Found in the following counties per 10 sugar beet plants: Weld, 6-12; Larimer, 1-6; Adams, 5-12. (Colo. Ins. Sur.).

BET LEAFHOPPER (Circulifer tenellus) - ILLINOIS - Found at the rate of 3 per 3,000 sweeps on horseradish in East St. Louis. C. tenellus transmits a disease of horseradish called brittle-root. (Ill. Ins. Rpt.). COLORADO - Fifty to 100 per 100 sweeps in sugar beet fields and 70-100 per 100 sweeps in tomato fields in Otero County. (Colo. Ins. Sur.). UTAH - Population and curlytop disease remain low in northern and central areas on beets and up to 3 percent on tomatoes. (Knowlton, Broadbent).

BET WEBWORM (Loxostege sticticalis) - COLORADO - Found in the following counties per 10 sugar beet plants: Weld, 6-12; Larimer, 1-6; Adams, 5-12. (Colo. Ins. Sur.).

THRIPS - TEXAS - Light local infestations of Frankliniella spp. on onions in Floyd County. (Texas Coop. Rpt.). COLORADO - Thrips tabaci increasing in commercial plantings of onions in Adams, Otero and Montrose Counties. (Colo. Ins. Sur.). UTAH - T. tabaci causing moderate damage to onions in Layton-Syracuse area of Davis County; some fields treated 3 times. (Knowlton).

ONION MAGGOT (Hylemya antiqua) - UTAH - Damage in northern area generally below normal this season. (Knowlton).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Aster yellows appearing during last week of June in Racine and Kenosha Counties. Moderate populations in Jefferson County carrots. (Wis. Coop. Sur.). COLORADO - Trace numbers appearing in Baca, Boulder and Weld Counties. (Colo. Ins. Sur.).

SQUASH BUG (Anasa tristis) - NEW MEXICO - Serious problem in gardens and commercial plantings of squash throughout State. (N. M. Coop. Rpt.).

LYGUS BUGS (Lygus spp.) - IDAHO - Increasing in carrot seed fields in southwestern area. Counts taken on June 19 as follows: 1 per 20 first order umbels; 3 per 20 second order umbels; 0 per 20 third order umbels. July 2: 22 per 12 first order umbels; 7 per 20 second order umbels; and 0 in 20 third order umbels. (Scott).

ASPARAGUS BEETLES (Crioceris spp.) - UTAH - C. asparagi and C. duodecimpunctata infestations generally moderate this season in Weber, Davis and Cache Counties. (Knowlton).

ARGUS TORTOISE BEETLE (Chelymophra cassidea) - CALIFORNIA - Single adult taken in Cedar Pass area, Modoc County, May 21, 1959. First record for county. (Harper). See CEIR 9(28):627 concerning determination.

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - WISCONSIN - Populations heavier than for last four years in Door County strawberry fields. (Wis. Coop. Sur.).

RASPBERRY ROOT BORER (Bembecia marginata) - MARYLAND - Injuring raspberry plants in Boonsboro area of Washington County. (U. Md., Ent. Dept.).

TOBACCO INSECTS

TOBACCO BUDWORMS (Heliothis spp.) - MARYLAND - H. virescens generally light on tobacco in southern area. (U. Md., Ent. Dept.). NORTH CAROLINA - Light in Granville and surrounding counties. (Chamberlin). Larvae active in tobacco in Haywood County. (Jones).

HORNWORMS (Protoparce spp.) - MARYLAND - Infestations averaged 6 percent in 17 tobacco fields surveyed in St. Marys County. (U. Md., Ent. Dept.). NORTH CAROLINA - Light in Granville and surrounding counties. (Farrier).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults moderate on tobacco in St. Marys County. (U. Md., Ent. Dept.). NORTH CAROLINA - Light in Granville and surrounding counties. (Chamberlin).

APHIDS - NORTH CAROLINA - Light on tobacco in Granville and surrounding counties. (Chamberlin). MARYLAND - Myzus persicae light on tobacco. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLLWORMS (*Heliothis* spp., et al.) - VIRGINIA - Damaged 2 percent of squares in one of 4 fields in Nansemond County. (Morris et al.). SOUTH CAROLINA - Populations increasing. (Cott. Lett., July 7). Some decline in damage occurred in Florence area, but larvae remain a serious threat many fields. Properly treated fields show little damage. (Fye et al.). GEORGIA - Egg and larval counts in 39 middle and southern area cotton fields averaged 3 each per 100 terminals. (Johnson). ALABAMA - Infestations range 0-4 percent in southern and central areas except in Houston County where infestations averaged 15 percent in 2 fields. In northern area, infestations very light. Egg laying underway most areas, as many as 100 per 100 terminals observed in Autauga County. (Grimes, Rawson). TENNESSEE - Infestations increasing. Heavier in northwestern part of State. Many fields need control. Larvae averaged 2 per 100 terminals. Predators active and reducing egg numbers in many cases. (Locke). MISSISSIPPI - Very few larvae and eggs reported in delta counties. Activity should increase during week. (Merkl et al.). LOUISIANA - Number of eggs per 100 terminals ranged 0-3 in Tensas Parish and 0-5 in Morehouse Parish and averaged less than 2 in Rapides and Avoyelles Parishes. Infestations averaged less than one to 2 percent in Morehouse Parish. Infestations light to medium in West Carroll, Richland, Ouachita and Caldwell Parishes. (Spink). Larvae averaged 0-69 and eggs 1.48 per 100 terminals in Madison Parish. Percent infestation ranged 0-7. (Smith et al.). ARKANSAS - Larval and egg counts low. (Ark. Ins. Rpt.). MISSOURI - Light infestations in 378 of 966 fields scouted. Counts 0-5 eggs and 0-6 larvae per 100 terminals. (Kyd, Thomas, Munson). OKLAHOMA - Percent damaged squares ranged 1-20 in southwestern area (VanCleave, Hatfield); 1-10 in Carter, Love, Marshall, Bryan and Atoka Counties (Vinson); 10-15 in Choctaw County (Goin); occasional to 26 in Okfuskee, Okmulgee, Muskogee and Wagoner Counties (Robinson); and 3 and 6 in 2 fields in Muskogee County (Washum). TEXAS - Reported from most areas of State with heavy egg deposition and hatch in coastal and central regions. Many fields treated in lower Rio Grande Valley to protect bolls. (Gaines). Infestation averaged 3.9 eggs and 3 larvae per 100 terminals in McLennan and Falls Counties. Square injury averaged 1.6 percent in same fields and boll injury 1.4 percent in 7 fields. (Parencia et al.). NEW MEXICO - Appear to be building up very rapidly many cotton fields in Eddy and Chaves Counties; many growers treating. (N. M. Coop. Rpt.). ARIZONA - Populations remain low. (Ariz. Coop. Sur.). CALIFORNIA - Becoming a problem in fields treated for other pests in Imperial County. (H. Schulback).

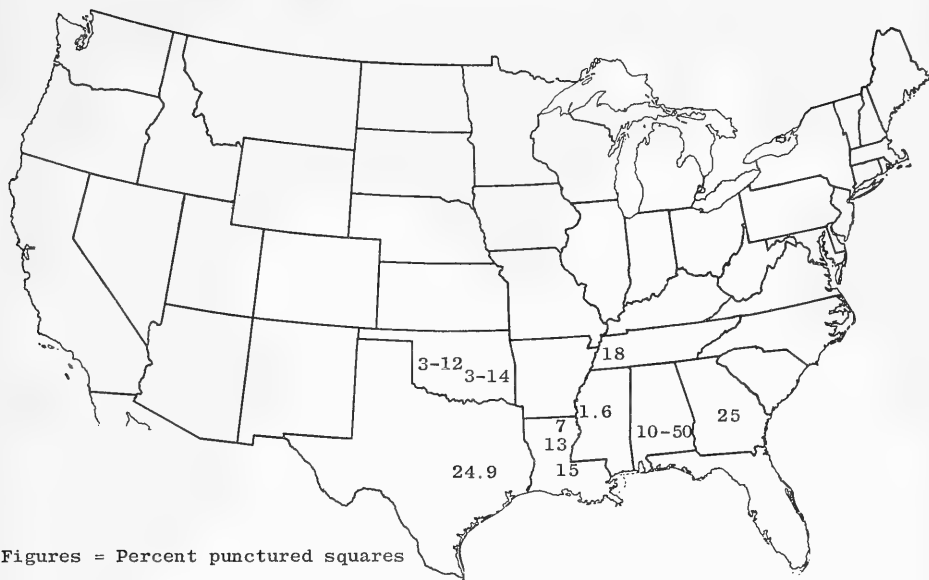
PINK BOLLWORM (*Pectinophora gossypiella*) - FLORIDA - On June 12, one specimen collected from Hibiscus blooms at Plantation Yacht Harbor, Monroe County. Treatments reverted to a weekly schedule at location. Inspection of 197 hibiscus blooms in Palm Beach County, 197 wild cotton plants and 785 okra pods in Dade County were inspected during June with negative results. (Fla. Coop. Sur.). OKLAHOMA - Bloom check made in 9 cotton fields in Tillman, Kiowa and Washita Counties was negative except for one 60-acre field near Davidson where 8 larvae were found out of 1,660 blooms inspected. This is first time larvae have been found by bloom inspection in Oklahoma and first field infestation in State this season. (Burke).

COTTON SQUARE BORER (*Strymon melinus*) - CALIFORNIA - Light damage to cotton squares in Visalia area of Tulare County. (Cal. Coop. Rpt.).

COTTON LEAF PERFORATOR (*Bucculatrix thurberiella*) - ARIZONA - Increasing slightly in cotton in Yuma County; however, damage still very light. In other cotton areas of State, populations very light. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (*Estigmene acrea*) - ARIZONA - Very light populations appearing in Yuma County cotton. (Ariz. Coop. Sur.).

Boll Weevil Situation, Week Ending July 10



Figures = Percent punctured squares

BOLL WEEVIL (*Anthonomus grandis*) - VIRGINIA - Punctured squares light in Southampton County and none found in Nansemond County. (Morris et al.).
SOUTH CAROLINA - Activity increasing throughout State. First-generation weevils appearing most Coastal Plain and some Piedmont counties. Percent infestations expected to rise sharply in next few weeks. (Cott. Lett., July 7). First-generation weevils freely puncturing squares and young bolls in Florence area. Infestations rather low in treated fields but greater potential for infestations developing. (Fye et al.).
GEORGIA - Punctured squares 25 percent in 39 middle and southern area cotton fields. (Johnson).
ALABAMA - Infestations in south and central areas range 10-50 percent punctured squares while those in northern area are extremely low. (Grimes).
TENNESSEE - Increasing in southern part of western area. Counts averaged 18 percent punctured squares with more general infestations than in 1958. Conditions ideal for buildup and first generation should be emerging by July 18. (Locke).
MISSISSIPPI - First-generation hatch continues extremely light in Stoneville area. Average square infestation was 1.6 percent. (Merkl et al.).
LOUISIANA - Percent squares infested averaged 13 in Tensas Parish; 16, 10 and 5 percent in Morehouse Parish; 15 percent in Acadia Parish; 2 percent in Rapides Parish; and 4 percent in Avoyelles Parish. Infestations light to medium in Ouachita, Richland, Caldwell, Allen, Vernon and West Carroll Parishes. (Spink). Percent square infestation averaged 7 percent in Madison Parish. Percent survival in hibernation cages at Tallulah was 2.96 compared with 4.34 at same time in 1958. (Smith et al.).
ARKANSAS - Overwintering weevils continue to appear in all areas, but numbers low. First-generation emergence expected week of July 19 in older cotton. (Ark. Ins. Rpt.).
OKLAHOMA - Percent punctured squares ranged 3-12 in southwestern area (VanCleave, Hatfield); 4-5 in Carter, Love, Marshall, Bryan and Atoka Counties (Vinson); 10-30 in Choctaw County (Goin); 3-14 in Okfuskee, Okmulgee, Muskogee and Wagoner Counties (Robinson); and 21 and 31 percent in 2 fields in Muskogee County (Washum).
TEXAS - Infestations reported most areas of State except the plains but damage seemed to be spotted rather than general. Controls being applied to many

fields in lower Rio Grande Valley to protect bolls. (Gaines). Infestations increased considerably in McLennan and Falls Counties, averaging 38.5 percent punctured squares in untreated fields and 18.2 percent in treated fields. Overall average was 24.9 percent punctured squares. (Parenchia et al.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Causing some damage in coastal bend and upper coastal areas. (Gaines).

BEEF ARMYWORM (Laphygma exigua) - ARIZONA - Continues heavy in some central area cotton fields. (Ariz. Coop. Sur.).

A LEAF ROLLER (Platynota stultana) - ARIZONA - Medium populations some central area cotton fields. (Ariz. Coop. Sur.).

SPIDER MITES - SOUTH CAROLINA - Serious infestations reported from several areas. (Fye et al.). GEORGIA - Light to moderate infestations in 39 middle and southern area cotton fields. (Johnson). ALABAMA - Medium to heavy infestations along margins of fields in Tennessee Valley. (Sandy, Canerday). TENNESSEE - Continue to increase over western area, with heaviest infestations along margins of fields that were infested in 1958. Several heavy infestations found in Lake County. Control needed before infestations get out of hand. (Locke). MISSOURI - Light to moderate infestations of spider mites, mainly Tetranychus atlanticus, in 442 fields of 966 scouted. (Kyd, Thomas, Munson). MISSISSIPPI - Light to heavy infestations extremely spotty over delta counties. Some control required in localized spots. (Merkl et al.). ARIZONA - Continue to increase on cotton in central area. (Ariz. Coop. Sur.). CALIFORNIA - Occurred throughout cotton generally, with heavy populations in Kerman-Fresno-Caruthers areas. Predominant species T. telarius in Kerman-Kearney Park area. (L. K. Stromberg, L. A. Rund).

APHIDS - VIRGINIA - Light in 2 of 4 fields surveyed in Southampton County. (Morris). GEORGIA - Light infestations of Aphis gossypii in 39 middle and southern area cotton fields. (Johnson). MISSISSIPPI - Light to heavy infestations extremely spotty over delta counties. Some control required in localized spots. (Merkl et al.). OKLAHOMA - Populations of A. gossypii in cotton generally light, with some light to heavy infestations reported in several areas of State. (VanCleave et al.).

SAY STINK BUG (Chlorochroa sayi) - NEW MEXICO - Generally light in cotton in southern area; occasional heavy infestation. (N. M. Coop. Rpt.).

FLEAHOPPERS - OKLAHOMA - Light infestations of Psallus seriatus in southwest, central and east central areas. Light to heavy in south central and southeast counties. (VanCleave et al.). ARIZONA - Populations of Spanogonicus albofasciatus continue heavy over the State. Some fields in Pima County have increased populations, with as many as 3 nymphs per terminal. (Ariz. Coop. Sur.). TEXAS - Light to medium infestations found most plains areas with occasional heavy infestations in late-planted fields. (Gaines).

LYGUS BUGS (Lygus spp.) - ARIZONA - Continuing heavy in cotton statewide. Damage to squares heavy some fields. Average counts per 100 sweeps were 20 in Yuma County, 25 in Maricopa, Pinal and Pima Counties and 15 in Graham County. In one Pima County field, count averaged 80 per 100 sweeps. (Ariz. Coop. Sur.).

WHITEFLIES - CALIFORNIA - Fluctuating populations occurring in Imperial County, mostly not requiring treatment. (H. Schulback).

THRIPS - OKLAHOMA - Light infestations found in southwestern and central counties and light to heavy infestations in south central and southeastern counties. (VanCleave et al.). TEXAS - Found most plains areas with occasional heavy infestations in late-planted fields. (Gaines).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

JACK-PINE BUDMOTH (Choristoneura pinus) - MINNESOTA - In Hubbard County, larvae averaged 50 per sample per tree, with moderate defoliation. In St. Louis County, population and defoliation is about the same at Side Lake; defoliation is moderate near Ely; and pupation is about 50 percent north of Biwabik. (Minn. Ins. Rpt.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - WEST VIRGINIA - Adults prevalent on pines in Tucker County. (W. Va. Ins. Sur., July 4).

NANTUCKET PINE MOTH (Rhyacionia frustrana) - MARYLAND - Adults emerging from Scotch pine at Harmons, Anne Arundel County. (U. Md., Ent. Dept.).

PINE TIP MOTHS - ARKANSAS - Second adult-brood activity ceased week of June 8 in southern part of State and week of June 22 in northern area. First and second-instar larvae active in El Dorado area June 9. From reports and observations, damage by second larval brood may be severe in some localities. (Ark. For. Pest Rpt., June).

PINE WEBWORM (Tetralopha robustella) - NORTH CAROLINA - Causing severe defoliation in a pine plantation in Rutherford County. (Long).

BARK BEETLES - ARKANSAS - Ips spp. activity has shown slight seasonal increase. Increased activity was reported in Crossett, Malvern, Amity, El Dorado and Waldron areas. A seasonal upsurge in infestations can be expected, particularly if dry weather prevails. Dendroctonus terebrans situation is much the same as for Ips spp. Some increase in infestations was noted in same areas. (Ark. For. Pest Rpt., June).

EASTERN SPRUCE GALL APHID (Chermes abietis) - MARYLAND - Infesting spruce at Cumberland, Allegany County. (U. Md., Ent. Dept.).

PINE BARK APHID (Pineus strobi) - VIRGINIA - Heavy on white pines in ornamental planting in Campbell County (Rowell, Ellis) and on white pine on lawn in Southampton County, until controlled. (Morris, Davis).

BLACK PINE LEAF SCALE (Aspidiotus californicus) - IDAHO - Heavy on a few ponderosa pines north of Worley, Kootenai County (Foote), and heavy on Mugho pine in Moscow, Latah County (Portman). CALIFORNIA - Local, heavy infestations in areas of Stanislaus and Shasta-Trinity National Parks causing needle drop and seriously damaging sugar pine stands. Local epidemic status causing concern on potential destructiveness of species. Reports indicate abundance in many northern parts of State. (J. O'Keefe, L. S. Price, C. B. Eaton).

A PINE SAWFLY (Neodiprion gillettei) - COLORADO - Caused 50-80 percent defoliation on Pinus ponderosa in Boulder and Larimer Counties. (Colo. Ins. Sur.).

A SPITTLEBUG (Clastoptera arborina) - COLORADO - Infesting juniper in Larimer County. (Colo. Ins. Sur.).

BAGWORM (Thyridopteryx ephemeraeformis) - NEW JERSEY - Fairly heavy on juniper and red cedar in some areas of the State. (Ins. Dis. Newsl.). OKLAHOMA - Heavy and killing evergreens around homes throughout the State. (Howell, VanCleave, Hatfield).

FALL WEBWORM (Hyphantria cunea) - WEST VIRGINIA - Light on various broad leaf forest trees in central and eastern counties. (W. Va. Ins. Sur., July 4). OKLAHOMA - Medium infestations on scattered cottonwood trees throughout southwestern area. (VanCleave, Hatfield). ARKANSAS - Extremely heavy on several deciduous trees over several areas of the State. (Ark. Ins. Rpt.). ALABAMA - Continues to increase throughout central and southern areas. Activity on persimmon trees observed as far north as Calhoun County. (Grimes).

MIMOSA WEBWORM (Homadula albizziae) - DELAWARE - Feeding injury and webbing very noticeable in Kent County. (Burbutis, Mason). MARYLAND - Moderate to severe on mimosa in southern counties. (U. Md., Ent. Dept.). NORTH CAROLINA - Infesting honeylocust in Wake County. (Pl. Path., Farrier). MISSOURI - Present on mimosa throughout southern half of State. (Kyd, Thomas, Munson).

LARGE ASPEN TORTRIX (Archips conflictana) - MINNESOTA - Has defoliated an area southwest of Hovland, Cook County. (Minn. Ins. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - VIRGINIA - Heavy on elms in Prince Edward and Tazewell Counties. (Rowell, Peery, Patton). OKLAHOMA - Larvae ranged 0-8 per 100 leaves examined on elms in Minco area, Grady County. (Pennington). UTAH - Injury becoming more common in Salt Lake and Weber Counties. (Knowlton). CALIFORNIA - Heavy on elms in Dixon, Solano County. (Cal. Coop. Rpt.).

LARGER ELM LEAF BEETLE (Monocesta coryli) - NORTH CAROLINA - Adults feeding on elms in Lincoln County. (Jones, Farrier).

LOCUST BORER (Megacyllene robiniae) - UTAH - Attack severe in Salt Lake City-Sandy area, Salt Lake County, with some trees being killed. (Knowlton).

POPULAR AND WILLOW BORER (Sternochetus lapathi) - OREGON - Generally more abundant than usual. (Every). IDAHO - Adults fairly common in wetter areas north of Sandpoint, Bonner County. (Foote).

COTTONWOOD BORER (Plectrodera scalator) - MISSOURI - Girdling by this species killed a few Lombardy poplars in Charleston, Mississippi County. (Kyd, Thomas, Munson).

COTTONWOOD LEAF BEETLE (Chrysomela scripta complex) - SOUTH DAKOTA - Defoliating cottonwood trees in vicinity of Flandreau, Moody County. (Spawn, Hantsbarger).

ASIATIC GARDEN BEETLE (Autoserica castanea) - NORTH CAROLINA - Up to 25-30 larvae per square foot, resulting in 90 percent of vegetation killed at high altitudes in Haywood County. (Halloway, Jones, Farrier).

SCALE INSECTS - MARYLAND - Fiorinia externa heavy on hemlock at Pikesville, Baltimore County, and Pseudaulacaspis pentagona heavy on mulberry at Bushwood, St. Marys County. (U. Md., Ent. Dept.). KANSAS - Gossyparia spuria crawlers evident on elms in Finney County. Extremely heavy on some trees. (DePew). UTAH - Lepidosaphes ulmi and G. spuria on ash, willow and poplar trees are serious problems in the Manti-Ephraim areas of Sanpete County. (Knowlton). COLORADO - Pulvinaria innumerabilis heavy on maples in Paonia area, Delta County (Bulla, July 4) and crawlers active throughout county (Exp. Sta.). G. spuria heavy on American elms in Delta and Montrose Counties. (Bulla, July 4; Exp. Sta.).

APHIDS - NORTH CAROLINA - Prociphilus tessellatus infesting red maple in Nash County. (Woodard, Farrier). CALIFORNIA - Prociphilus fraxini-dipetalae medium on ash trees in West Sacramento, Yolo County. (Cal. Coop. Rpt.).

AN OAK SAWFLY (Caliroa lineata) - DELAWARE - Fairly common on oak and causing moderately heavy feeding injury in New Castle County. (Burbutis, Mason).

A LOCUST GALL MIDGE (Dasyneura pseudacaciae) - COLORADO - Populations high on locust in Larimer County. (Colo. Ins. Sur.).

A WHITEFLY (Dialeurodes sp.) - TEXAS - Heavy infestations reported on ornamentals in Bell County. (Tex. Coop. Rpt.).

SPIDER MITES (undetermined) - NEW JERSEY - Heavy on nursery plantings of holly and juniper. Many of older needles on junipers have browned and dropped off. (Ins. Dis. Newsl.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MINNESOTA - During period June 28-July 4, 1,358 larval collections were made in Hennepin, Ramsey, Anoka, Washington, Dakota and Scott Counties, with Aedes vexans present in 90 percent of the collections, A. trivittatus in 18 percent and Culex spp. in 18 percent. Of 235 specimens taken in 40 biting collections, 78 percent were A. vexans and 10 percent A. trivittatus. A. vexans composed 92 percent of light trap collections. As of July 4, a total of 130,000 acres of confirmed breeding sites had been treated. (Minn. Ins. Rpt.). **OKLAHOMA** - Psorophora cyanoescens a slight nuisance in a Stillwater home. P. cyanoescens and P. discolor averaged 0-12 larvae per dip and P. ciliata averaged 0-5 per dip in roadside pools in Payne and Tulsa Counties. Culex restuans larvae averaged 50 per dip in favorable Tulsa County habitats. (Stiles, Howell, Taylor). **UTAH** - Culiseta inornata population above normal in Weber County, but Aedes dorsalis counts are lowest since 1954. (Knowlton). **IDAHO** - Aedes spp. biting viciously near Priest Lake. (Foote). **CALIFORNIA** - Highest populations of Culex tarsalis occurred in northern area of State in Butte and Colusa Counties, with high of 29.7 females taken in light traps in Butte County. Other areas were negligible. (R. Peters).

MOSQUITOES (undetermined) - VIRGINIA - Severe in Springfield area of Fairfax County. Have been causing considerable annoyance for 10 days. (Beard). **UTAH** - Control very satisfactory in Weber County with unusually low light trap counts, but continue troublesome in areas of Cache County. Also troublesome in meadow areas from Manti to Wales and in nearby towns in Sanpete County. (Knowlton). **NEW MEXICO** - A nuisance around homes and in fields in Curry County. (N. M. Coop. Rpt.). **CALIFORNIA** - Populations generally low over State with little complaint from residents. (R. Peters).

HORN FLY (Siphona irritans) - VIRGINIA - Heavy on beef cattle in Norfolk County. (Thomas). **INDIANA** - Rare on pasture steers at Hartford City, Blackford County, but ranged 30-50 per animal on untreated dairy calves in Dubois County. (Dobson). **OKLAHOMA** - Averaged 1,200 per animal on 4 longhorn steers and a bull calf on Federal Wildlife Refuge in Comanche County (Hatfield); 5 per treated dairy cow on 10 checked in Syder area (VanCleave, Hatfield); 350 per animal on 55 cows checked in McMillan area, Love County (Vinson); 700 per cow on 100 checked in Antlers area (Goin); and 100 per treated dairy animal checked in Tulsa area (Taylor). **UTAH** - Moderate to numerous on cattle in areas of Sanpete and Davis Counties. (Knowlton).

A MUSCID (Musca autumnalis) - INDIANA - Abundant, 30-50 per animal, on beef cattle at Lafayette. Ranged 45-200 on pasture steers, with average of 100 per animal, at Hartford City, Blackford County. Counts in Dubois County were 10-15 per animal on untreated dairy calves. (Dobson). According to ARS records, this is a first record for the State. (PPC).

SARCOPHAGIDS - IDAHO - Wohlfahrtia opaca larvae recovered from flesh of kittens at Gooding, Gooding County. (Gibson). **UTAH** - Wohlfahrtia sp. maggot damage to kit mink in Cache County is still a matter of serious concern to fur breeders in northern part of State. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 6 per cow on 100 checked in Antlers area (Goin) and 5 per untreated dairy animal in Tulsa area (Taylor). **VIRGINIA** - Abundant in Princess Anne County (Boush) and heavy on beef cattle in Norfolk County (Thomas).

TABANIDS - MARYLAND - Chrysops univittata and Chrysops spp. numerous and biting humans in southern counties. (U. Md., Ent. Dept.). **VIRGINIA** - Chrysops spp. abundant in Princess Anne County. (Boush). Tabanus spp. averaged 5-6 per beef animal in some areas of Norfolk County. (Thomas). A large undetermined species swarming in a filling station and on sides of a dwelling in western Fairfax County. Also reported in Bull Run, Dranesville and Fairfax areas of same County. (Beard).

INDIANA - Tabanus sulcifrons severe (2-13 per animal) on pasture cattle in Dubois County. (Dobson). IDAHO - Chrysops spp. adults abundant in Bingham and Power Counties. (Bishop). Adults of C. noctifera pertinax highly bothersome north of Sandpoint and Cocolalla Lake, Bonner County. (Foote). UTAH - Chrysops spp. becoming troublesome in parts of Tooele and Box Elder Counties and in some areas near Bear Lake, Rich County. Tabanus spp. and Chrysops spp. troubling livestock in Charleston-Midway meadows, Wasatch County, and in Kamas-Coalville area, Summit County. (Knowlton).

SIMULIIDS - UTAH - Undetermined species annoying people and livestock in Fielding-Collinston area of Box Elder County. Large numbers attacking sheep in mountains from Schoefield to Mt. Pleasant in Sanpete County. Sheepmen very much concerned and desiring controls. (Knowlton).

FLEAS - SOUTH DAKOTA - Heavy infestation of Pulex irritans reported in yard of a farm in Spink County. Residents complained of many bites. (Spawn, Hantsbarger). OKLAHOMA - Ctenocephalides spp. and P. irritans common in homes and yards where pets are kept throughout State. (Howell, Taylor). ALABAMA - Heavy infestations of undetermined species in homes and lawns in Monroeville. (Lemons).

TICKS - MARYLAND - Dermacentor variabilis adults common in central and southern counties. (U. Md., Ent. Dept.). OKLAHOMA - Amblyomma americanum averaged 5 per cow on 55 checked in McMillan area, Love County (Vinson); adults averaged 8 per animal on 100 cows in Antlers area, Pushmataha County, while larvae averaged 1,000 per animal (Goin). Three D. variabilis found on a dog in Stillwater area. (Stiles). Rhipicephalus sanguineus heavy in kennels in Oklahoma City. (Howell).

STORED-PRODUCT INSECTS

FLOUR BEETLES (Tribolium spp.) - NORTH DAKOTA - Infestations of T. castaneum and T. confusum in binned oats numerous. (N. D. Ins. Rpt.). SOUTH DAKOTA - T. castaneum damaged a bin of oats in Sanborn County. (Spawn, Hantsbarber).

BENEFICIAL INSECTS

LADY BEETLES - OKLAHOMA - Hippodamia convergens counts variable on several crops in southwestern, central, south central and southeastern areas of State. (VanCleave et al.). TEXAS - Undetermined species very common in Collin County. (Tex. Coop. Rpt.). WYOMING - Hippodamia spp. ranged 2-4 per 100 sweeps in Eden-Farson area and 2-20 per 100 sweeps in Riverton area. (Davison). UTAH - Hippodamia spp. and Coccinella spp. plentiful in alfalfa seed fields in Collinston area, Box Elder County. (Knowlton).

NABIDS (Nabis spp.) - OKLAHOMA - In alfalfa, counts ranged 0.5-1.5 per sweep in fields checked in southwestern area and up to 2 per sweep in southcentral area. (VanCleave, Hatfield, Vinson). WYOMING - Counts per 100 sweeps were 0-4 in Eden-Farson area and 0-2 in Riverton area. (Davison). UTAH - Numerous in Collinston area alfalfa seed fields in Box Elder County. (Knowlton).

FLOWER BUGS (Orius spp.) - NEBRASKA - Ranged 2-15 per 100 sweeps in many southeast area alfalfa fields. Small numbers also present on many corn plants. (Webb). UTAH - O. tristicolor numerous in Collinston area alfalfa seed fields. (Knowlton).

LACEWINGS (Chrysopa spp.) - OKLAHOMA - Eggs and larvae common in most southwestern area cotton fields checked. (VanCleave, Hatfield). Counts ranged 2-3 per sweep in alfalfa fields and up to 2 per 10 plants in cotton fields checked in central area (Pennington); and up to 2 per sweep in alfalfa and heavy in one cotton field checked in southcentral area (Vinson). TEXAS - Undetermined species reported very common in Collin County. (Tex. Coop. Rpt.).

AN ALKALI BEE (Nomia melanderi) - OREGON - First male noted June 2 in Adrian-Nyssa area, with major emergence beginning June 13 in great numbers. Delay apparently due to cool temperatures. Total numbers not more than a week behind 1958 abundant population at this time. (Eppley). IDAHO - Some adult emergence in Bingham County. (Bishop). WYOMING - Has emerged in areas about Riverton, Fremont County, and is present in seed alfalfa fields. (Davison).

HONEY BEE (Apis mellifera) - WYOMING - Densities per 100 sweeps in seed alfalfa in Riverton area of Fremont County were 27-50 in Hidden Valley, 30-40 in Missouri Valley and 30-35 at North Portal. (Davison).

PARASITES - NORTH CAROLINA - Bracon mellitor emerging from about 4-5 percent of infested squares taken from a cotton field which has had no insecticide applied in past 10 years. (Gast). ARIZONA - Trioxys utilis, Aphelinus semiflavus and Praon palitans populations at a very low level and difficult to find in most alfalfa fields at present time. (Ariz. Coop. Sur.). OREGON - Numbers of Heterostylum robustum, an alkali bee parasite, appear to be declining in Adrian-Nyssa area. Emergence about one-half that of 1958 in most nesting sites. Zodion obliquefasciatum, another alkali bee parasite, was taken at a nesting site south of Adrian, June 28. (Eppley).

THREE-LINED POTATO BEETLE (Lema trilineata) - MARYLAND - Very destructive to Jimsonweed in and around corn fields in Queen Annes, Talbot and Dorchester Counties. (U. Md., Ent. Dept.).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - FLORIDA - No suspicious specimens were recovered from 351 traps located in 29 counties during June. (Fla. Coop. Sur.). VIRGINIA - Continued as number one insect species in the State. Range light to heavy in Wise County and found at Appalachia for the first time. (McCormick).

A MAY BEETLE (Phyllophaga bruneri) - FLORIDA - Additional adult collections made in Miami. An attempt being made to delimit area of infestation. About 30 May beetle larvae have been found in adult infested areas, but rearing will be necessary to definitely establish species. (Fla. Coop. Sur.).

A STRIPED BLISTER BEETLE (Epicauta sp.) - LOUISIANA - Heavily infesting weeds along roads and bordering fields in Tangipahoa Parish. (Spink).

CIGARETTE BEETLE (Lasioderma serricorne) - OKLAHOMA - Heavy in dwellings in Pawnee and Stillwater. (Stiles).

A DERMESTID (Trogoderma ornatum) - NORTH CAROLINA - Infestation reported in Wayne County. (Lamm, Weisman).

CORRECTION

CEIR 9 (27): 602 - FALL WEBWORM - GEORGIA - should read Ft. Valley area.

ADDITIONAL NOTES

NEVADA - SPOTTED ALFALFA APHID infestations generally declining in Lyon, Pershing, Churchill and Washoe Counties due to predators and parasites. PEA APHID heavy on second crop alfalfa in Baker area, White Pine County. PEAR-SLUG heavy, localized on cherry and pear in southern Washoe County. A PLANT BUG (Spanogonicus albofasciatus) is light to heavy on cantaloups in Churchill County. Averaged 10-12 per melon in some fields. Det. W. E. Simonds. ELM LEAF BEETLE caused heavy defoliation of unsprayed elm trees in Fallon, Churchill County, Yerington, Lyon County, Lovelock, Pershing County and Reno-Sparks, Washoe County. A SPOTTED ALFALFA APHID PARASITE (Praon palitans) light to heavy in Fallon, Churchill County. In some fields 4-6 aphid mummies per stem. (Bechtel et al.).

IOWA - WIREWORMS averaged 8 per hill of corn in Clarke County, up to 60 percent loss in infested fields. EUROPEAN CORN BORER populations low everywhere in State. PEA APHID averaged 50 per sweep in alfalfa. POTATO LEAFHOPPER averaged 5-10 nymphs and adults per sweep in alfalfa, and TARNISHED PLANT BUG averaged 2 per sweep. BAGWORM active in southern area of State on cedars and other evergreens. SQUASH BUG now laying eggs on squash. Annual CICADAS have emerged at Ames. HARLEQUIN BUG present throughout State on crucifers. (Iowa Ins. Inf.).

NEW YORK - APPLE MAGGOT common in Ulster County and increasing in Rockland and Monroe Counties. RED-BANDED LEAF ROLLER increasing in Rockland County. EUROPEAN RED MITE becoming more serious on apple trees in Rockland and Ulster Counties and TWO-SPOTTED SPIDER MITE building up in Ulster and Monroe Counties and unusually heavy in Wayne County. APPLE APHID building up on apple trees in Rockland and Ulster Counties. APHIDS, mostly GREEN PEACH APHID rapidly building up on potatoes in Suffolk County. Number of EUROPEAN CORN BORER adults caught in the Ithaca light trap has dropped off lately. TARNISHED PLANT BUG doing considerable damage to lettuce in Orange County. Some fields at Chester were 100 percent loss. LEAFHOPPERS causing increasing amount of damage to alfalfa cut for second time in Ulster County. ALFALFA WEEVIL very low in Ulster County. (N. Y. Wkly. Rpt.).

RHODE ISLAND - AZALEA LEAF MINER occurring locally. THREE-LINED POTATO BEETLE beginning to pupate and POTATO APHIDS (Macrosiphum solanifolii and Myzus persicae) building up locally in South Kingstown. Heavy JAPANESE BEETLE emergence in new lawn in Warwick and FLETCHER SCALE hatching in southern area. (Hansen, Kerr, Mathewson).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires
ALABAMA						
Auburn 7/8,10	16	8	46	1	5	11 10
Fairhope 7/2	2		5	2	7	6
ARIZONA						
Mesa 7/1-7				9		26
ARKANSAS						
Fayetteville 7/2-8	19	7				
Hope 7/2-8	12	8		9		9
Kelso 7/2-8	1	7				2
*Morrilton 7/2-8	7	8	36			43
FLORIDA						
Gainesville 7/7						10
Quincy 7/6	2				12	16 23
ILLINOIS						
Urbana 7/2-9	137	170		177	1	
INDIANA (Counties)						
Lawrence 7/1,3,4,6	17	3		7	1	
Tippecanoe 7/2-7	769	33		119		4
KANSAS						
Garden City 7/2-4	18	25		20		13
Hays 7/9	23	2		1		11
Manhattan 7/4-6,9-10	110	41		26		36
Wathena 7/1-5	24	2		12		
LOUISIANA						
Baton Rouge 7/3-9	4	4	10	1		9 1
MAINE						
Orono 6/28-7/4	2					
*Presque Isle 6/28-7/4	2					
MARYLAND						
Upper Marlboro 6/27-7/3	1				8 5	
MISSISSIPPI						
*Stoneville 7/3-9	49	57	1	24	14	20 1
MISSOURI						
Sikeston 7/4-10	15	11		4		32
NEBRASKA						
Concord 6/20-28	118	13		4		8
Kearney 6/29-7/5	351	35		259	8	26
Lincoln 6/26-7/2	250	87		99		167
North Platte 7/1-7	729	56		141	26	11
Scotts Bluff 6/26-7/2	44	11		14		2
NORTH CAROLINA						
Clayton 7/8					1	
Faison 7/8					3 7	10
OREGON						
Salem 6/28-7/7		5		3		2

(Continued on page 662)

*Two traps - Morrilton; 2 traps - Presque Isle
3 traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires
SOUTH CAROLINA						
Charleston 7/5,12	4	5			36	14 3
Clemson 7/4-6,10	2	4		1	3 3	5
TENNESSEE (County)						
Blount 6/30-7/6	2	1		1	1	1
TEXAS						
Brownsville 6/26-7/2		43	58	5	5	135
Waco 7/4-10	12			23		1031 2
WISCONSIN						
*Arlington 6/30-7/6	535	20		38	2	
Beaver Dam 7/3-6	666					
Fox Lake 7/3-6	191					
Green Lake 6/30-7/6	108				1	1
Janesville 6/30-7/6	1405				3	
Middleton 7/2-8	366	26		24		
Oakfield 6/30-7/6	94				3	
Platteville 6/26-7/5	2880	64		84		2
River Falls 6/28-7/7	47	3		3		
Rosendale 6/30-7/6	641					5
Stevens Point 7/3-6	68	2				
*Theresa 6/30-7/6	348				7	
Waterford 6/30-7/6	245					

*Two traps - Arlington; 3 traps - Theresa

INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

Larvae of MEDITERRANEAN FRUIT FLY (Ceratitis capitata) in coffee berries in airplane baggage from Brazil at Miami, March 6; also 145 larvae in 6 peaches in airplane baggage from Italy destined for Florida at New York on September 20, 1958. Larvae and pupae of OLIVE FLY (Dacus oleae) in olive fruits in airplane baggage from Spain destined for California at New York, October 26, 1958. Specimens of APPLE THRIPS (Thrips imaginis Bgn.) on rose in baggage from Australia at Honolulu, November 25, 1958. Larvae of a BEEBLE (Byturus sp., probably tomentosus (F.)) in raspberries in airplane baggage from England at New York, July 25, 1958. B. tomentosus is a pest of widespread importance to raspberries and loganberries in England, northern and central Europe and the U.S.S.R. Specimens of an APHID (Myzus anselliae Hall) on plants of Ansellia nilotica in cargo from Kenya at Honolulu, October 9, 1958.

A PSYLLID adult, genus uncertain, near Leurolopopus on orchids in cargo from Mexico to Laredo, February 7, 1958. Specimens of CITRUS BLACKFLY (Aleurocanthus woglumi) on citrus leaves from Mexico carried by a tourist arriving at El Paso, February 24 and destined for California. Specimens of an ALEYRODID (Trialeurodes lauri (Sign.)) on bay leaves (Laurus sp.) in mail from Greece, March 5, at Chicago. A MITE (Cenopalpus pulcher (C. & F.) (= Brevipalpus) on an almond scion in mail from Iran at the District of Columbia Inspection House, February 25. C. pulcher is widespread in Europe and Eastern Mediterranean Region, feeding on undersides of leaves (usually) and on bark of Malus, Salix, Prunus, Pyrus, Juglans, etc. Larvae of EGGPLANT FRUIT BORER (Leucinodes orbanalis Guen.) in Solanum sp. in baggage from Liberia at New York, December 23, 1958. (Plant Quarantine Division).

HAWAIIAN INSECT NOTES FOR JUNE 8, 1959, MEETING

A GEOMETRID (Anacamptodes fragilaria) was reported numerous from Mahaulepu to Mana on west Kauai Island. In some areas Leucaena glauca was completely defoliated. Due to population pressure, A. fragilaria was observed feeding on epidendron, citrus leaves, lichee, mint, pear leaves and the fruit of the white flower gourd. Apiarists also reported severe damage to Algaroba trees and were concerned with its effect on the honey flow. Adults of A COCONUT LEAF ROLLER (Hedylepta blackburni), from the outbreak reported in March and April, were now emerging. Species is believed to have spread to Waimanalo and Lanakai from the Kahuku infestation. A few moths were also observed in Kaneohe and Kailua, but nothing serious. Studies on infestations, parasites and damage are underway. GRAPE MEALYBUG (Pseudococcus maritimus) was collected near Olinda, Maui, on gorse during May. This is a new island record since the species had been previously known only from Oahu in Hawaii. A LYGAEID (Nysius delectus) was extremely abundant on June 7 in the flowers of ohia lehua and Coprosma sp. along the Waianae summit ridge in the vicinity of Palikea Peak, Oahu. Bugs were present by the millions on the foliage of these plants in a limited area of the summit ridge about one-half mile long. Larvae of A CURCULIONID (Rhabdoscelus obscurus) were boring into young shoots of sugarcane. They apparently moved from the cut cane into the young shoots.

The following new records for the island of Molokai, collected during latter part of December 1958, were determined by specialists at the U. S. National Museum. A TERMITE (Kalotermes immigrans), SPRINGTAILS (Entomobrya atrocincta and E. multifasciata), A LEAFHOPPER (Deltocephalus sonorus) and A WASP (Chalybion bengalense). The record of E. multifasciata is the first record of this species in Hawaii. (Hawaiian Entomological Society).

GRAIN APHIDS

(Methods used in North Dakota)

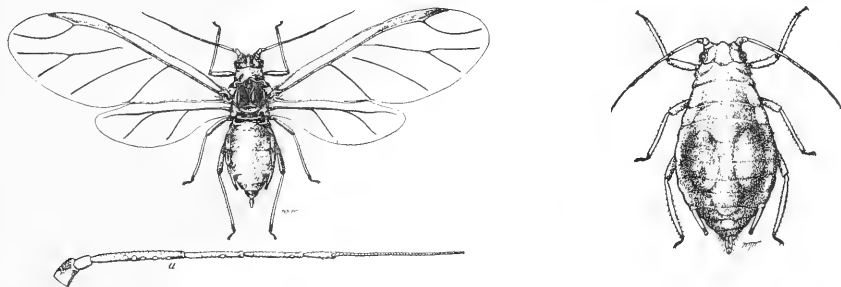
Greenbug (*Toxoptera graminum*), English grain aphid (*Macrosiphum granarium*) and corn leaf aphid (*Rhopalosiphum maidis*) are the principal species of grain aphids in North Dakota. Greenbug is definitely the most injurious; however, it seldom becomes economic in North Dakota. English grain aphid starts building up on the leaves and later in the season, this species moves into the heads of grain. Corn leaf aphid may build up very quickly; however, the infestations are seldom economically important except possibly in extremely late-seeded crops.

In surveying for aphids, make several counts throughout the field. Too frequently farmers become alarmed after checking a few plants along the margins where populations are high. Counts should be at least fifty paces apart and observations should be made well into the center of the field. Start counts from at least two sides of the field.

A rating for the infestation is as follows:

- Noneconomic - - -1 to 10 aphids per linear foot.
- Light - - - - -11 to 50 aphids per linear foot.
- Threatening - - -51 to 100 aphids per linear foot.
- Severe- - - - -101 to 300 aphids per linear foot.
- Very severe - - -Above 300 aphids per linear foot.

Insecticidal control would be advised whenever the greenbug infestation approaches the light to threatening category. For English grain aphid and corn leaf aphid, the infestation should approach the severe category before insecticidal control is recommended. When the English grain aphid moves into the heads of grain, several hundred heads of grain should be examined throughout the field. If the average infestation per head is 25 to 30 aphids, control would probably be advised, especially if the crop is late and populations of predators and parasites are low. (W. J. Colberg, V. V. Goodfellow).



Winged viviparous female, oviparous female and antenna of greenbug

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Cooperative
ECONOMIC INSECT
REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPER control programs underway in North Dakota and Idaho. MORMON CRICKET control areas estimated at 15,000 acres in Idaho. (p. 669). Second-generation EUROPEAN CORN BORER adults abundant in Worcester County, Maryland, and emerging in Cumberland County, New Jersey. Second-brood infestations expected to be light in Iowa. (pp. 670, 688). SOUTHWESTERN CORN BORER caused considerable damage to sorghum in Cochise County, Arizona. CORN EARWORM unusually abundant on early sweet corn in northern Ohio and heavier than in 1958 on Eastern Shore of Virginia. (p. 670). Adults of SOUTHERN CORN ROOTWORM abundant and damaging corn in Illinois, Indiana and Nebraska. CORN LEAF APHID populations building up in corn in Wisconsin, Minnesota, Iowa and Nebraska. RICE WATER WEEVIL now believed to occur over a 500 square mile area in California. (p. 671).

SPOTTED ALFALFA APHID ranges light to very heavy in alfalfa in southwestern and south central areas of Virginia. (p. 672). PEA APHID infestations increasing on alfalfa in several states. (pp. 672, 673). POTATO LEAFHOPPER damaging alfalfa in Indiana, Ohio, Illinois and Missouri. (p. 673).

POTATO PSYLLID caused almost complete loss of potato crop in Davis County, Utah. (p. 676). BEET WEBWORM causing heavy damage to lettuce in San Luis Valley, Colorado. (p. 677). Second-generation larvae of Rachiplusia ou numerous on mint in La Porte, Stark and Jasper Counties, Indiana. (p. 678).

Average percent BOLL WEEVIL infestation was 39 in middle and southern Georgia, and 60-90 percent in untreated fields in central and southern Alabama. Generally lower in other cotton states. (p. 679). SPIDER MITES causing economic damage to cotton in several states. LYGUS BUGS continue heavy in cotton in Arizona and are a problem in Imperial County, California. (p. 680).

Most seriously infested area of Texas, with SOUTHERN PINE BEETLE, is north of Devers, Liberty County. EUROPEAN PINE SAWFLY continues serious on red pine in several northeastern states. (p. 682). LARCH SAWFLY caused moderate to heavy defoliation of tamarack stands in Oneida, Langlade and Florence Counties, Wisconsin. Outbreak of SPIDER MITES on 10 million acres of pines in southern Arkansas and northern Louisiana occurred recently. Heavy rains in late May and early June reduced infestation. BAGWORM damaging evergreens in several states. (p. 683). GYPSY MOTH controls required on 7,000 acres of woodlands in 10 towns in New Haven and Hartford Counties, and oaks in forty-three towns in southeastern Connecticut appear to be heavily infested by ORANGE-STRIPED OAKWORM. (p. 684).

INSECT DETECTION: Clover root borer recorded for first time in Del Norte County, California, a considerable distance from only previously known infestation in State. (p. 673). Western cherry fruit fly adults trapped for first time in Wenatchee area proper, west of downtown Wenatchee, Washington. (p. 675). Introduced pine sawfly collected near DeSoto, Vernon and Crawford Counties, Wisconsin. This may be most southern location in State for species. (p. 682). Swaine jack-pine sawfly present in Buffalo County, Wisconsin. May be new record for area. (p. 683). Mimosa webworm reported in Boone, Delaware and Porter Counties, Indiana, for first time. (p. 684). ELM LEAF BEETLE found on elm in Binger, Caddo County, Oklahoma. This is farthest west of any confirmed infestation in State. (p. 684). Specimens of Apanteles galleriae collected in Polk County, North Carolina, constitute a new record for North America. (p. 687).

(Continued on page 668)

Highlights of Insect Conditions - Continued

A MUSCID (Musca autumnalis) continues extremely annoying to cattle in Ohio and in Dubois, Blackford and Fayette Counties, Indiana. (p. 686).

One EUROPEAN CHAFER adult trapped at Capon Bridge, Hampshire County, West Virginia. First collection since 1955 at this location. (p. 687).

ADDITIONAL NOTES. (p. 688).

Status of some IMPORTANT INSECTS in the United States. (p. 691).

INSECTS not known to occur in the United States. (p. 693).

Reports in this issue are for week ending July 17, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-JULY TO MID-AUGUST 1959

The Weather Bureau's 30-day outlook for the period from mid-July to mid-August calls for temperatures to average above seasonal normals west of the Continental Divide, with greatest departures along the West Coast. Below normal averages are predicted for the rest of the country, except for near normal along the Gulf Coast, in the northern border states, and over the Appalachian area. Rainfall is expected to exceed normal in the southern half of the Great Plains and also along the Atlantic Seaboard. Subnormal amounts are anticipated in the Far West and over the Upper Lakes. In the remainder of the Nation near normal precipitation is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING JULY 20

This week brought recurring rain, showers, and thunderstorms to most areas east of the Rockies as warm, moist air covered the central and eastern portions of the Nation. Heaviest weekly totals were reported from Kansas and Missouri southward to Texas, in the Gulf Coastal States, the lower Ohio Valley, and along the Atlantic Seaboard. Temperatures over most of the Great Plains, the Southern States, and the Atlantic coast were below normal as widespread cloudiness and precipitation prevented high afternoon temperature readings. Weekly precipitation totals of 5 to 8 inches were reported in parts of Kansas, 2 to 6 inches in Florida and Georgia, and 2 to over 4 inches were recorded along the coast from the Carolinas to southern New England, with some locally higher amounts. Strong winds, excessive short-period precipitation, hail, and some tornadoes and waterspouts were reported in connection with many of the more severe thunderstorms.

(Weather continued on page 681)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - CALIFORNIA - Averaged 0.64 per square yard at 25 stops, compared with 5.6 per square yard at same stops and time in 1958. The fungus (Entomophthora grylli) has been very effective this season. Conditions have caused an upset in hopper cycles as many second, third and fourth-instar nymphs of Melanoplus devastator are present. (Cal. Coop. Rpt.). UTAH - Grasshoppers serious over 15,000 acres of cropland in area of Box Elder County. Spotted, locally causing moderate damage in Washington and Kane Counties. (Thornley, Knowlton). IDAHO - Hatching well underway and practically complete on Middle and South Forks of the Boise River, with adults of Oedaleonotus enigma and an occasional adult of M. bivittatus present by latter part of June. Populations varied 5-55 per square yard over approximately 100,000 acres. Development in Washington County has been very erratic. In the area on the South Fork of the Payette River and Boise River areas in Boise County, hatch well underway by the latter part of June, with M. bilituratus ranging 15-125 per square yard. Baiting started June 30 and 1,086 acres treated. (Evans). NEW MEXICO - Grasshoppers heavily infesting about 500 acres of range and crop land in Taos County. Moderate infestations on about 2,000 acres of alfalfa in De Baca County. Treating cut fields and fence rows. (N. M. Coop. Rpt.). COLORADO - Grasshopper populations continue to be localized and spotty. An area of Archuleta County has been considered rather critical. Controls carried out by ranchers and growers earlier have been very successful. (Colo. Ins. Sur.). OKLAHOMA - Grasshoppers 1-12 per square yard on 4 rangeland and pasture areas checked in Kiowa and Comanche Counties. Dominant species, M. differentialis. (Hatfield). Counts 4 and 5 per square yard in 2 rangeland areas checked in Osage County. Dominant species, Melanoplus spp., Ageneotettix deorum and Mermiria maculipennis. (Robinson). TEXAS - Adults of several grasshopper species moving from harvested wheat into other crops in Castro and Deaf Smith Counties. Light to moderate damage to sorghum occurring in Sherman County. (Russell, Preston). NEBRASKA - Grasshoppers continue low except in certain area of southeast. Some field margins, pastures and roadsides have over 50 per square yard and some alfalfa fields showing marginal damage. Numbers in alfalfa fields range 0-15 per 10 sweeps, with increasing numbers of tettigoniids also noted. (Webb). SOUTH DAKOTA - Grasshopper counts up to 25 per square yard in alfalfa and wheat fields in Perkins and Corson Counties and up to 25 per square yard in alfalfa in Ziebach and Dewey Counties, with many adults moving into small grain fields. Dominant species, M. bivittatus. (Hantsbarger). Averaged 9 per square yard in alfalfa in north central area and 5 in south central area. (Walstrom). Averaged 8 per square yard in alfalfa in southeast area, with M. femur-rubrum dominant species. (Mast).

NORTH DAKOTA - Emergency cooperative control program initiated on severe grasshopper outbreak in rangeland in parts of Golden Valley County. Dominant species, Aulocara sp. To date, 6,000 acres have been treated. Treatment of an additional 7,000 acres will be completed early in week beginning July 19. Injury in infested area severe. (N. D. Ins. Rpt.). MINNESOTA - Damage by grasshoppers noted in soybeans in Chippewa County. Adjacent alfalfa had 40 per square yard. (Minn. Ins. Rpt.). WISCONSIN - Grasshopper counts in northwestern counties average one per sweep or less. Clark and Wood Counties have higher populations, 12 per sweep, but this is unusual. Adams and Marquette Counties had highest counts, up to 35 per yard. (Wis. Coop. Sur.). INDIANA - Grasshoppers, primarily Melanoplus femur-rubrum, as high as 2 nymphs per sweep at Culver. (Wilson). MARYLAND - Grasshopper nymphs averaged over 3 per sweep on alfalfa in Howard County. (U. Md., Ent. Dept.). FLORIDA - Romalea microptera damage increasing in south Dade County. (Fla. St. Plt. Brd., June Rpt.).

MORMON CRICKET (Anabrus simplex) - IDAHO - Hatching in Bear Valley area of Boise County where a two-year life cycle is anticipated. Baiting accomplished on 4,640 acres. June surveys of infested areas made it necessary to increase estimated control areas to approximately 15,000 acres. (Evans).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - NEW JERSEY - Second-brood moths apparently emerging. Egg masses 1-3 per 50, sweet corn plants in Cumberland County. (Ins. Dis. Newsl.) MARYLAND - Damage to early-planted sweet corn in central and southern sections moderate to heavy. Generally heavier than in 1958. Second-generation moths abundant in corn fields in Worcester County, although activity slowed somewhat by heavy rains. (U. Md., Ent. Dept.). VIRGINIA - Heavily damaged corn field in Grayson County (Woodside), damaging corn in Loudoun County field (Amos, Brown) and severe in spotted areas in Wythe County corn (Bird). INDIANA - First-brood pupa found at Tippecanoe County. (Deay). ILLINOIS - Pupation 42 percent in central area, 10 days earlier than usual. Pupation 5 percent in northern area, about 2 weeks or more earlier than usual. Extent of second generation not determined, but not expected to be severe on field corn. (Ill. Ins. Rpt.). MINNESOTA - Percentage of plants infested with larvae was less than one in southeast, 15 in south central, 27 in southwest, 6 in west central, and 4 in central areas. Only occasional egg masses being found and very few moths. (Minn. Ins. Rpt.). MISSOURI - High egg mass count in southeast, was 5 per 100 stalks. Egg laying past peak. (Keaster). Pupation 70 percent completed in central area, some emergence noted. In extreme north area, pupation just begun. (Kyd, Thomas, Munson). KANSAS - Most corn fields checked in Republic and Jewell Counties had counts ranging 0-5 larvae per 25 plants, with an average of 1 per 25 plants. Larvae mostly in stalks, few in whorls. (Gates, Simpson). NEBRASKA - Fifty percent of larvae in early corn reached fourth or fifth instar. Damage to corn light most areas of State, with heavy infestations present only in early planted corn in eastern area. (Roselle). SOUTH DAKOTA - Number of shot-holed plants per 100 corn plants inspected by counties was 5 in Brookings, 7 in Moody, 10 in Minnehaha, 3 in Lincoln, 25 in Union, 50 in Clay, 17 in Turner, 15 in McCook, and 10 in Lake. (Mast). NORTH DAKOTA - Light in southeastern counties. Most eggs hatched. Larval development ranged from first to third instar. (N. D. Ins. Rpt.). ARKANSAS - Infestations light. (Ark. Ins. Sur.).

SOUTHWESTERN CORN BORER (*Zeadiatreia grandiosella*) - ARIZONA - Populations increasing in Cochise County sorghum, considerable damage apparent many fields. Larvae found both in whorls and in base of stalks near soil. (Ariz. Coop. Sur.). ARKANSAS - Moths continue to emerge. Egg deposition heavy on corn in Independence, Izard and Stone Counties. In some cases, 80 percent of stalks have eggs. (Ark. Ins. Rpt.).

CORN EARWORM (*Heliothis zea*) - MASSACHUSETTS - Eggs found in Plymouth County. (Crop Pest Cont. Mess.). NEW JERSEY - Eggs easily found, one per 2 or 3 corn silks in Gloucester County on July 13. (Ins. Dis. Newsl.). VIRGINIA - Heavier than in 1958 on Eastern Shore. All untreated sweet corn ears infested. (Hofmaster). ALABAMA - Infestations in central area continue to increase in field corn, ranging from 70 to 90 percent. (Grimes). OHIO - Unusually abundant on early market sweet corn in northern area. (C. R. Neiswander). MINNESOTA - Small numbers reported in whorls and tassels of corn in southwest district. (Minn. Ins. Rpt.). NEBRASKA - Small numbers in corn fields checked, some larvae nearing maturity. (Webb). KANSAS - Most fields in Republic and Jewell Counties less than one percent infested. Earworms in tassels and whorls. (Gates, Simpson). TEXAS - Heavy damage occurring in 3 of 10 young sorghum plants in Frio and Zavala Counties. Average 4 young larvae per peanut plant in Frio and Zavala Counties. (Harding). IDAHO - Damaging tassels of early corn in Payette County. Damage ranges from a trace to 3-5 percent in different fields. Pupation beginning. (Scott).

STALK BORER (*Papaipema nebris*) - NEBRASKA - Infestations increased in southeast in corn, vegetable, and ornamental plants. (Roselle).

CUTWORMS - MINNESOTA - Damaging from less than one to over 8 percent of corn plants in Albert Lea area in association with Loxostege commixtalis. Injured plants stunted and wilted. (Minn. Ins. Rpt.). ILLINOIS - Moths of Agrotis ypsilon have been exceptionally numerous. (Ill. Ins. Rpt.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Light and widespread on sorghum in Brazos River area of Washington, Burleson and Brazos Counties. (Texas Coop. Rpt.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - INDIANA - Adults destructive, feeding on silks of corn in Hancock County. (Matthew). ILLINOIS - Adults far more abundant than for several years; average 10.5 per 100 sweeps in corn fields in east-southeast and southeast sections. Damage from larvae likely to be more common than in past years. (Ill. Ins. Rpt.). SOUTH DAKOTA - Small numbers found in alfalfa and corn in southeast area. (Mast). NEBRASKA - Adults of Diabrotica spp. becoming more numerous on corn, with some feeding damage to leaves becoming evident. D. undecimpunctata howardi most prevalent. (Webb).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata) - OREGON - Larvae in roots of sweet corn in Polk County plantings. (Larson).

CORN SAP BEETLES (Carpophilus spp.) - ILLINOIS - Entering corn attacked by corn earworm in central area and in Cook County; beginning to lay eggs. (Ill. Ins. Rpt.). DELAWARE - C. lugubris remains common in European corn borer and corn earworm infested corn throughout State. (Burbutis, Mason).

EUROPEAN EARWIG (Forficula auricularia) - IDAHO - Present in large numbers in corn fields in Payette County; infesting tassels. (Scott).

CORN LEAF APHID (Rhopalosiphum maidis) - INDIANA - Abundant in tassels and whorls of corn in localized areas of Tippecanoe County. (Parrott). WISCONSIN - Continues to build up; populations reached considerable size in certain locations for time of year. In most corn areas, likelihood of larger populations than those of 1957 is great. (Wis. Coop. Sur.). MINNESOTA - Appearing in southern half of State. (Minn. Ins. Rpt.). MISSOURI - Populations declining in southwest. In north, heavy infestations continue on younger corn and sorghum. (Kyd, Thomas, Munson). NEBRASKA - Up to 40 percent of corn fields infested in southeast. Numbers generally less than 25 to 30 per plant, but buildup continues and some damage is noticeable. (Webb). KANSAS - Light in sorghum fields in Finney and Kearny Counties, 0-85 per plant. (DePew). OKLAHOMA - Common in sorghum checked in central and south central areas. Only light populations noted. (VanCleave, Washum, Pennington). UTAH - Damaging several fields of spring barley in Fillmore-Kanosh area of Millard County. Some fields treated. (Knowlton).

A LEAF MINER - NEBRASKA - Damaging some young corn in areas of State. No sustained injury noted; corn recovering rapidly. (Webb).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - CALIFORNIA - Intensive survey indicates varying populations occur on rice and grasses in a 500 square mile area involving portions of Butte, Glenn and Yuba Counties. (Cal. Coop. Rpt.).

ARMYWORMS - NORTH DAKOTA - Larvae observed most small grain fields in southeastern area. Numbers generally noneconomic although a few field counts near economic levels of 4 larvae per linear foot of row. (N. D. Ins. Rpt.).

ARMYWORM (Pseudaletia unipuncta) - MINNESOTA - Scattered light populations reported in Houston and Steele Counties and in west central district of State. (Minn. Ins. Rpt.). CALIFORNIA - Heavy on ryegrass in Paradise, Butte County, and on rice in area northeast of Marysville, Yuba County. (Cal. Coop. Rpt.).

FALL ARMYWORM (Laphygma frugiperda) - LOUISIANA - Averaged 25 per 100 sweeps on Bermuda grass pasture in East Baton Rouge Parish. (Spink). ILLINOIS - Few light infestations developed. (Ill. Ins. Rpt.).

HESSIAN FLY (*Phytophaga destructor*) - COLORADO - Widely distributed in Sedgwick, Phillips, Yuma and Kit Carson Counties. Damage estimated as much as one percent. (Colo. Ins. Sur.).

ENGLISH GRAIN APHID (*Macrosiphum granarium*) - WASHINGTON - Less abundant in Columbia Basin compared with 1958. (Landis). IDAHO - Abundant and general on leaves and stems of late-planted spring oats and barley in Franklin County. (Roberts). WYOMING - Counts per 100 sweeps in barley ranged 0-100 in Worland area, 60-80 in Manderson area, 20-400 in Burlington-Otto area, 20-25 in Emblem area and 15-20 in Lovell area. No damage noted. Populations higher during previous 2 weeks, but treatments and hot, dry weather helped reduce infestation. (Wyo. Ins. Sur.).

A CHINCH BUG (*Blissus leucopterus insularius*) - MISSISSIPPI - St. Augustine grass being heavily damaged in various localities in southern half of State. (Hutchins).

FALSE CHINCH BUGS (*Nysius* spp.) - CALIFORNIA - Heavy infestation of native vegetation in fields in Kelseyville, Lake County. (Cal. Coop. Rpt.). NEW MEXICO - *N. raphanus* extremely heavy in alfalfa fields in San Juan County. (N. M. Coop. Rpt.). UTAH - *Nysius* spp., largely *N. ericae*, extremely numerous in Vernon-Jericho area of Tooele-Juab Counties and in Orderville-Glendale area of Kane County. (Knowlton).

THRIPS - NORTH DAKOTA - Females of *Limothrips denticornis* reaching maturity in early planted barley at Northwood and ready to migrate to grasses. Reported numerous in Durum wheat fields near Devils Lake. (N. D. Ins. Rpt.). KANSAS - Undetermined species reported in CEIR 9 (27):598 which were causing yellowing of sorghum plants in small areas of western Kansas have been determined as *Anaphothrips zeae* and *Anaphothrips* sp. by K. O'Neill. (Peters). NEBRASKA - Numbers per plant continue low in corn in southeast, but larger percentage of plants becoming infested; up to 60 percent some fields. (Webb). UTAH - Extremely numerous in alfalfa seed fields in several areas of State. (Knowlton).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - OREGON - Not found in Umatilla County at present. Apparently winter weather severe enough to be an effective control. (Eppley). UTAH - Found as far north as Millard County. Low numbers present. (Knowlton). ARIZONA - In southeast, populations increased slightly in Cochise County, averaging 1 per trifoliolate leaf; remaining very light in Graham and Greenlee Counties. (Ariz. Coop. Sur.). NEW MEXICO - Continues a problem in many fields in southern counties. (N. M. Coop. Rpt.). OKLAHOMA - Populations varied greatly in alfalfa in central and south central areas. Counts ranged from less than 1 per sweep up to an estimated 500 per sweep. Numbers appeared heavier than those a month ago in same areas. (VanCleave, Washum, Pennington). KANSAS - Collected in field at rate of less than 1 per sweep during June in Ellis County. (Harvey). MISSOURI - Counts 3-8 per sweep in southwest. (Kyd, Thomas, Munson). TENNESSEE - Averaged 17 per sweep in alfalfa field in Knox County. (Bennett). VIRGINIA - Range light to very heavy in alfalfa in southwestern and south central areas. Maximum number approximately 120 per sweep. Counts generally higher in old alfalfa than in young alfalfa. Predators and parasites numerous in several fields. (Morris).

PEA APHID (*Macrosiphum pisi*) - ARIZONA - Medium infestations in Graham County alfalfa; very light or completely absent over rest of State. (Ariz. Coop. Sur.). NEW MEXICO - Moderately heavy in alfalfa fields in San Juan County. (N. M. Coop. Rpt.). WASHINGTON - Moderate to heavy infestation on alfalfa at Othello. Some treatments being made. (Landis). IDAHO - Abundant on alfalfa, with general infestation throughout Franklin County. (Roberts). WYOMING - Average number per 100 sweeps in alfalfa was 2,500 in Worland area, 3,000 in Manderson area and 100-1,000 in Riverton area. Damage one percent in Worland and Manderson areas. (Wyo. Ins. Sur.).

UTAH - Moderately severe some alfalfa fields at Panguitch and in northern Kane County. Predators very numerous generally. (Knowlton). NEBRASKA - Building up in alfalfa over State, several fields with 300-400 per 10 sweeps. Counts averaged 30 per 10 sweeps most fields. (Webb). MINNESOTA - Sharp increase noted in most areas during past 10 days. (Minn. Ins. Rpt.). MISSOURI - Counts 2-20 per sweep in southwest and 6-30 in north. (Kyd, Thomas, Munson). WEST VIRGINIA - Populations increasing rapidly in alfalfa in Monongalia County. (W. Va. Ins. Sur.). DELAWARE - Generally decreased on alfalfa and clover most areas. (Burbutis, Mason).

YELLOW CLOVER APHID (Therioaphis trifolii) - ILLINOIS - Extremely abundant in red clover in central and south central areas. Counts averaged 10,930 per 100 sweeps in southeast area. (Ill. Ins. Rpt.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - NEW MEXICO - Averaged about 4 per 100 sweeps in alfalfa fields near Farmington and Bloomfield, San Juan County. (N. M. Coop. Rpt.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Increasing in alfalfa statewide. Average counts range 45-56 per 25 sweeps. (Ariz. Coop. Sur.). TEXAS - Light on peanuts; averaged 3 nymphs and 2 adults per plant in Frio County. (Harding). OKLAHOMA - Populations becoming more common in alfalfa surveyed in central and south central areas. (VanCleave, Washum, Pennington).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Averaged 5-6 per sweep on alfalfa in Howard and Frederick Counties. (U Md., Ent. Dept.). OHIO - Causing moderate damage to second-cutting alfalfa across State. Individual fields severely damaged. Adults averaged 1-3 per sweep in northern counties. (Treece). INDIANA - Causing serious damage in north central area alfalfa. Injury intensified by droughty conditions. (Parrott). ILLINOIS - Nymphs 500-14,000 and adults 100-400 per 100 sweeps in northeast; damage to alfalfa common. (Ill. Ins. Rpt.). MISSOURI - Yellowing of alfalfa continues throughout State. Counts ranged 15-65 per sweep. (Kyd, Thomas, Munson). NEBRASKA - Continues of no importance in alfalfa in southeastern area. (Webb). SOUTH DAKOTA - Averaged 2 per 10 sweeps on alfalfa in Lake and Lincoln Counties and 4 per sweep in Turner County. (Mast).

LEAFHOPPERS - ARIZONA - Empoasca spp. averaged 40 and Aceratagalia curvata 23 per 25 sweeps in alfalfa in Yuma County. (Ariz. Coop. Sur.).

PLANT BUGS (Adelphocoris spp.) - DELAWARE - A. lineolatus fairly common on alfalfa in Kent and New Castle Counties. (Burbutis, Mason). INDIANA - A. lineolatus and A. rapidus very abundant on alfalfa, particularly in Marshall County. Populations primarily second and third-instar nymphs. (Wilson). NEBRASKA - A. rapidus and A. lineolatus low in southeastern area alfalfa. (Webb). SOUTH DAKOTA - A. lineolatus averaged 9 per 10 sweeps in alfalfa in southeastern area. (Mast).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Very numerous in alfalfa fields in San Juan County. Counts often averaged from 8-20 per sweep. (N. M. Coop. Rpt.). ARIZONA - Continuing heavy in alfalfa statewide. (Ariz. Coop. Sur.).

A WEEVIL (Sitona scissifrons) - SOUTH DAKOTA - Average per 10 sweeps was 4 in Lincoln County, 5 in Union County, 5 in Turner County, 11 in McCook County and 2 in Lake County. (Mast).

CLOVER SEED WEEVIL (Miccotrogus picirostris) - WASHINGTON - Up to 40 adults per 25 sweeps in white clover seed fields near Oakesdale, Whitman County; most bloom about 20 percent brown on June 30. (Johansen).

CLOVER ROOT BORER (Hylastinus obscurus) - CALIFORNIA - Light infestation in stems of crimson clover in Smith River area of Del Norte County. This is first record for county and represents a considerable distance from only known infestation where it was discovered in fairgrounds in Humboldt County in 1950. (Cal. Coop. Rpt.).

SPIDER MITES - MARYLAND - Light to moderate on soybeans in Dorchester, Somerset and Worcester Counties. (U. Md., Ent. Dept.). DELAWARE - Spider mites reported on clover and soybeans in CEIR 9 (29):646 have been determined as Tetranychus atlanticus. (Cannon). OREGON - Tetranychus sp. causing a leaf drop in alfalfa just south of Nyssa. (Stephen).

A GRAPE COLASPIS (Colaspis sp.) - ARKANSAS - Adults numerous, 10-15 per square foot in lespedeza fields, and feeding on foliage of soybeans. (Ark. Ins. Rpt.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Light on soybeans at Berlin, Worcester County. (U. Md., Ent. Dept.). DELAWARE - Larvae fairly common in field of soybeans in Sussex County, causing noticeable injury. (Burbutis, Mason).

MARGINED BLISTER BEETLE (Epicauta pestifera) - DELAWARE - Adults prevalent and causing considerable defoliation of soybeans in southeast Kent County. (Burbutis, Mason).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Larvae light to moderate on soybeans in Worcester and Somerset Counties. (U. Md., Ent. Dept.). DELAWARE - Larvae fairly common, averaging 3 per 10 sweeps, in clover and alfalfa in New Castle County and also common on soybeans in Sussex County. (Burbutis, Mason). ARKANSAS - Infestation on soybeans light in northeast area. (Ark. Ins. Rpt.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Larvae averaged 4 per 10 young peanut plants in Frio County. (Harding).

RED-NECKED PEANUTWORM (Stegasta basqueella) - TEXAS - Very light on peanuts in Frio County. (Harding).

FRUIT INSECTS

ORCHARD MITES - WEST VIRGINIA - Panonychus ulmi and Tetranychus spp. increasing on apple trees in Eastern Panhandle. (W. Va. Ins. Sur.). OHIO - P. ulmi serious in many orchards. (Cutright). INDIANA - P. ulmi and Tetranychus Sp. continue tremendous population pressure on apple trees in Orleans area. Few orchards escaped rather severe injury. Spider mites more heavy and damaging on peach trees than for a decade. (Marshall). Heavy buildup of T. telarius in apple trees and generally over peach trees in Vincennes area. (Cleveland). MICHIGAN - P. ulmi increasing at Sodus, Coloma, Paw Paw and Stevensville. T. telarius increasing on currants at Eau Claire. (Hutson). MINNESOTA - P. ulmi populations high in many orchards. (Minn. Ins. Rpt.). MISSOURI - P. ulmi and T. telarius continue troublesome most areas of State. (Wkly. Rpt. Fr. Grs.). NEW MEXICO - Bryobia rubrioculus heavy and has caused considerable damage to foliage in apple orchards in San Juan and Lincoln Counties; however, relatively light at present. (N. M. Coop. Rpt.).

CODLING MOTH (Carpocapsa pomonella) - OHIO - First moths emerged July 10, large numbers present July 16, and still increasing. (Cutright). MINNESOTA - Second generation will begin to enter fruit about first week of August. (Minn. Ins. Rpt.). MISSOURI - New entries noted near Cape Girardeau, July 6. Buildup more than previously expected. (Wkly. Rpt. Fr. Grs.). OKLAHOMA - Counts averaged 44.8 percent "wormy" apples in orchard in Payne County. This is a 100 percent increase over infestation found in same orchard in June. (Bieberdorf). UTAH - Three to 25 percent infestation in apple orchards at Kanab. (Knowlton). CALIFORNIA - Heavy in cherry fruit in Happy Camp, Siskiyou County. (Cal. Coop. Rpt.).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MISSOURI - More troublesome than for past several years. Abundant on apples in most of State. (Wkly. Rpt. Fr. Grs.).

UNSPOTTED TENTIFORM LEAF MINER (Callisto geminatella) - NEBRASKA - Infestations increasing in apples in southeastern counties. (Roselle).

APPLE MAGGOT (Rhagoletis pomonella) - MASSACHUSETTS - Continues to emerge, becoming more active. (Crop Pest Cont. Mess.). OHIO - First larval injury to fruit noted July 16. (Cutright). MINNESOTA - Adult fly emergence continues, with quite high populations being trapped. (Minn. Ins. Rpt.).

APPLE APHID (Aphis pomi) - MICHIGAN - Becoming quite numerous at Sodus, Shelby and Grand Rapids. (Hutson).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Light to heavy in apple orchards in San Juan County. (N. M. Coop. Rpt.).

PEAR PSYLLA (Psylla pyricola) - OREGON - Increasing in Willamette Valley, infestations very severe in poorly cared for orchards. (Every).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - MICHIGAN - Eighty-five percent hatched on blueberries and peaches at Spinks Corners, Fennville and South Haven. (Hutson).

GREEN JUNE BEETLE (Cotinis nitida) - NEW MEXICO - Damaging peaches in Dona Ana County. (N. M. Coop. Rpt.).

A LEAFHOPPER (Homalodisca liturata) - CALIFORNIA - Adults heavy on peach and apricot trees in San Diego, San Diego County. (Cal. Coop. Rpt.).

PEACH TREE BORER (Sanninoidea exitiosa) - ALABAMA - Damage prevalent in Chilton County. (Helms).

PEACH TWIG BORER (Anarsia lineatella) - CALIFORNIA - Light on peaches in Atwater and heavy in Le Grand, Merced County. (Cal. Coop. Rpt.).

APHIDS (undetermined) - IDAHO - Very abundant on plum trees in Moscow area, causing deformation of young leaves and shoots. (Barr). UTAH - Extremely numerous on black walnut at North Salt Lake and Holden. (Knowlton).

MEALY PLUM APHID (Hyalopterus arundinis) - MICHIGAN - Present in large numbers at Coloma. (Hutson). WASHINGTON - Heavy on commercial and ornamental plums in Yakima. (Landis).

SAN JOSE SCALE (Aspidiotus perniciosus) - WASHINGTON - Damage severe on prunes in spotted areas. First crawlers found June 19. (Anthon).

BLACK CHERRY APHID (Myzus cerasi) - OREGON - Though numerous earlier, is now diminishing rapidly due to heavy effect of parasites and predators. (Stephenson).

WESTERN CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - WASHINGTON - Adults picked up by traps for the first time in Wenatchee area proper, west of downtown Wenatchee, June 20. (Anthon).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - FLORIDA - Heavy on citrus in Lutz area and general in Pasco and Hillsborough Counties. (Fla. St. Plt. Brd., June Summ.).

CITRUS RUST MITE (Phyllocoptruta oleivora) - FLORIDA - Heavy on citrus in Lake County and increasing in Pasco County. (Fla. St. Plt. Brd., June Summ.).

COTTONY-CUSHION SCALE (Icerya purchasi) - LOUISIANA - Building up on young citrus trees in greater New Orleans area. (Spink).

BARNACLE SCALE (Ceroplastes cirripediformis) - LOUISIANA - Building up on young citrus trees in greater New Orleans area. (Spink).

WHITEFLIES - FLORIDA - Heavy in citrus groves and nurseries in Ocala district and in Volusia County. (Fla. St. Plt. Brd., June Summ.).

Citrus Insect Situation, Lake Alfred, Florida, Mid-July: PURPLE SCALE activity has held far below the average of previous years. Some increase expected during next two weeks, but level will remain below average. FLORIDA RED SCALE activity reached summer peak last week at above average level. A downward trend will prevail during August, but infestations will remain high through mid-August. CITRUS RED MITE is on decreasing trend and infestations will be at low level in August and September. CITRUS RUST MITE activity increasing rapidly and will be very high until mid-August. TEXAS CITRUS MITE will generally decrease until September. BLACK SCALE infestations will decline rapidly during August and reach low level in September. (Simanton, Thompson, Johnson; July 15).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Damaging grapes in spotted areas of Wythe County (Bird) and are severe in Marion and in the valley in western half of Smyth County (Eller).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - Appearing in all vineyards and in all stages. (Wkly. Rpt. Fr. Grs.).

GRAPE MEALYBUG (Pseudococcus maritimus) - MISSOURI - In most vineyards around Rosati, July 14. (Wkly. Rpt. Fr. Grs.).

TRUCK CROP INSECTS

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Very high populations of adults and nymphs being taken in Weld County on lycium. (Colo. Ins. Sur.). WYOMING - Found at the rate of 1 per 100 sweeps in potato fields in Ralston area and 0.5 per 100 sweeps in Cody area. (Wyo. Ins. Sur.). UTAH - Potato crop in Davis County almost complete loss due to heavy infestation. (Thornley).

POTATO LEAFHOPPER (Empoasca fabae) - SOUTH DAKOTA - Averaged 8 per 10 sweeps on potatoes in Clark County. No "hopperburn" evident. (Hantsbarger).

POTATO FLEA BEETLE (Epitrix cucumeris) - MICHIGAN - In potato fields at McBride, counts 750 per 10 sweeps. (Hutson). CONNECTICUT - Summer generation prevalent on potatoes in Connecticut River Valley. (Kring).

GREEN PEACH APHID (Myzus persicae) - CONNECTICUT - Abundant on potato foliage in Connecticut River Valley. (Kring).

Potato Aphids in Maine - Although still very small, aphid populations at Presque Isle continue to increase sharply. Virtually all plants now infested. Overall aphid numbers increased more than 400 percent, with average of 4 aphids on three leaves per plant (top, middle, bottom). Macrosiphum solanifolii predominates, with smaller numbers of Myzus persicae, M. solani and Aphis abbreviata. (Shands).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Heavy, as many as 14 egg punctures found on single pepper, July 13. (Ins. Dis. News1.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - VIRGINIA - Counts on peppers on Eastern Shore revealed 38 percent infestation. (Hofmaster).

LEAF MINERS - MARYLAND - Light in tomato foliage in Somerset and Wicomico Counties. (U. Md., Ent. Dept.). VIRGINIA - Liriomyza sp. nearly defoliated some tomato fields in Northampton County. (Hofmaster).

SPIDER MITES (Tetranychus spp.) - OKLAHOMA - Heavy on some tomato plants at Stillwater and at Chickasha. (Stiles, Pennington). NEBRASKA - Populations increased on vegetable crops and ornamentals, with moderate to severe damage in southeast counties. (Roselle). WASHINGTON - First T. telarius infestation of year on potatoes at Moses Lake. Damage light. (Landis).

PEA APHID (Macrosiphum pisi) - WISCONSIN - Being caught in increasing numbers in traps in Madison area. (Wis. Coop. Sur.). IDAHO - Building up rapidly in peas in Gifford area of Nez Perce County and in some fields in Lewis County. Populations 0-100 per sweep. (Kambitsch, Dailey). Generally low in pea fields throughout Latah County, but building up in some lentil fields. (Manis).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEW MEXICO - Heavy populations skeletonizing bean fields in San Juan County. (N. M. Coop. Rpt.). ALABAMA - Heavy on beans in Lee County. Limited number on field peas in same area. (Guyton).

GARDEN FLEAHOPPER (Halticus bracteatus) - WEST VIRGINIA - Heavy on beans in Kanawha County. (W. Va. Ins. Sur.).

BEAN APHID (Aphis fabae) - OREGON - Presently no problem, after earlier buildup in Salem area. (Stephenson). WASHINGTON - Quite numerous on garden beans and other plants in Sumner area, some controls applied. (Doucette). IDAHO - Adults becoming abundant in Moscow area. Increasing rapidly in lentil fields throughout Latah County. (Barr, Manis). WISCONSIN - Being caught in increasing numbers in traps in Madison area. (Wis. Coop. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Aster yellows showing up in carrots in southeastern counties. Early appearance indicates possibility of rather high rate of infection by M. fascifrons. (Wis. Coop. Sur.). DELAWARE - Building up on carrots in New Castle County. (Burbutis, Mason).

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Building up strongly on Eastern Shore. (Hofmaster). DELAWARE - Rather abundant, causing moderate feeding injury in several large tomato plantings in eastern Kent County. Present to fairly common on cabbage, potatoes and cucumbers in New Castle County. (Burbutis, Mason). ALABAMA - Scarce on cabbage for this time of year in Lee County. (Guyton).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - Numerous in large commercial planting of young cabbage in New Castle County, causing moderate to heavy injury. (Burbutis, Mason). ALABAMA - Scarce on cabbage for this time of year in Lee County. (Guyton).

DIAMONDBACK MOTH (Plutella maculipennis) - ALABAMA - Scarce on cabbage for this time of year in Lee County. (Guyton).

HARLEQUIN BUG (Murgantia histrionica) - NEW MEXICO - Heavy, and damaging cabbage in Valencia and Dona Ana Counties. (N. M. Coop. Rpt.).

STRIPED FLEA BEETLE (Phyllotreta striolata) - ALABAMA - Heavy on cabbage and turnips in Lee County. (Guyton).

BEEB WEBWORM (Loxostege sticticalis) - COLORADO - Heavy damage to lettuce in San Luis Valley. (Colo. Ins. Sur.). WYOMING - Counts 40 per 100 sweeps in southern Worland area and 6 per 100 sweeps in northern Worland area on sugar beets. (Wyo. Ins. Sur.). NORTH DAKOTA - Hatching general in sugar beets throughout northern Red River Valley. Adults continue numerous in fields and along margins. Severe at many locations. Moths present in southern valley sugar beet area, but no egg masses observed. (N. D. Ins. Rpt., June 27).

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - Ten to 15 per 10 sweeps in untreated fields of Otero County, with smaller numbers being found in Prowers, Bent, Crowley and Pueblo Counties. (Colo. Ins. Sur.).

ONION THRIPS (Thrips tabaci) - COLORADO - Damaging in onion-producing eastern and western areas of State. Populations have increased. (Colo. Ins. Sur.). IDAHO - At economic levels in many onion fields in Canyon County. (Scott).

BROWN WHEAT MITE (Petrobia latens) - IDAHO - Probably this species, increasing on onions in Canyon County. Many fields treated and more in need of treatment. (Scott).

SQUASH VINE BORER (Melittia cucurbitae) - ALABAMA - Light to moderate infestations of larvae and adults on squash and gourds in Lee and Chilton Counties. (Guyton, Helms).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Heavily infested squash near Allandale. (Fla. St. Pitt. Brd., June Summ.).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - MARYLAND - Larvae injured cucumber roots extensively in Salisbury area during early June. Determined by W. H. Anderson. (U. Md., Ent. Dept.).

RHUBARB CURCULIO (Lixus concavus) - NORTH CAROLINA - Injuring a commercial rhubarb planting in Lincoln County. (Yoder, Farrier).

APHIDS - OREGON - Heavy enough to require control measures on mint in Hermiston area. (Bierman).

A LOOPER (Rachiplusia ou) - INDIANA - Second-generation larvae numerous on mint in La Porte, Stark and Jasper Counties. (Gould).

GARDEN SYMPHYLID (Scutigerella immaculata) - OREGON - Present on most vegetables in Willamette Valley and in approximately the same numbers as in 1958 at this time. (Morrison).

AN APHID (Myzus ascalonicus) - WASHINGTON - First infestation on strawberries noted April 23. Scattered light infestations in Skagit, Snohomish and Whatcom Counties at present. (Eide).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OREGON - Present on 50 percent of strawberry plants in fields found infested in 1958 in Willamette Valley. (Larson).

STRAWBERRY LEAF ROLLER (Ancylics comptana fragariae) - MICHIGAN - Second-brood larvae becoming noticeable in Keeler vicinity. (Hutson). WASHINGTON - Severe on small commercial plantings of strawberries in Pullman area, Whitman County. (Johansen).

TOBACCO INSECTS

FLEA BEETLES (Epitrix spp.) - MARYLAND - Populations of E. hirtipennis tapering off on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

CONNECTICUT - Summer generation of E. cucumeris prevalent on tobacco in Connecticut River Valley. (Kring).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Light on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

TOBACCO BUDWORMS (*Heliothis* spp.) - MARYLAND - Light to date on tobacco in St. Marys County. (U. Md., Ent. Dept.).

HORNWORMS (*Protoparce* spp.) - MARYLAND - Light on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - SOUTH CAROLINA - Average percent square infestation was 8 in treated fields and 19 in untreated fields. (Cott. Lett., July 14). First-generation weevils freely puncturing squares and young bolls in Florence area. Infestations rather low in treated fields, but greater potential for higher infestations is developing. (Fye et al.). GEORGIA - Percent punctured squares averaged 39 in 42 middle and southern cotton fields and 8 in 21 northern fields. (Stowe, Robertson, Johnson). ALABAMA - In central and southern areas, infestations ranged 0-43 percent in treated fields and 60-90 percent in untreated fields. (Turner, Thompson, Carter, Armisted). In northern area, infestations ranged 0-20 percent. Not a problem in northern area as yet. (Sandy, Canerday). Major emergence of second-generation adults occurred in central area. (Grimes). TENNESSEE - First-generation adults emerging in infested area of west Tennessee. Percent infested squares averaged 10. (Locke). MISSISSIPPI - Infestations unbelievably low in delta counties for time of year. Hot, dry weather and other factors practically eliminated potential weevil threat on many farms. (Merk1 et al.). LOUISIANA - Percent infestation averaged 4 in 52 fields, 12 in 165 fields and 42 in 8 fields in Tensas Parish; 10 in 70 fields in Franklin Parish; 5 in 93 fields in Ouachita Parish; 10 in 110 fields in Rapides Parish; and 6 in 116 fields in Morehouse Parish. (Spink). Square infestation averaged 9 percent in 122 Madison Parish fields. (Smith et al.). ARKANSAS - Infestations light. Average square infestation 2.6-11.3 percent. Overwintering adults continue to emerge. First-generation adult emergence light, except in upper Arkansas River Valley and parts of southwestern area. Second-generation adults emerging some fields in southeastern area. (Ark. Ins. Rpt.). OKLAHOMA - Populations vary greatly in cotton fields checked in central and south central areas. Percent infested squares ranged 5-50, but averaged 10 in most fields. (VanCleave, Washum, Pennington). No damage noted in Payne County. (Stiles). TEXAS - Infestations more general in many areas with isolated heavy populations. Migration occurred in eastern half of lower Rio Grande Valley. (Gaines). Percent punctured squares averaged 20.7 in late-treated fields and 45.6 in fields not late treated in McLennan and Falls Counties. Second-generation weevils active. (Parenica et al.).

BOLLWORMS (*Heliothis* spp., et al.) - SOUTH CAROLINA - Damage declined in Florence area, but larvae remain a serious threat in untreated fields. (Fye et al.). GEORGIA - Eggs averaged 3 and larvae 2 per 100 terminals in 42 middle and southern cotton fields. In 21 northern cotton fields, eggs averaged 0.2 and larvae 1 per 100 terminals. (Stowe, Robertson, Johnson). ALABAMA - Infestations remain low most areas of State; however, eggs numerous. Of 136 fields checked in 17 counties, 69 infested with average percent infestation 3.34. (Grimes et al.). TENNESSEE - Appears to be main problem in those western area cotton fields not infested with boll weevil. Predators numerous and doing excellent job of control most instances. In some cotton fields in northern half of cotton-growing area, controls would be justified. (Locke). MISSISSIPPI - Moth catches in light traps increased, but not as much as anticipated. Very light egg deposition noted. Eggs and small larvae should appear generally over delta counties during week ending July 23. (Merk1 et al.). LOUISIANA - In Tensas Parish, infestations averaged 1 percent in 52 fields and eggs averaged 1 per 100 terminals in 3 fields. Infestations averaged 1 percent in Franklin and Ouachita Parishes and 2 percent in Rapides and Morehouse Parishes. (Spink). Percent square infestation averaged 1 and terminal counts averaged 2.39 eggs and 1.04 larvae per 100 terminals in Madison Parish. (Smith et al.). ARKANSAS - Third-generation moths appearing and egg deposition occurring.

Beneficial insects numerous in untreated fields. Peak of emergence expected during middle to latter part of week of July 20. (Ark. Ins. Rpt.). MISSOURI - Counts in 192 fields very light. Parasites and predators numerous. (Kyd, Thomas, Munson). OKLAHOMA - Counts ranged 1-5 percent damaged squares in approximately one-third of cotton checked in central and south central areas. (VanCleave, Washum, Pennington). TEXAS - Activity increased most areas, with heavy egg deposition still being reported. (Gaines). Considerable increase noted in McLennan and Falls Counties. Infestation averaged 12.2 eggs and 8.2 larvae per 100 terminals. Square injury averaged 3.5 percent and boll injury 2.4 percent. Infestations at injurious levels most succulent fields. Light trap collections heavy. (Parenacia et al.). CALIFORNIA - Very active and damaging cotton, requiring control in Imperial Valley, Imperial County. (G. D. Peterson).

SPIDER MITES - SOUTH CAROLINA - Infestations reported several areas, often serious. (Fye et al.). GEORGIA - Light to heavy in southern area cotton fields. Light in northern fields. (Robertson, Johnson). ALABAMA - Light to moderate infestations in Tennessee Valley, northern area. In most instances, infestations confined to edges of fields. (Sandy, Canerday). Limited activity reported in Chambers, Randolph and Geneva Counties. (Armisted, Carter, Barwood). TENNESSEE - Spot infestations spreading in fields in western area. Controls in order most fields. (Locke). MISSISSIPPI - Localized "hot spots" general and light infestations common in delta counties. Potential threat exists if hot, dry weather persists. (Merkl et al.). ARKANSAS - Definitely on increase. Spot treatments effective. (Ark. Ins. Rpt.). MISSOURI - Infesting 482 of 892 fields scouted. Problem no longer confined to margins, but is spread throughout fields. Serious damage is present, with some defoliation. (Kyd, Thomas, Munson).

APHIDS - GEORGIA - *Aphis gossypii* light to heavy in southern area cotton fields. Light in northern area fields. (Robertson, Johnson). ALABAMA - Heavy infestations of *A. gossypii* locally in south and central areas. (Armisted, Turner, Carter, Thompson). MISSISSIPPI - Localized "hot spots" general and light aphid infestations common in delta counties. (Merkl et al.). NEW MEXICO - Moderate to heavy infestations of *A. medicaginis* in several cotton fields near Ft. Sumner, De Baca County. (N. M. Coop. Rpt.).

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - Male collected June 27 south of Buckeye, Maricopa County. In Pima County, one female collected in light trap in thurberia in Rincon Mountains about 15 miles northwest of Pomerene on July 3, and one female collected in light trap in thurberia in Santa Rita Mountains about 10 miles east of Continental on July 10. (PPC). TEXAS - Populations continue light. (Gaines). OKLAHOMA - One larvae found in 5,876 blooms inspected in cotton field in Davidson area. None found by bloom inspection in 7 other fields in Tillman County. (Frazier, Pela, Burke, Carroll).

A TORTRICID (*Platynota* sp.) - MISSISSIPPI - Damaging cotton near Meridian. Attack mostly on squares. (Hutchins).

CABBAGE LOOPER (*Trichoplusia ni*) - TEXAS - Continues to damage cotton in coastal regions, with heavy populations reported in Pecos area. (Gaines). ARIZONA - Medium infestations, averaging 3 larvae per 10 plants, occurring some cotton fields in Kansas Settlement area of Cochise County. Light infestations in some Yuma County fields. (Ariz. Coop. Sur.). CALIFORNIA - Light in cotton in Westmoreland area, Imperial County. (Cal. Coop. Rpt.).

LYGUS BUGS (*Lygus* spp.) - NEW MEXICO - Averaged 10-15 per 100 sweeps in cotton in Luna County and 8-10 nymphs and 5-6 adults per 100 sweeps in northern Dona Ana County. (N. M. Coop. Rpt.). ARIZONA - Continuing heavy in cotton, statewide. In Willcox area of Cochise County and in Greenlee County, counts average 15 per 100 sweeps. In Graham County and in Bowie area of Cochise County, counts about 15 per 100 sweeps, but nymphs very numerous in terminals. Counts in Yuma, Pinal and Maricopa Counties average 20-25 per 100 sweeps. (Ariz. Coop. Sur.). CALIFORNIA - Continues a problem in cotton, especially adjacent to alfalfa in Imperial County. (G. D. Peterson).

FLEAHOPPERS - NEW MEXICO - Cotton heavily infested in northern Dona Ana County, averaging 10-16 per 100 sweeps. (N. M. Coop. Rpt.).

STINK BUGS - NEW MEXICO - Mostly *Chlorochroa sayi*, moderately heavy in many cotton fields in southern counties. Counts 3-10 per 100 sweeps in northern Dona Ana County and 2-14 in Luna County. Most growers beginning to treat. (N. M. Coop. Rpt.).

BEE T ARMYWORM (*Laphygma exigua*) - ARIZONA - Populations in some central area cotton fields continue high. Controls being applied many fields. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (*Bucculatrix thurberiella*) - ARIZONA - Populations increasing in Yuma County cotton. Counts averaged 20 per 100 sweeps many fields. (Ariz. Coop. Sur.). CALIFORNIA - Light in cotton in Bard and northern area of Imperial County. Infestations increasing, requiring some control. (Cal. Coop. Rpt.).

WHITEFLIES - CALIFORNIA - Increasing rapidly on cotton plantings. Some fields showing recent crumple leaf disease. (G. D. Peterson).

Weather - continued from page 668

Temperatures averaged above normal west of the Rockies, over the northern Great Plains, the upper Great Lakes, and northern New England. Precipitation in these areas was limited to widely scattered showers and thunderstorms, and beneficial amounts were reported only in a few scattered areas of the northern Great Plains, the Great Lakes, and in Arizona. Extremely warm temperatures were again recorded in the Desert Southwest, and extended northward to southern Idaho and interior sections of Washington and Oregon late in the week when numerous readings above 100° were reported. The general high temperatures and lack of moisture have caused severe damage in nonirrigated sections of the Southwest and greatly increased the danger of range and forest fires throughout the Far West, but heavy irrigation has maintained most crops in good condition. (Summary supplied by the U. S. Weather Bureau).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SPRUCE BUDWORM (*Choristoneura fumiferana*) - MAINE - Effectiveness of 1958 control project well in evidence by lush new growth of balsam fir throughout 302,000-acre area. (Northeast. For. Pest Rpt., July 10).

PINE WEBWORM (*Tetralopha robustella*) - WISCONSIN - Eggs had hatched and larvae were feeding July 12 in southern section of the State. (Wis. Coop. Sur.). MINNESOTA - Feeding on arborvitae seedlings in the Badoura area. (Minn. Ins. Rpt.).

BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) - LOUISIANA - Continues to threaten logging areas but damage on Kisatchie National Forest has been reduced by a full-time control program. (So. For. Pest Rpt., July 8).

SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) - TEXAS - During June, 73 infested spots were located from aerial surveys, six of which had an estimated 1,000 or more brood trees. Most serious portion of infested area is north of Devers, Liberty County. Many infested spots are also located in Hardin County. Repeated showers have hampered ground checking and control operations. (Texas Coop. Rpt.).

WHITE-PINE WEEVIL (*Pissodes strobi*) - NEW YORK - Somewhat below normal levels. May be due to low winter temperatures and lack of snow cover. PENNSYLVANIA - Heavy on pine and fir in Butler County in early May. Egg deposition on white pine reported May 15 in Blair County. White pine 10 percent infested and Scotch pine lightly infested by mid-June in Venango County. WEST VIRGINIA - Light on white pine and red spruce in areas where it was formerly heavy. VERMONT - Emergence was early, beginning about April 21. (Northeast. For. Pest Rpt., July 10). VIRGINIA - Damaged pines in a Grayson County plantation. Now in late-pupal stage or newly emerged. (Morris, Simpson). MINNESOTA - Infestation 4 percent in a white pine and jack pine plantation in Clearwater County. Pupation is beginning. (Minn. Ins. Rpt.).

APHIDS - MAINE - *Chermes piceae* has caused increased gout damage in coastal areas and stem injury is heavy in some inland spots. (Northeast. For. Pest Rpt., July 10). VIRGINIA - *Pineus strobi* medium and affecting white pines generally over Campbell County. (Ellis). IDAHO - An undetermined species continued extremely numerous on fir and spruce in home plantings and in forested areas of Latah County. More abundant than observed in any recent year. Honeydew extremely abundant and annoying in cultivated plantings. (Manis).

SPITTLEBUGS (*Aphrophora* spp.) - NEW YORK - *A. parallela* generally light throughout State on white and Scotch pines; heavy on white pine in Essex and Clinton Counties. DELAWARE - Moderately heavy on Virginia and loblolly pines statewide. MARYLAND - Population light but extensive, with slight damage in late instars on June 23. WEST VIRGINIA - Heavy on Virginia and Scotch pines. (Northeast. For. Pest Rpt., July 10). WISCONSIN - Heavy infestations of *A. saratogensis* reported in scattered red pine plantations in Florence, Marinette, Oneida, Vilas and Oconto Counties. Aerial treatment of about 1,500 acres to begin July 18. (Wis. Coop. Sur.).

PINE RESIN MIDGES (*Retinodiplosis* spp.) - CALIFORNIA - Results of heavy *R. inopis* infestations in 1958 causing browning of some ponderosa pine trees in a local area of Tehama County, 40 miles east of Red Bluff. (T. Nelson). IDAHO - *Retinodiplosis* sp. has affected about 280 acres of a 20-22-year-old ponderosa pine plantation near the Quartz Creek-Priest River drainage in Kaniksu National Forest. (Tunnoch).

EUROPEAN PINE SAWFLY (*Neodiprion sertifer*) - Continued serious on red pine and occasionally on Scotch pine in southern NEW YORK, southern CONNECTICUT, southern NEW JERSEY and northeastern PENNSYLVANIA. (Northeast. For. Pest Rpt., July 10).

INTRODUCED PINE SAWFLY (*Diprion similis*) - WISCONSIN - Specimens collected near DeSoto, Vernon and Crawford Counties, may be most southern location in State for this species. Adults emerged July 13. The first generation may have been completed in some west central counties. (Wis. Coop. Sur.). MINNESOTA - Light infestations are widely scattered in southern St. Louis and Carlton Counties. (Minn. Ins. Rpt.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - NEW JERSEY - Generally abundant over the State. (Northeast. For. Pest Rpt., July 10). INDIANA - Reported from Perry County. (Schuder). MINNESOTA - Feeding on jack pine near Deer River and now in second and third instars. (Minn. Ins. Rpt.). WISCONSIN - Populations have been low, generally. However, larvae were in the fourth and fifth instars July 11 and had completely defoliated some small Trempealeau County trees. (Wis. Coop. Sur.). TEXAS - Continued to defoliate young plantation pines in eastern areas. LOUISIANA - Young pines in plantations are still being defoliated. OKLAHOMA - One small infestation reported in southeastern area. (So. For. Pest Rpt., July 8).

RED-PINE SAWFLY (Neodiprion nanulus) - NEW YORK - Decreased to very low levels in St. Lawrence County, after heavy infestations in past several years. (Northeast. For. Pest Rpt., July 10).

PINE SAWFLIES (Neodiprion spp.) - NEW JERSEY - The N. pratti paradoxicus infestation in the southern part of the State tapered off somewhat, but is still evident on pitch and shortleaf pines. DELAWARE - N. pratti generally light. MARYLAND - Although total acreage infested by N. pratti may be less than in 1958, the pattern remained the same, with scattered blocks of pines severely defoliated and adjacent areas lightly infested. VIRGINIA - Large areas were attacked by N. pratti. NORTH CAROLINA - N. pratti attacked large areas in the State. (Northeast. For. Pest Rpt., July 10). WISCONSIN - Presence of N. swainei in Buffalo County may constitute a new record for that area. Larvae were in first instar on June 23. (Wis. Coop. Sur.). TEXAS - Outbreak of N. excitans on 25,000 acres of loblolly pine in southeast part of State was controlled by natural enemies. By early March an estimated 95 percent of the population had been eliminated. (So. For. Pest Rpt., July 8).

LARCH SAWFLY (Pristiphora erichsonii) - WISCONSIN - Caused moderate to heavy defoliation of natural larch (tamarack) stands in Oneida, Langlade and Florence Counties. In west central section, brown tops of trees are appearing and defoliation was appearing July 11 in many infested stands in northwestern counties. (Wis. Coop. Sur.). MINNESOTA - Infestation is widely distributed again this year. (Minn. Ins. Rpt.).

SPIDER MITES - An outbreak of Oligonychus milleri occurred recently on 10,000,000 acres of shortleaf and loblolly pine in southern ARKANSAS and northern LOUISIANA in a population estimated to average one million individuals on each of many hundreds of thousands of trees. Heavy rains in late May and early June reduced the infestation. An abundance of new growth points to good recovery. (So. For. Pest Rpt., July 8). NEW JERSEY - Oligonychus ununguis present on hemlock and spruce in some abundance. (Ins. Dis. News1.). VIRGINIA - Unidentified species damaged cedar trees in a lawn planting in Northumberland County, killing 2; damaged arborvitae and hemlock in a Fairfax County planting; and about killed a Norway spruce on a lawn in King George County. (Morris et al.). NORTH DAKOTA - High populations of unspecified species observed on juniper and ponderosa pine at several locations in the Bismarck area. (N. D. Ins. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - MARYLAND - General and causing injury to arborvitae, cedar, spruce and other ornamentals in all sections of the State. (U. Md., Ent. Dept.). VIRGINIA - Damaging host plants in an area of Nelson County and also in Middlesex and Campbell Counties. (Morris et al.). TENNESSEE - Heavy on evergreens in Knox County. (Bennett). LOUISIANA - Heavy on cedars in Franklin and West Carroll Parishes. (Spink). OKLAHOMA - Damaging evergreens throughout Blaine County (Nelson) and causing extensive damage throughout eastern half of State to a wide variety of hosts, especially evergreens. Most larvae are almost full grown. (Howell, Flora, VanCleave).

FALL WEBWORM (Hyphantria cunea) - GEORGIA - Light to moderate infestations in pecan and hickory trees throughout southern part of the State. (Johnson).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - General on mimosa and honeylocust in central and southern sections. (U. Md., Ent. Dept.). VIRGINIA - Heavy on mimosa in many parts of the State. (Morris). WEST VIRGINIA - Moderate on mimosa in Kanawha County. (W. Va. Ins. Sur.). INDIANA - Quite heavy on honeylocust throughout southern half of State. Infestation apparently moving northward in State. Reported from Boone, Delaware and Porter Counties for the first time. (Schuder). ALABAMA - Causing extensive defoliation of mimosa trees in Chilton County. (Helms).

GYPSY MOTH (Porthetria dispar) - CONNECTICUT - About 7,000 acres of woodlands in 10 towns in New Haven and Hartford Counties were treated to prevent serious defoliation. Some 670 acres were defoliated more than 50 percent, with most damage in towns that applied no treatment. In 16 towns, 5,400 acres were defoliated less than 50 percent, mostly east and west of the area heavily infested in 1958. (Cooper).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - CONNECTICUT - Some adults have emerged and deposited eggs at South Windsor and Glastonbury; hatching has begun. Some pupae still in ground. (Hitchcock, July 15). Pupae passed winter in large numbers in southeastern part of State and adults have emerged and are laying eggs. Parts of 43 towns were heavily infested in 1958, when 40,000 acres of oak woodlands were defoliated. These same towns appear to be heavily infested this year. (Cooper, Hitchcock, July 17).

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) - CONNECTICUT - Generally abundant on white oak foliage, especially in New Haven County. (Johnson).

BIRCH SKELETONIZER (Buccatrix canadensisella) - CONNECTICUT - Black birch in extreme western part of the State are very heavily infested and trees are extremely browned. (Schread).

CHAIN-SPOTTED GEOMETER (Cingilia catenaria) - RHODE ISLAND - Nearly mature larvae abundant on several plant species in Jamestown and Matunuck areas. (Kerr, Hansen).

ELM LEAF BEETLE (Galerucella xanthomelaena) - WEST VIRGINIA - Infestations on elm light and scattered. (W. Va. Ins. Sur.). OKLAHOMA - Medium infestation present on an elm tree in Binger, Caddo County. This is the farthest west of any confirmed infestation in the State. (VanCleave, Washum, Pennington). Populations light to medium in a few isolated elms in Pauls Valley (Perry, McLamore) and populations continued to cause extensive damage to elms in Tulsa (Stiles). IDAHO - General infestation present in Jerome County. Larvae abundant and causing heavy damage to elm trees. (Cross).

ELM CALLIGRAPH (Calligrapha scalaris) - OKLAHOMA - Approximately 33 percent of foliage destroyed on 20 American elms checked in Watonga, Blaine County. (VanCleave, Washum). Defoliating elms in El Reno, Canadian County, with damage to most trees light. (Pennington). Light defoliation occurred to some elms in Ravia, with 100 percent defoliation on a few trees. (Vinson).

IMPORTED WILLOW LEAF BEETLE (Plagiodera virsicolora) - RHODE ISLAND - Adults abundant on willow in South Kingstown. (Hansen).

A LEAF BEETLE (Anomoea laticlavata) - KANSAS - Feeding on and killing terminal buds of locusts in Montgomery, Franklin and Ellis Counties. (Thompson).

A MAY BEETLE (Phyllophaga bruneri) - FLORIDA - Caused considerable damage to various trees in north central Dade County. (Fla. St. Plt. Brd., June Summ.).

LOCUST LEAF MINER (Chalepus dorsalis) - VIRGINIA - Causing characteristic browning in many groves of black locust in Augusta County. (Woodside).

ASIATIC OAK WEEVIL (Cyrtopistomus castaneus) - WEST VIRGINIA - Light on oak in Kanawha County. (W. Va. Ins. Sur.).

NORWAY-MAPLE APHID (Periphyllus lyropictus) - IDAHO - Extremely abundant on maple trees in Moscow area. Honeydew production heavy. (Manis).

POPULAR-PETIOLE GALL APHID (Pemphigus populi-transversus) - SOUTH DAKOTA - Galls present on poplar trees in most areas in the eastern section of the State. (Mast).

SYCAMORE LACE BUG (Corythucha ciliata) - DELAWARE - All stages very heavy on London planetrees in Sussex County. (Burbutis, Mason).

WALKINGSTICK (Diaperomera femorata) - WISCONSIN - Outbreak on eastern side of Menominee Indian Reservation is causing considerable defoliation in about 3,000 acres of oak. (Wis. Coop. Sur.). MINNESOTA - Now in third and fourth instars. Populations are scattered and light in Cass and Hubbard Counties in Chippewa Forest north of Bemidji. (Minn. Ins. Rpt.).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Medium on roses, flowers and shrubs in areas of Wythe County (Bird) and causing considerable concern in Campbell County, primarily on ornamentals (Ellis). MARYLAND - Heavy on roses and other ornamentals in most sections. Populations declining. (U. Md., Ent. Dept.).

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - MARYLAND - Adults abundant on azaleas in a local area of Wicomico County. (U. Md., Ent. Dept.). DELAWARE - Adults fairly common on shrubs in New Castle County, causing moderate feeding injury. (Kelsey).

LEAF MINERS (Gracilaria spp.) - RHODE ISLAND - Infestations of nearly mature larvae of G. azaleella are local in South Kingstown (Hansen, Kerr) and those of G. syringella on lilac are local in Kingston (Hansen).

CALIFORNIA TORTOISE-SHELL (Nymphalis californica) - CALIFORNIA - Probably this species, causing severe defoliation of ceanothus brush in Davis Creek area of Modoc County. Brush fields virtually black with larvae. Due to lack of rain much of this brush may not recover. (Cal. Coop. Rpt.).

COTTONY-CUSHION SCALE (Icerya purchasi) - CALIFORNIA - Heavy on deodar cedar in Chico, Butte County. (Cal. Coop. Rpt.). ALABAMA - Light on ornamentals in Chilton County. (Helms).

AZALEA BARK SCALE (Eriococcus azaleae) - WEST VIRGINIA - Causing noticeable damage to azaleas in Lewis and Kanawha Counties. (W. Va. Ins. Sur.).

HARLEQUIN BUG (Murgantia histrionica) - KANSAS - Large numbers feeding on lilac in Finney County. There has been no appreciable damage. (DePew).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - WISCONSIN - Activity has increased sharply indicating the beginning of a peak to be reached the week of July 13. Many are now emerging from the large marsh areas near Madison. Aedes vexans, A. dorsalis, Mansonia perturbans and Culex pipiens are species causing most annoyance. High counts can be expected to increase and continue during following weeks. (Wis. Coop. Sur.). NORTH CAROLINA - Limited biting by A. taeniorhynchus occurred in coastal counties. A. sollicitans adults prevalent in Carteret, Onslow and Hyde Counties during week ending July 10. (Ashton). DELAWARE - Third-brood larvae of A. sollicitans present in marshes. (Darsie).

MOSQUITOES (undetermined) - CALIFORNIA - Populations have increased with many reports of annoyance to home owners. Highest populations occurred in central and northern areas of the State. (Pub. Hlth. Vec. Cont.). UTAH - Continued troublesome in Helper-Wellington area of Carbon County, in Garden City-Lake Town area near Bear Lake and in canyons south of Woodruff in Rich County. Annoyance also common about communities in Cache County. (Knowlton).

HORN FLY (Siphona irritans) - SOUTH CAROLINA - Populations somewhat low but controls are still needed. (Nettles et al.). LOUISIANA - Extremely heavy on a cattle herd in Vermilion Parish. (Spink). NEBRASKA - Counts averaged 50 per animal on a few cattle herds checked in southeastern area of State. (Webb). OKLAHOMA - Averaged approximately 100 per animal on untreated dairy animals and 300 per head on range cattle checked in Payne County area. (Howell). Averaged 400 per animal on untreated dairy animals checked in Tulsa area. (Taylor).

A MUSCID (Musca autumnalis) - OHIO - Continues to be extremely annoying to cattle throughout most of the State. (Neiswander). INDIANA - Averaged about 60 per head on beef cattle pastured in Dubois County. Also abundant in Blackford County, with counts as high as 80 per head. (Dobson). Reported abundant on cattle in Fayette County. (Matthew).

A SARCOPHAGID (Wohlfahrtia sp.) - WISCONSIN - Previously reported infestations have resulted in numerous deaths among mink kits in at least a few fur farms. (Wis. Coop. Sur.).

SECONDARY SCREW-WORM (Callitroga macellaria) - NORTH CAROLINA - Infestations were much worse in 1959 than in past years in lambs in Davie County, April 9. Det. C. W. Sabrosky. (Cutts).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Averaged less than 5 per head on cattle in a few herds checked in southeastern area. (Webb). OKLAHOMA - Averaged 6 per head on untreated dairy animals and less than one per head on range cattle checked in Payne County area (Howell) and 5 per animal on untreated dairy animals in Tulsa area (Taylor).

TABANIDS - NORTH CAROLINA - Chrysops spp. biting people in coastal counties during week of July 10. (Ashton). LOUISIANA - Tabanus spp. averaged 6 per 15-minute trapping period in Calcasieu, St. Landry, Caddo and Tensas Parishes. (Spink). INDIANA - Tabanus spp. abundant and annoying cattle in southern counties. (Dobson). NEBRASKA - Chrysops spp. fairly numerous in some southeastern areas, with some herds checked having counts of 3 per animal. Tabanus spp. averaged less than one per animal in same areas. (Webb). OKLAHOMA - Tabanus atratus and T. lineola averaged less than one per animal on range cattle in the Payne County area. (Howell). IDAHO - Chrysops spp. abundant in Butte, Custer and Bingham Counties. (Bishop). UTAH - Tabanus spp. annoying from below Panguitch Lake to Cedar Breaks. (Knowlton).

TICKS (Dermacentor spp.) - CALIFORNIA - D. occidentalis reported biting people in the Ukiah area of Mendocino County. This species was plentiful earlier in the year in many areas of the State. (Cal. Coop. Rpt.). OKLAHOMA - D. variabilis populations continued high throughout the central area of the State. (Howell).

STORED-PRODUCT INSECTS

VETCH BRUCHID (Bruchus brachialis) - ALABAMA - Infestations in stored vetch seed very heavy in Lee County. It was estimated that 80 percent of the seed had been damaged. (Guyton).

BENEFICIAL INSECTS

LADY BEETLES - GEORGIA - Exceptionally high populations of Coleomegilla maculata and Hippodamia convergens are present in some cotton fields. (Robertson). LOUISIANA - Several species are very numerous in untreated cotton fields in Tensas Parish. (Spink). OKLAHOMA - H. convergens counts were generally light (0.1-0.3 per sweep) in alfalfa fields checked in central and south central areas, but averaged 4 per sweep in an alfalfa field infested with aphids in the Ardmore area. Counts in other areas of the State were variable on several other crops. (VanCleave et al.). NEBRASKA - Counts of undetermined species in alfalfa gradually

increasing, with 1-7 per 10 sweeps common. (Webb). ILLINOIS - In the southeast, unspecified species averaged 33 adults and 52 larvae per 100 sweeps. (Ill. Ins. Rpt.). SOUTH DAKOTA - Adults and nymphs of Hippodamia spp. average less than one per sweep in alfalfa in the southeast area. (Mast). UTAH - Undetermined species, in combination with several other beneficial species, are holding aphid populations at a low level in most areas of Millard, Iron, Washington and Kane Counties. (Knowlton). IDAHO - Adults and larvae of several species are generally less abundant than usual. However, larval populations are increasing in association with aphid infestations on conifers in Latah County. (Barr, Manis).

NABIDS (Nabis spp.) - ILLINOIS - Ranged 10-400 and averaged 97 per 100 sweeps in the southeastern part of the State. (Ill. Ins. Rpt.). SOUTH DAKOTA - Average 4 per 10 sweeps in southeast area alfalfa. (Mast). NEBRASKA - Ranged 0-5 per 10 sweeps in alfalfa fields in southeast area. (Webb). OKLAHOMA - Very light (0-0.1 per sweep) in most alfalfa fields checked in central and south central areas. Averaged up to one per sweep in a few isolated fields. (VanCleave, Washum, Pennington).

FLOWER BUGS (Orius spp.) - NEBRASKA - Continued to average 15-20 per 10 sweeps in alfalfa. Some feeding on corn leaf aphid noted. (Webb). OKLAHOMA - Heavy in silks and tassels of corn plants checked in Payne County. (Walton, Arbuthnot).

BIG-EYED BUGS (Geocoris spp.) - GEORGIA - G. punctipes abundant in some untreated cotton fields. (Robertson). DELAWARE - Large numbers of Geocoris sp. present in clover and in some alfalfa fields throughout the State. (Burbutis, Mason).

LACEWINGS (Chrysopa spp.) - ILLINOIS - Adults averaged 14 per 100 sweeps and larvae 17 per 100 sweeps in southeastern section of the State. (Ill. Ins. Rpt.). SOUTH DAKOTA - Adults and larvae average less than 2 per 10 sweeps in alfalfa in southeastern area. (Mast). IDAHO - Adults appearing in Moscow area and becoming very abundant. Apparently associated with heavy aphid populations on shade trees and ornamental conifer plantings. (Barr, Manis). OKLAHOMA - In alfalfa fields checked, counts averaged 0.1-0.4 per sweep in central and south central areas, one per sweep in one field in Canadian County and 1.5 per sweep in one field in the Wade area. (VanCleave et al.).

A ROOT BORER (Agrilus hyperici) - IDAHO - Adults beginning to appear at release sites in goatweed stands north of Coeur d'Alene. (Barr).

PARASITES - CONNECTICUT - Trichogramma minutum active on eggs of Anisota senatoria in some areas. (Hitchcock, Schread). GEORGIA - Cardiochiles nigriceps abundant in some untreated cotton fields. (Robertson). NORTH CAROLINA - Apanteles galleriae causing marked reduction in the population of a wax moth in a Polk County bee yard, September 24, 1958. These are the first specimens collected in North America. Det. C. F. W. Muesebeck. (Stephen).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - As of July 15, 1959, new infestations have been reported from Mattoon, ILLINOIS; Montezuma, Seymour and Crawfordville, INDIANA; Lambertsville, Temperance and Erie, MICHIGAN; several localities in the regulated and nonregulated areas in OHIO; and in Vanceburg, South Portsmouth, Ashland and Harlan, KENTUCKY. (PPC, Cent. Reg.).

ASIATIC GARDEN BEETLE (Autoserica castanea) - RHODE ISLAND - Flights to lights in Narragansett and Kingston first noted July 13. (Boaro, Hansen).

EUROPEAN CHAFER (Amphimallon majalis) - WEST VIRGINIA - One specimen trapped at Capon Bridge, Hampshire County. (W. Va. Ins. Sur.).

SPRINGTAILS - MICHIGAN - Infestations common in straw covering new lawns at Lansing, Detroit, Jackson and Grand Rapids. (Hutson).

ADDITIONAL NOTES

NEVADA - SPOTTED ALFALFA APHID averaged 1 per 5 sweeps in hay fields in Orovada and Paradise Valley areas and 4-5 per sweep in some alfalfa-seed fields in Orovada area, Humboldt County. Trace numbers found in Beowawe area of Eureka County and also in 2 fields in Lander County south of Beowawe. PEA APHID averaged 20-40 per sweep in Paradise Valley, averaged as high as 300-400 per sweep some fields in Orovada and averaged about 100-200 per sweep in Kings River Valley, Humboldt County. Average in lightly infested fields was 50-100 per sweep and in heavily infested fields over 1,000 per sweep in fields in Beowawe area of Eureka County. In some fields, plants were being severely damaged or killed. LYGUS BUGS averaged less than 1 per sweep in most alfalfa-seed fields in Humboldt County. Heaviest infestation encountered averaged 4-6 per sweep. Medium infestation of CLOVER APHID, 60-250 per 10 heads, in red clover in Kings River Valley of Humboldt County. Second-generation ELM LEAF BEETLE adults emerging in Reno-Sparks area of Washoe County. LADY BEETLES generally heavy in alfalfa checked in Humboldt, Eureka and Lander Counties. In majority of alfalfa fields, beetles effective in maintaining aphid populations below economic levels. In several alfalfa-seed fields in western Humboldt County, larvae of SYRPHID FLIES averaged 4-10 per sweep. (Bechtel, Day, Menke).

IOWA - First-brood EUROPEAN CORN BORER survey made in northern, central and southern thirds of State. Percent of corn plants infested averaged 25 in eastern half of northern third and 36 in western half of northern third; 47 percent in central third; and 14 in southern third. Number of borers per 100 plants averaged 5 in eastern half of northern third and 136 in western half of northern third; 44 in central third; and 7.6 in southern third. State averages were 31 percent of plants infested and 41 larvae per 100 plants. In general, borers little ahead of 1958. It appears that second-brood infestations will be light. Chemical controls may be justified in some fields. CORN LEAF APHID is present in all corn tassels. RED-LEGGED and DIFFERENTIAL GRASSHOPPERS ranged 3-12 per square yard in fencerows and roadsides in northern areas. Damage showing in adjacent soybean fields. POTATO LEAFHOPPERS averaged 5 per linear foot in soybeans in northern area. Some plants show curled leaves. SQUASH VINE BORER moths flying in all areas of State. CORN EARWORM is very abundant on early sweet corn. EUROPEAN RED MITE counts averaged 12 eggs and 5 adults per leaf in orchards. CODLING MOTH injury is light in southeastern area. BROWN DOG TICK is abundant on dogs most areas of State. FLEAS are appearing in large numbers in basements. (Iowa Ins. Inf.).

NEW YORK - EUROPEAN RED MITE building up rapidly in Niagara County and are past peak and declining in Orleans County where they were heavier than usual on pear trees this year. TWO-SPOTTED SPIDER MITE building up rapidly in Niagara and Orleans Counties. CODLING MOTH began to increase sharply in Niagara County July 14, indicating second-brood activity. ORIENTAL FRUIT MOTH dropped to a very low level in Niagara County after July 13, and has now practically ceased. They are increasing in Orleans County with increased egg laying. PEAR PSYLLA starting to build up in widely scattered areas of Orleans County and APPLE MAGGOT adults are numerous. APHIDS very heavy on potatoes in Suffolk County with the main species being Myzus persicae. EUROPEAN CORN BORER injury prevalent throughout Niagara County. One to 6 percent of corn ears were injured or marked in Ulster County. LEAFHOPPERS numerous on many bean fields in Livingston County. JAPANESE BEETLE adults first reported June 29 in central Suffolk County. SOLITARY OAK LEAF MINER causing extensive damage to native swamp and white oaks in Suffolk County but not affecting adjacent cultivated scarlet or pin oaks. Oligonychus bicolor damage becoming extensive on northern red oak and American beech in upstate areas. Eotetranychus multidigituli damage severe on honeylocust in western areas. HOUSE FLIES have been a real nuisance in the Nesconset area of Suffolk County. (N. Y. Wkly. Rpt.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ARIZONA						
Mesa 7/8-14				8		195
ARKANSAS						
Fayetteville 7/9-15	10	11				54
Hope 7/9-15	8	4		1		3
Kelso 7/9-15	1					
*Morrilton 7/9-15	4	6	18			4
GEORGIA (County)						
Clarke 7/1-16	14				89	
ILLINOIS						
Urbana 7/10-16	121	202		95		
INDIANA (Counties)						
Lawrence 7/7,9-14	25			1		
Tippecanoe 7/8-15	299	82		54		
KANSAS						
Garden City 7/9,11-14	44	34		26	8	36
Hays 7/11,14	16	8		6		15
Manhattan 7/11-17	16	22		7	1	7
Wathena 7/7-15	18	21		13	9	4
LOUISIANA						
Baton Rouge 7/10-16	6	2	146	1		8
Curtis 7/13	3	4			1	4
Franklin 7/13,15	2	1	54			7
MARYLAND						
Fairland 7/8-12	2	3		3	1	
Upper Marlboro 7/6-13		2		6	2	9
MISSISSIPPI						
*Stoneville 7/10-16	26	81	5	12	14	73
MISSOURI						
Columbia 7/14-17	6	11	19	1		2
Sikeston 7/11-17	29	20		5		19
NEBRASKA						
Concord 6/30-7/6	235	22		53		30
Lincoln 7/3-10	781	188		251		131
Scotts Bluff 7/3-9	86	11		31	2	
NORTH CAROLINA						
Clayton 7/17					2	
OREGON						
Salem 7/8-17		4				2
SOUTH CAROLINA						
Charleston 7/14-20	7		50		8	3
Clemson 7/11-17	12	2		5		7
SOUTH DAKOTA						
Brookings 7/16	28	2				

(Continued on page 690)

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
TENNESSEE (County)						
Blount 7/7-13	20	2		3	4	2
TEXAS						
Brownsville 7/3-10		32	384		7	1 476
Waco 7/17	27			24		2158 24
WISCONSIN						
Antigo 7/10-12	15			14		
*Arlington 7/7-13	669	80		98		
Beaver Dam 7/7-13	727					
Fox Lake 7/7-13	470					
Janesville 7/8-13	1036					
Johnsburg 7/11-13	39	3				
La Crosse 7/7-14	293	19		30		2
Middleton 7/7-13	292	12		29		
Platteville 7/6-13	1896	57		143		
Ripon 7/7-13	191					
River Falls 7/8-13	44			3		
Rosendale 7/7-13	404					
Stevens Point 7/7-13	79	7				
*Theresa 7/7-13	352					
Waterford 7/7-13	230					

*Two traps - Arlington; 3 traps - Theresa

STATUS OF SOME IMPORTANT INSECTS IN THE UNITED STATES

MIMOSA WEBWORM (Homadula albizziae Clarke)

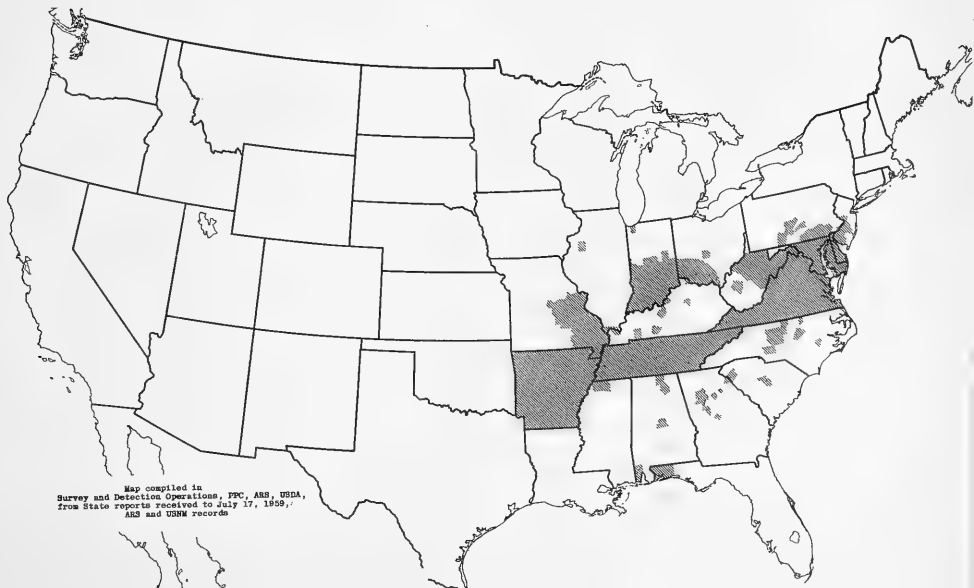
Economic Importance: This species causes serious damage to foliage and flowers of ornamental mimosa (Albizzia julibrissin) in several States east of the Mississippi River. The origin of the pest is unknown, but it is generally considered to be foreign, possibly belonging to the Indo-Australian region. It was discovered for the first time in 1940 at Washington, D. C., and was described in 1943 from material collected at that location. Characteristic larval damage to mimosa and honeylocust is as follows: Tissues from one side of the foliage or seed pods eaten away, the epidermal cells on the opposite side being left intact. Affected leaflets turn a dull gray on the mimosa, an intense brown on honeylocust. Damage in many instances can be quite severe.

Distribution: Eastern United States (see map) and possibly the Indo-Australian region.

Hosts: Ornamental mimosa (Albizzia julibrissin) and honeylocust.

Life History and Habits: Adults from overwintering pupae emerge in early June in the Washington, D. C., area. Larvae of the first generation reach adult stage the third week of July, requiring about 6 weeks to complete their life-cycle. Emergence continues until early August. The second or midsummer generation, requires only 3 to 4 weeks. Mature larvae descend to the ground to pupate about August 15, adults emerge the latter part of August. Eggs are deposited in late August and early September. Though many larvae of the third generation are full-grown by October 1, others live until early November, when they are killed by cold weather. The flowering mimosas are preferred during oviposition to nonflowering ones and sunny portions of crowns are preferred over shady parts. Foliage is the principal food.

DISTRIBUTION OF MIMOSA WEBWORM (HOMADAULA ALBIZZIAE)



Map compiled in
Survey and Detection Operations, PFC, ANS, USDA,
from State reports received to July 17, 1959,
ANS and USNM records

Description: The egg is minute, oval and pearl-colored when first laid, later becoming a flesh-pink as the larva develops inside. Mature larva is 14 - 16 mm. long, head and body vary in color from pale-gray to blackish-brown, with five white longitudinal stripes on the body. Sometimes the dark-brown color of the larva is diffused with rose or pink and occasionally is broken with white patches, giving a mottled effect. The pupa is yellowish-brown, slightly less than one-fourth inch long and covered with whitish silken cocoon. The wings of the adult are mouse-gray with a silver luster. The forewings are stippled with conspicuous black spots. Wing expanse 13 - 17 mm. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum).



Adults of Mimosa Webworm

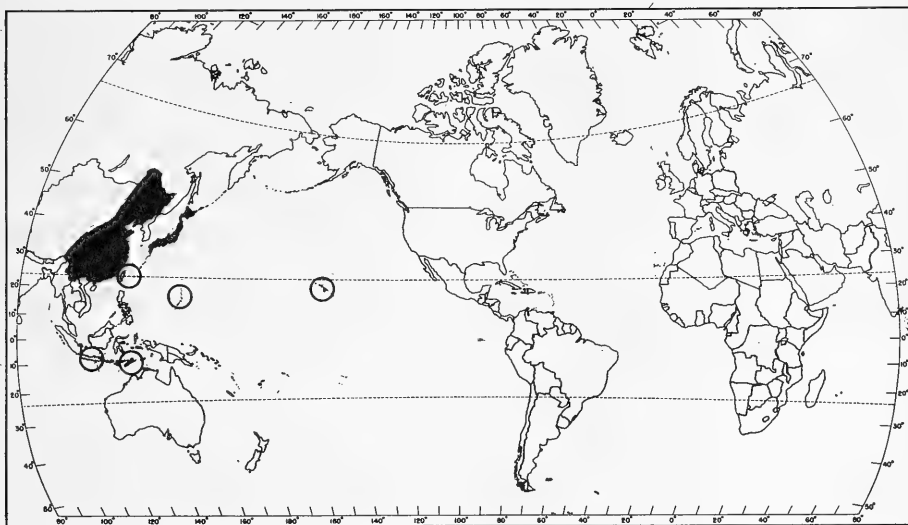
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

CHINESE ROSE BEETLE (Adoretus sinicus Burm.)

Economic Importance: This scarab is a serious defoliator of many economic plants. When adults are abundant, they completely skeletonize the foliage of host plants. The larvae feed underground, mostly on dead organic matter. This beetle is rated as a notorious pest in Hawaii where it has been known for over 60 years. Although the species has a number of parasites and predators in the Islands, it continues to thrive and cause damage. No very satisfactory control methods have been developed in this area. Severe damage from Chinese rose beetle has also occurred on Guam.

Distribution: Hawaii, Japan, Formosa, China, Timor, Java, and Marianna Islands.

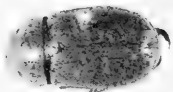
Hosts: Attacks many plants including rose, grape, okra, beans, soybeans, sweetpotato, asparagus, cotton.



General Distribution of Chinese Rose Beetle

Life History and Habits: Adults fly at dusk and feed on foliage. They may be found in the daytime hiding in loose soil or debris. Attacked leaves show numerous small holes or complete skeletonization. Eggs are laid in the soil and hatch in about four days. Larvae feed underground on decaying plant material, rarely attack live roots. Pupation occurs in earthen cells. Life cycle requires about six or seven weeks.

Description: ADULT - Fuscous, with copper luster, densely punctuate, flatly pubescent. Luster hardly noticeable due to recumbent hairs. Antennae and legs, chestnut brown. Length about 9.3 mm. The pygidium or anal end is set with long bristles. The border of the pygidium and the abdominal ring are set with a row of stiff bristles. The fore tarsi have 3 sharp teeth. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies. Special material for this summary supplied by O. C. Chock, Div. Ent. and Mkts., Board of Comm. of Agr. and For., Honolulu, Hawaii). CEIR 9(30):7-24-59.



Adults of Chinese Rose Beetle

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Cooperative
ECONOMIC INSECT
REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPER controls applied to 14,000 acres of rangeland in Kane County, Utah, and controls nearly complete in Park, Fremont, Johnson and Platte Counties, Wyoming. Control program complete in Golden Valley County of North Dakota; total of 12,417 acres treated. *Dissosteira longipennis* is much more numerous than 1958 in the eastern part of New Mexico. (p. 697). Lightest EUROPEAN CORN BORER infestation in 10 years in Minnesota. SORGHUM WEBWORM causing considerable damage to late-planted sorghum in Burleson and Brazos Counties, Texas. Controls being applied. (p. 698). Several heavy CORN LEAF APHID infestations reported in Ohio, Indiana, Wisconsin and Utah. Populations building up in several areas. SORGHUM MIDGE causing severe damage to medium and late-planted sorghum in Burleson and Brazos Counties, Texas. MITES are building up and causing severe damage in areas of Colorado and New Mexico. (p. 699).

SPOTTED ALFALFA APHID reported for first time this season in Nebraska. (p. 700). THREE-CORNERED ALFALFA HOPPER heavy, statewide, in alfalfa in Arizona and counts 3-15 per sweep in Brazos and Burleson Counties, Texas. (p. 701). ORCHARD MITES heavy on fruit trees in areas of Missouri, Utah and New Mexico. (p. 703). RED-BANDED LEAF ROLLER heavy on apple and peach trees in Missouri and difficult to control. (p. 703).

GREEN PEACH APHID medium to heavy on peppers in two California counties. Common several localities in Michigan, heavy several localities in northern Worcester County, Maryland, and increasing on potatoes in areas of Idaho. (p. 704). A NITIDULID BEETLE (*Meligethes nigrescens*) heavier than past 4 years in central Willamette Valley, Oregon, as high as 12 per blossom in bush beans. CABBAGE APHID prevalent in New Jersey, building up in Delaware and severely damaging cabbage in Bernalillo County, New Mexico. SIX-SPOTTED LEAFHOPPER heavy on vegetables in Suffolk, Monroe and Livingston Counties, New York; extremely numerous at several places in Michigan; and aster yellows appearing, although controls applied, in Wisconsin. (p. 706).

GREEN PEACH APHID building up to damaging numbers in some tobacco fields in Calvert and St. Marys Counties, Maryland, and is moderately abundant in some fields in Pittsylvania and Campbell Counties, Virginia. TOBACCO FLEA BEETLE increasing generally on tobacco in Maryland and in Pittsylvania County, Virginia. (p. 707).

BOLL WEEVIL infestation counts rising rapidly in Florence area of South Carolina, increasing generally in Alabama and south and middle Georgia. Infestations expected to increase by August 1, in delta of Mississippi and in southeastern and southwestern Arkansas. (pp. 707,708). Buildup of BOLLWORMS reported in several states, with a rapid rise in infestations noted in delta of Mississippi and in Madison Parish, Louisiana. (p. 708). Some heavy APHID and SPIDER MITE infestations reported in several states. (p. 709).

FALL WEBWORM caused light to moderate defoliation, statewide, in South Carolina and caused almost complete defoliation of cottonwoods in Eddy and Lea Counties, New Mexico. (p. 711). MIMOSA WEBWORM heavy on mimosa trees in areas of Virginia, Florida, Alabama and Ohio. SOLITARY OAK LEAF MINER generally noticeable in eastern Massachusetts and Rhode Island and very heavy on white oaks in vicinity of Wooster in Wayne County, Ohio. (p. 712).

A MUSCID (*Musca autumnalis*) is by far the most annoying fly species on cattle in Ohio and numbers range 1-30 around nose and eyes of beef cattle at Urbana, Illinois. (p. 713). A SARCOPHAGID (*Wohlfahrtia opaca*) has cost the mink growers

(Continued on page 696)

Highlights of Insect Conditions - Continued

over one million dollars in 1959 in Utah. HORN FLY populations extremely heavy on cattle in San Miguel County, New Mexico, and numerous in areas of Utah. (p. 713).

INSECT DETECTION: In California, new county records include pear psylla in San Joaquin County (p. 703), Micromyzus formosana in Monterey County (p. 706) and elm aphid in Placer County (p. 712). New State records were Myzocallis pulchellus in Placer County, California, (p. 712) and Musca autumnalis in Illinois. (p. 713). Japanese beetle trapped for first time in Moore and Hoke Counties, North Carolina, and Greene and Loudon Counties, Tennessee. (p. 715). Imported fire ant collected for first time in Calhoun County, Mississippi, and Dallas County, Texas. (p. 715). Alfalfa weevil found for first time in Bradford, Lackawanna and Susquehanna Counties, Pennsylvania. (p. 715).

CORRECTIONS (p. 715).

ADDITIONAL NOTES (p. 715).

MUSCA AUTUMNALIS, a new pest of cattle in the United States. (p. 719).

Status of some IMPORTANT INSECTS in the United States. (p. 721).

Reports in this issue are for the week ending July 24, unless otherwise indicated.

WEATHER OF THE WEEK ENDING JULY 27

Temperatures this week again averaged above normal west of the Rockies, in the northern Great Plains, upper Great Lakes, New England, the Ohio Valley and the Middle Atlantic States. Over the southern Great Plains, the Mississippi Valley, the lower Great Lakes and in eastern Florida, Georgia and southern South Carolina temperatures remained at below normal levels as a result of abundant cloudiness and widespread precipitation, as warm, moist, tropical air covered the Nation east of the Rockies during most of the week. Heaviest precipitation occurred late in the week surrounding hurricane Debra, which developed during the night of July 23-24 just off the Texas coast in a circulation present over the northwestern Gulf of Mexico on July 22d and 23d. The hurricane moved slowly northward, with the center reaching the Texas coast between Freeport and Galveston late Friday, and continuing through east Texas and central Oklahoma during the next 3 days. Highest winds reported on the coast were 80 to 90 miles per hour, with gusts to 105 miles per hour, near Freeport. Gale winds were reported over extreme south-eastern Texas, diminishing gradually as the storm moved away from the coast. Rainfall was heavy throughout east Texas, Louisiana and Oklahoma. Orange, Texas, recorded 14.42 inches of rain, and some unofficial totals of around 15 inches in Texas and Louisiana, and up to 8 inches in Oklahoma were reported. Continuing general showers and thunderstorms from the central and southern Great Plains eastward during the week brought scattered substantial totals to most sections. The rains and cloudiness have held temperatures under seasonal levels in the midsection of the Country, where below normal readings were reported for the fifth consecutive week in Oklahoma and continued into the fourth consecutive week in Iowa.

(Weather continued on page 710)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - IDAHO - Undetermined species of grasshoppers abundant on 200 acres of soil bank land near American Falls. (Schow). UTAH - Controls applied to 14,000 acres of rangeland by aircraft in Kane County. Dominant species were Melanoplus bruneri, M. borealis, M. alpinus and Camnula pellucida. About 70,000 acres of forestland will need controls in areas of Sanpete, Sevier and Utah Counties. (Thornley, Knowlton). Spotted grasshopper injury reported in Boulder area of Garfield County (Lindsey, Knowlton) and Pleasant Valley in Duchesne County (Knowlton). WYOMING - Aulocara elliotti beginning to lay eggs at Glendo. (Pfadt). Grasshopper control in Park, Fremont, Johnson and Platte Counties nearly complete. (Davison). NEW MEXICO - Remain a problem in untreated fields in Rio Arriba, Taos, San Miguel, Mora and Sandoval Counties. (N. M. Coop. Rpt.). Dissosteira longipennis present in all five counties on eastern side of State. Spot checks indicate that this species is much more numerous than 1958. (PPC, West. Reg., June Rpt.). TEXAS - Heavy, damaging grain sorghum in Tarrant County (Texas Coop. Rpt.). OKLAHOMA - Grasshopper counts ranged 0-1 and 2-10 per square yard in pasture areas in Kiowa County. (Hudson). Damaging field margins of a variety of crops in isolated areas in northwest. (Owens, VanCleave, Pennington). KANSAS - Grasshoppers in cropland ranged from less than 1 to 2 per square yard in several counties in north central, northeast, east central and central sections of State. M. femur-rubrum was dominant species. M. bivittatus and M. bilituratus also present in smaller numbers. (Fitchett, Arnett, Peters). Grasshopper counts in cropland in Cloud, Ottawa and Saline Counties ranged from less than 1 to 2 per square yard. M. femur-rubrum was dominant species. (Peters). NEBRASKA - Survey in all counties in southeastern area indicates that Melanoplus spp. are generally below normal in numbers with only isolated areas having economic populations. (Webb). In isolated area just south of Ord, Valley County, Melanoplus spp. moved into corn fields. (Doryland). SOUTH DAKOTA - Grasshoppers continue to be a problem in all parts of State except where large scale control programs have been carried out. Many complaints coming from soil bank land. (Burge). Counts in east central area averaged about 8 per square yard with some fields up to 25 per square yard. In southeast, counts about 5 per square yard in alfalfa fields while margins of fields averaged 15 per square yard. Heavy infestations spotted in these areas. (Mast). NORTH DAKOTA - Emergency cooperative grasshopper control program was completed in Golden Valley Co. on July 19. Program also included infested range in parts of Slope and Billings Counties. Total of 12,417 acres were treated. (N. D. Ins. Rpt.). MINNESOTA - Grasshopper infestations mostly noneconomic. (Minn. Ins. Rpt.). WISCONSIN - Populations of M. femur-rubrum highest in central area. Fifth-instar M. differentialis appearing in Adams and Marquette Counties. (Wis. Coop. Sur.). INDIANA - Nymphs of Melanoplus spp. common along roadsides, field margins and in alfalfa fields in western and southwestern counties. Counts 2-10 per square yard. (Matthew, Dobson, Wilson). DELAWARE - Conocephalus spp. and Melanoplus spp. remain numerous to abundant in clover and alfalfa in New Castle and Kent Counties. Moderate feeding injury along edges of corn fields in New Castle and Kent Counties. Present on soybeans in all counties. (Burbutis, Mason).

EUROPEAN CORN BORER (Pyrausta nubilalis) - MASSACHUSETTS - Second brood getting underway. (Crop Pest Cont. Mess.). NEW JERSEY - Moth activity at fairly high levels in sweet corn. (Ins. Dis. News1.). MARYLAND - Egg masses generally light on late corn in Queen Annes, Frederick and Worcester Counties. Moth activity believed curtailed somewhat due to heavy rains. (U. Md., Ent. Dept.). VIRGINIA - Severe in corn in Burnt Chimney area of Franklin County and severe on corn in 2 areas of Loudoun County. (Brown, Morris, Tucker). OHIO - Midsummer population extremely low in Van Wert County. An average of 1.8 larvae per 100 plants found in 24 fields. Pupation in progress at Van Wert and Wooster; some emergence noted at Wooster. (Triplehorn). ILLINOIS - Pupation 100 percent as far north as Peoria; 10-30 percent in northern area. Moth emergence and egg laying started in central area. (Ill. Ins. Rpt.). WISCONSIN - Percent of corn plants infested averaged 2-3 in Buffalo, Pepin, Pierce and St. Croix Counties. (Wis. Coop. Sur.). MINNESOTA - Populations generally quite low this year with the exception of a few southwest counties which have fields showing high numbers. Average percent plants infested was 30 in southwest, 15 in south central, 12 in west central and 10 in central

district. Second generation expected to be very low and noneconomic. This is lightest infestation in 10 years. (Minn. Ins. Rpt.). SOUTH DAKOTA - Percent shot-holed plants per 100 plants by counties was as follows: Kingsbury - 10; Miner - 30; McCook - 20; Hutchinson - 3; Yankton - 15; Bon Homme - 33; Davison - 22; Sanborn - 25; Beadle - 15; Jerauld - 16; Douglas - 7. (Mast). NORTH DAKOTA - Infestation continues light in southeastern counties. (N. D. Ins. Rpt.). NEBRASKA - Infestations in later corn in southeastern area continues light, less than 5 per 25 plants. Some pupation noted in early corn. (Webb). Between Fullerton, Nance County, and Central City, Merrick County, second-generation larvae beginning to emerge. (Doryland). KANSAS - In Jefferson County, 58 percent of corn fields infested. First-brood infestation averaged 28.14 percent with average of 16 borers per 100 plants. Pupation 63 percent and emergence of adults 15 per percent. (Burkhardt). MISSOURI - Emergence ranged 10-20 percent in northern area with very little egg laying evident. In southeast, egg masses ranged 5-10 per 100 stalks and 15-18 percent of silking corn infested with first and second-instar larvae. (Kyd, Thomas, Munson). ARKANSAS - Eggs present on corn in Phillips County. (Ark. Ins. Rpt.). ALABAMA - Heavy infestation reported in corn in Autauga County. (Kirkpatrick).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - KANSAS - Nine percent of corn plants infested, with a trace of deadhearts present in Reno County. Corn in marginal rows 53 percent infested with 29 of 53 plants having deadhearts. Those borers found in pupal stage. (Painter). ARIZONA - Populations becoming heavy in central area sorghum. In Maricopa County, 5 fields sampled had average of 25 percent of stalks infested. (Ariz. Coop. Sur.).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - In Baton Rouge, 2 percent of young sorghum and one percent of 10-inch corn showed damage. Surveys of sugarcane made July 20-24 in St. Mary Parish revealed that in untreated fields infestations ranged 3-56 percent and in treated fields infestations were 0-3 percent. (Spink).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Moderate infestation in grain sorghum in Lee County. (Guyton).

CORN EARWORM (Heliothis zea) - MASSACHUSETTS - No evidence present of heavy infestation. (Crop Pest Cont. Mess.). NEW JERSEY - Counts increasing in sweet corn. (Ins. Dis. Newsl.). MARYLAND - Ear infestations averaged 20 percent in early sweet corn in Queen Annes County. (U. Md., Ent. Dept.). OHIO - Ears of early sweet corn 25 percent infested in untreated check plots at Marietta on July 16 and 17. (Triplehorn). KANSAS - Eggs easily found on silks of corn in field in Reno County. (Painter). ARKANSAS - Egg deposition heavy on silking corn. (Ark. Ins. Rpt.). CALIFORNIA - Heavy infestations on corn occurred in Chico, Butte County. (Cal. Coop. Rpt.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Attacking young grain sorghum in Nueces County. (Texas Coop. Rpt.). Counts 5-50 per head in untreated fields in Burleson and Brazos Counties. Causing considerable damage, especially to late-planted sorghum. Controls being applied many fields. (Randolph).

A NOCTUID (Simyra henrici) - ILLINOIS - Larvae found in corn fields scattered throughout east-southeast and west-southwest sections of State. As many as 8 per 100 plants found. Pupation has been underway for some time; second generation starting to develop. Few larvae killed by parasites, first sign of parasitism this year. (Ill. Ins. Rpt.).

FALL ARMYWORM (Laphygma frugiperda) - ALABAMA - Feeding on tops of small grain sorghum in Lee County. (Guyton). LOUISIANA - Heavy infestation found in field of soybeans in St. Landry Parish. Total of 114 taken in 100 sweeps. In Baton Rouge, 18 percent of young sorghum plants examined found damaged and 20 percent of young corn plants examined found damaged. (Spink).

CORN LEAF APHID (*Rhopalosiphum maidis*) - DELAWARE - Abundant in enclosed tassels and in whorls of young field corn in southern Kent County. Common on field corn in Sussex County. (Burbutis, Mason). ALABAMA - Common in Lee County. Light infestations on corn in northern area. (Grimes). OHIO - Average of 13 percent of field corn plants infested in Van Wert County. Present most fields, but seldom exceeding 25 percent of plant population. First observed on late-planted sorghum July 14 at Wooster; new colonies continue to be established. Heavy infestations on field corn at Wooster first observed July 20; rapidly building up. (Tripelhorn). INDIANA - Heavy tassel infestations in field corn in Parke, Benton, Warren, Fountain and Tippecanoe Counties. Moderate to heavy infestations also found in whorls of grain sorghum in Benton County. (Matthew, Dobson). WISCONSIN - Becoming numerous in many fields in most sections. (Wis. Coop. Sur.). KANSAS - Few observed on tassels of corn in Stafford County. (Painter). NEBRASKA - Few early corn fields in southeast have up to 10 percent of plants with heavy infestations, particularly on tassels; no damage yet evident. (Webb). SOUTH DAKOTA - Active in some sorghum fields in Hutchinson County. (Mast). WYOMING - None observed on corn in southeastern area. (Davison). IDAHO - Light infestations on barley in Caribou County with some spread of yellow dwarf disease evident. (Bishop). Generally present on several hundred acres of small grains near Drummond. (Garner). UTAH - Controls required on several hundred acres of spring barley in Uintah and Duchesne Counties. (Knowlton).

CORN FLEA BEETLE (*Chaetocnema pulicaria*) - MARYLAND - Adults abundant on field corn in sections of Worcester County. (U. Md., Ent. Dept.). DELAWARE - Fairly common in New Castle County and present in Kent and Sussex Counties on corn. (Burbutis, Mason).

WESTERN CORN ROOTWORM (*Diabrotica virgifera*) - KANSAS - Adults more abundant in corn fields than for past 4 years in Riley and Jefferson Counties. (Burkhardt).

NORTHERN CORN ROOTWORM (*Diabrotica longicornis*) - INDIANA - Heavy populations in localized fields of seed corn in Benton County. Counts ranged 2-14 per ear, with average of 7. Silk damage heavy. (Matthew, Dobson).

CORN BLOTCH LEAF MINER (*Agromyza parvicornis*) - DELAWARE - Present and active throughout State in corn. (Burbutis, Mason).

SORGHUM MIDGE (*Contarinia sorghicola*) - TEXAS - Severe damage to medium and late-planted sorghum. Damage 10-30 percent some fields in Burleson and Brazos Counties. (Randolph).

MITES - COLORADO - There has been a serious buildup of *Tetranychus telarius* and other species of mites on a number of field crops and fruits. Beans, corn and alfalfa most seriously affected. The hot, dry weather in western area has magnified the damage. (Colo. Ins. Sur.). NEW MEXICO - Building up rapidly on corn in Rio Arriba and Torrance Counties. Lower leaves already severely damaged. (N. M. Coop. Rpt.).

ARMYWORM (*Pseudaletia unipuncta*) - NORTH DAKOTA - Several infestations of 4-5 larvae per linear foot of row in small grains in Cass County. Larvae in most cases near maturity; no particular injury observed. (N. D. Ins. Rpt.).

A PLANTHOPPER (*Sogata furcifera*) - LOUISIANA - Heavy infestations on crabgrass throughout rice growing area of State. (Spink).

ENGLISH GRAIN APHID (Macrosiphum granarium) - OREGON - Aphids, primarily this species, present in very low numbers on grain in Willamette Valley during week of July 6th. Lady beetle larvae averaged 74 per 100 feet of row in spring barley and oats. Very little reduction in aphid population is apparent as result of predators, parasites or disease. (Dickason). IDAHO - Generally abundant on oats near Sandpoint. (McPherson).

FALSE CHINCH BUG (Nysius ericae) - OREGON - Found in bentgrass fields in Klamath County in numbers far exceeding those of many years past; averaging 1.5 per sweep. Some present in alsike clover. (Schuh). SOUTH DAKOTA - Counts per 10 sweeps on alfalfa averaged 3 in Kingsbury County and 6 in Hutchinson County. (Mast).

CHINCH BUG (Blissus leucopterus) - INDIANA - Few adults found in grain sorghum in Benton County. (Matthew, Dobson).

A CHINCH BUG (probably Blissus leucopterus hirtus) - MARYLAND - Nymphs and adults abundant on lawns at Accident, Barrett County, July 17. (U. Md., Ent. Dept.).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - Twenty black-light traps were placed at selected locations around the Brooklyn infestation in 7 Metropolitan New York and Long Island counties during June. As a result, adults were recovered from 5 locations outside the Brooklyn quarantined areas as follows: Governors Island, Battery Park and Bedloes Island, New York County; Brooklyn State Hospital, Kings County; Coast Guard Station, Richmond County. (PPC, East. Reg., June Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - CALIFORNIA - Light on alfalfa in Lancaster area of Los Angeles County. (Ext. Serv.). ARIZONA - Populations declining in less susceptible varieties of alfalfa in Maricopa County. July average of 1.03 per trifoliate leaf is up from June average of 0.45 per trifoliate leaf; however, populations during first part of July were considerably higher than during the latter part. (Ariz. Coop. Sur.). UTAH - Populations generally light, found as far north as Joseph in Sevier County and near Delta in Millard County. (Knowlton). TEXAS - Light on alfalfa in Lubbock and Donley Counties. (Randolph, Turney). OKLAHOMA - Heavy, 100-1,000 plus per sweep, in all alfalfa fields checked in northern Alfalfa County. Damage to plants is evident. Counts in southern Alfalfa County and surrounding counties averaged less than 75 per sweep. Populations declined rapidly east of this area, with only light populations noted in Kay County. (VanCleave, Pennington, Owens). KANSAS - Counts up to 25 per sweep on July 21 in old stand of alfalfa in Ellis County. (Harvey). Counts 6-50 per foot of row in variety plots in Stafford County. (Painter). Counts ranged from less than one to 5 per sweep in several north central, central, east central and northeastern counties. (Peters). NEBRASKA - Recorded for first time this season. Small numbers in alfalfa in southern tier of counties from Dundy to Nuckolls. (Hill). MISSOURI - One field near Caruthersville in southeast averaged 325 per sweep. In southwest, counts 15-18 per sweep. (Kyd, Thomas, Munson). ALABAMA - Limited numbers observed on alfalfa in localized areas of Madison and Lee Counties. (Guyton, Grimes).

PEA APHID (Macrosiphum pisi) - UTAH - Causing moderate damage to alfalfa throughout Duchesne and Uintah Counties. (Knowlton). IDAHO - Heavy damage to alfalfa near Parker. About one-half cupful per sweep. (Garner). Predators keeping populations in check except for an occasional field in Kamiah, Cavendish and Grangeville areas. (Portman). WYOMING - Counts 2,500 per 100 sweeps in alfalfa in Wilson area. (Davison). COLORADO - Populations reduced most areas due to predation. Populations high in Delta and Montrose Counties; 4,000-8,000 per 100 sweeps. (Colo. Ins. Sur., July 21). OKLAHOMA - Very light populations in few widely scattered alfalfa fields in northwestern area. (VanCleave, Pennington, Owens). NEBRASKA - Building up gradually in alfalfa fields in southeast, counts as high as 500 per 10 sweeps some areas. No damage evident. (Webb). SOUTH DAKOTA - Averaged 7 per 10 sweeps in alfalfa in east central, southeast and central areas of State. (Mast). MISSOURI - Counts in alfalfa and red clover

ranged 10-45 per sweep. (Kyd, Thomas, Munson). WISCONSIN - Populations rapidly increased in alfalfa, counts ranged 40-100 plus per sweep in Buffalo, Pepin, Pierce and St. Croix Counties. (Wis. Coop. Sur.). ALABAMA - Infestations extremely heavy on alfalfa in Lee County. (Guyton).

CLOVER APHID (Anuraphis bakeri) - OREGON - Abundant enough to warrant controls in few clover fields at present. (Schuh).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - OKLAHOMA - Light populations in alfalfa in northwest and north central areas. (VanCleave, Pennington, Owens). NEBRASKA - Some alfalfa fields in southeastern counties have numerous adults, but larval counts remain less than 3 per 10 sweeps. (Webb).

POTATO LEAFHOPPER (Empoasca fabae) - SOUTH DAKOTA - Few found in southeast, east central and central areas of State, but counts averaged less than 2 per 10 sweeps. (Mast). KANSAS - Found most alfalfa fields in north central, central, east central and northeastern counties checked. (Peters). MISSOURI - Yellowing of alfalfa throughout State continues. Populations range 15-250 per sweep. (Kyd, Thomas, Munson). WISCONSIN - Averaged 5 per sweep in Pepin County, 1 in Pierce County, 5 in Trempealeau County and 4.5 in Buffalo County. Populations appear to be building up and migrations noted. (Wis. Coop. Sur.). ILLINOIS - Very abundant in many northern alfalfa fields. (Ill. Ins. Rpt.). VIRGINIA - Building up on untreated peanuts in southeastern area. Populations 20-200 per 100 sweeps in fields in Sussex, Nansemond and Greenville Counties. Buildup expected to continue where controls not applied. (Morris, Bush, Boush). MARYLAND - Injury to uncut alfalfa noted in Frederick, Howard and Carroll Counties. (U. Md., Ent. Dept.).

CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) - SOUTH DAKOTA - Averaged 7 per 10 sweeps in alfalfa in southeast, east central and central areas of State. (Mast). DELAWARE - Present on clover over State and in alfalfa in Sussex County. (Burbutis, Mason).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - SOUTH DAKOTA - Counts in alfalfa in east central and southeast areas averaged 6 per 10 sweeps. (Mast).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Populations heavy in alfalfa, statewide. Central area fields averaged 20 per 25 sweeps. (Ariz. Coop. Sur.). TEXAS - Counts 3-15 per sweep in Brazos and Burleson Counties. (Randolph). OKLAHOMA - Very light in few alfalfa fields in northwest and north central areas. (VanCleave, Pennington, Owens). ALABAMA - Heavy infestation observed in large alfalfa field in Lee County and limited numbers observed in Madison County. (Grimes, Guyton).

LYGUS BUGS (Lygus spp.) - UTAH - Counts 5-15 per 10 sweeps in alfalfa seed fields in Uintah and Duchesne Counties. (Knowlton). NEW MEXICO - Generally heavy on alfalfa in Torrance County, except for seed alfalfa where control measures have reduced populations to about 1 per 100 sweeps. (N. M. Coop. Rpt.). OKLAHOMA - Counts 0.5-1.5 per sweep in alfalfa in northwest and north central areas. (VanCleave, Pennington, Owens).

PLANT BUGS (Adelphocoris spp.) - NEBRASKA - Adults and nymphs of A. lineolatus range 0-30 and A. rapidus range 1-12 per 10 sweeps in alfalfa in southeastern area. (Webb). DELAWARE - Adults of A. rapidus present to fairly common on alfalfa and clover in New Castle County and decreased in Kent and Sussex Counties. Adults of A. rapidus present on soybeans in New Castle County. (Burbutis, Mason).

ALFALFA WEEVIL (Hypera postica) - WYOMING - Larvae range 24-50 per 100 sweeps in alfalfa in Wheatland. Damage estimated at 2 percent some fields. Alfalfa will be cut in near future. Near Wilson, Teton County, larval counts as high as 500 per 100 sweeps, with 10 percent damage. (Davison). UTAH - Few larvae and old adults active locally in several parts of the State. (Knowlton). DELAWARE - Adults present to common on alfalfa in State. (Burbutis, Mason).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - IDAHO - Red clover field in Long Valley, north of Donnelly, with 95 percent of heads infested with larvae. Two control treatments have not been effective. Adult leaf injury evident most red clover fields in Homedale area. (Portman). DELAWARE - Adults present throughout State on clover and alfalfa, 2-3 per 10 sweeps on clover in New Castle County. (Burbutis, Mason).

GARDEN FLEAHOPPER (Halticus bracteatus) - MASSACHUSETTS - A flea hopper, probably this species, abundant on alfalfa in one field in Hampshire County, July 13. (Shaw, Fischang).

CLOVER ROOT CURCULIO (Sitona hispidula) - DELAWARE - Adults more numerous in New Castle and Kent Counties on alfalfa and clover. (Burbutis, Mason).

CLOVER HEAD WEEVIL (Tychius stephensi) - DELAWARE - Present on clover in New Castle County. (Burbutis, Mason).

GREEN CLOVERWORM (Plathypena scabra) - VIRGINIA - Light on soybeans in southeastern area. (Morris). MARYLAND - Larvae averaged 1-10 per 10 linear feet of row in soybeans in Worcester County. Light to moderate foliage injury. (U. Md., Ent. Dept.). DELAWARE - Larvae present to common on alfalfa and clover over State. Common in New Castle County and present in Kent and Sussex Counties on soybeans. (Burbutis, Mason).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - DELAWARE - Larvae fairly common on soybeans in New Castle County. (Burbutis, Mason).

RED-NECKED PEANUTWORM (Stegasta basqueella) - GEORGIA - Light to moderate infestation on peanuts in Wilcox, Tift, Colquitt, Mitchell, Terrell and Sumter Counties. (Johnson). OKLAHOMA - Averaged 1.5 larvae per linear foot of row in peanut field in Johnston County. (Vinson).

A STRIPED BLISTER BEETLE (Epicauta sp.) - ALABAMA - Spotted infestations, causing moderate to heavy defoliation, on soybeans and alfalfa in Madison County. (Grimes).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Few fields of soybeans heavily infested in Hampton County. (Nettles, et al.).

JAPANESE BEETLE (Popillia japonica) - DELAWARE - Common on soybeans, clover, alfalfa and corn in areas of State. (Burbutis, Mason).

BEAN LEAF BEETLE (Cerotoma trifurcata) - VIRGINIA - Light, but building up on soybeans in southeastern area. (Morris). MARYLAND - Adults light to moderate on soybeans in northern Worcester County. (U. Md., Ent. Dept.). DELAWARE - Present on soybeans in Kent County, with moderate feeding injury. (Burbutis, Mason). ARKANSAS - Adults 23 per 50 sweeps in soybeans in Phillips County and 10 per 25 sweeps in Lee County. (Ark. Ins. Rpt.).

SOYBEAN CYST NEMATODE (Heterodera glycines) - ARKANSAS - During June 28 new infestations involving 945 acres found in Mississippi County. (PPC, South. Reg.). MISSOURI - One new infestation found in Dunklin County and a number of new infestations in Pemiscot County. As of the end of June, over 70 new infested fields found through symptom survey in Pemiscot, New Madrid and Dunklin Counties. Most fields are within regulated areas, however. An estimated 2,500 acres of soybeans show evidence of damage as of June 30. (PPC, Cent. Reg.). VIRGINIA - Since initiation of delimiting survey in Nansemond County, a total of 11,012 acres of 267 properties have been surveyed. Fifty-two properties, involving 3,099 acres, found infested. (PPC, East. Reg., June Rpt.).

FRUIT INSECTS

ORCHARD MITES - NEW JERSEY - Panonychus ulmi present locally, but heavy rains have not favored population increase. (Ins. Dis. Newsl.). MARYLAND - P. ulmi has injured plum and peach foliage in Thurmont area. (U. Md., Ent. Dept.).

MICHIGAN - Tetranychus telarius about at peak and numerous on apple trees in some orchards at Sodus, Coloma, Ionia and Grand Rapids. P. ulmi infestations spotted on apricot trees and at peak on apple trees at Sodus, Watervliet, Coloma and Paw Paw. (Hutson). INDIANA - Peak population of spider mites past in Orleans area. (Marshall). WISCONSIN - P. ulmi averaged 14 per leaf on July 17 in Door County. (Wis. Coop. Sur.). MISSOURI - Both P. ulmi and T. telarius prevalent in most orchards, with P. ulmi being replaced by T. telarius. Very heavy in the Campbell area on peaches. Some leaves webbed and many beginning to fall. (Wkly. Rpt. Fr. Grs.). UTAH - T. mcdanieli seriously infesting some Weber and Davis County orchards. (Davis). T. telarius increasing in some Washington and Kane County apple orchards. (Knowlton). NEW MEXICO - Spider mites heavy and damaging foliage in apple orchards in Bernalillo, Sandoval and Rio Arriba Counties. (N. M. Coop. Rpt.).

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Punctures numerous on unsprayed apples in Milwaukee and Chippewa Counties. (Wis. Coop. Sur.). NEW YORK - Peak emergence in cages at Poughkeepsie occurred on July 12. (N. Y. Wkly. Rpt.).

CODLING MOTH (Carpocapsa pomonella) - NEW YORK - Adult activity increased markedly, with large catches of summer brood and heavy egg laying by caged moths in the eastern area. (N. Y. Wkly. Rpt.). MICHIGAN - Emergence of summer brood began on July 13 at Berrien Springs, and July 14 at Grand Rapids. (Hutson). WISCONSIN - Heavy entries of fruit on unsprayed trees in Door County. (Wis. Coop. Sur.). UTAH - Flight conspicuous July 12-15 in northern area. (Davis).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - Moth captures in traps very high until July 24 in eastern area. Declining in Orleans County. (N. Y. Wkly. Rpt.). INDIANA - Daily trap captures of adults increased during past week indicating third-brood eggs being laid in Vincennes area. (Hamilton). MISSOURI - Worst problem on tree fruits at present. Heavy past week on both apples and peaches, with all stages present. Many growers finding it extremely difficult to control. (Wkly. Rpt. Fr. Grs.).

AN OECOPHORID (Limenitis lorquini) - CALIFORNIA - Heavy on apples in El Cerrito, Contra Costa County. (Cal. Coop. Rpt.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Light to heavy in apple orchards in Rio Arriba, Bernalillo, Sandoval and Taos Counties. (N. M. Coop. Rpt.).

PEAR PSYLLA (Psylla pyricola) - OREGON - On untreated trees in Medford area, averaging about 5 adults per leaf. Nymphs numerous, averaging about 4 per leaf. (Schuh). CALIFORNIA - Light on pear trees in Linden area of San Joaquin County, first record for county. (Cal. Coop. Rpt.). NEW YORK - Has been generally very bad this year in Rockland County. (N. Y. Wkly. Rpt.).

GREEN JUNE BEETLE (Cotinis nitida) - NORTH CAROLINA - In clusters on ripe peaches in Graham County. (Tippet, Farrier).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - INDIANA - Has increased in twigs of peach trees more than expected in Orleans area as result of recent hatch. (Marshall). MISSOURI - Severe injury to peach fruit in orchard near Campbell. Most larvae nearly full grown. (Wkly. Rpt. Fr. Grs.).

PEACH TWIG BORER (Anarsia lineatella) - CALIFORNIA - Heavy on plum trees in Happy Camp, Siskiyou County. (Cal. Coop. Rpt.).

HALL SCALE (Nilotaspis halli) - CALIFORNIA - Inspections conducted in Butte and Yolo Counties during June. Results were negative. The third and final survey of city of Davis was completed during June. (PPC, West. Reg.).

HICKORY SHUCKWORM (Laspeyresia caryana) - TEXAS - Causing some heavy damage to pecans in Wise County. (Gaines). LOUISIANA - Heavy on pecans in Franklin Parish. (Spink).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Five traps hung in 7 walnut trees in El Cajon, San Diego County, caught 193 flies in four days. (Cal. Coop. Rpt.).

TERMITES (unidentified) - KANSAS - Reported damaging fruit trees in Rooks County. (Knutson).

PERIODICAL CICADA (Magicicada septendecim) - GEORGIA - A swarm reported near Echeconnee Creek in Houston County, July 19. (Snapp).

CITRUS BLACKFLY (Aleurocanthus woglumi) - TEXAS - Inspections of 40,091 trees on 1,731 acres in Cameron, Hidalgo and Webb Counties during June were negative. At the end of August 1959, provided inspections continue negative, three years will have elapsed since last infestation was found in Texas. (PPC, South. Reg.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - Trapping operations during June were negative. Total number of traps operated were 8,291 in FLORIDA; 56 in Mobile, Baldwin and Houston Counties, ALABAMA; 27 in 6 GEORGIA counties; 106 in New Orleans area of LOUISIANA; 63 along Gulf Coast of MISSISSIPPI; and in 4 southeastern SOUTH CAROLINA counties. In south TEXAS, 35 traps placed in operation in Cameron County during June. (PPC. South. Reg., June Rpt.).

MEXICAN FRUIT FLY (Anastrepha ludens) - Trapping operations during June continued in vicinity of Nogales, Santa Cruz County, ARIZONA, and in vicinity of San Diego, San Diego County, CALIFORNIA. All collections were negative. (PPC, West. Reg.).

BLUEBERRY MAGGOT (Rhagoletis pomonella) - MASSACHUSETTS - Increasing in cultivated blueberry fields. (Wheeler).

CHERRY FRUITWORM (Grapholitha packardii) - MASSACHUSETTS - Moths still emerging at Wareham and larvae common in blueberry fruit. (Wheeler).

BLACK-HEADED FIREWORM (Rhopobota naevana) - MASSACHUSETTS - Second generation abundant and damaging because timing upset by long rainy period. (Wheeler).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Moths and eggs very numerous. (Wheeler).

TRUCK CROP INSECTS

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - Medium to heavy in pepper fields in Orange and San Diego Counties. (Campbell). OREGON - On potatoes in Klamath Falls area. None were present on July 13, then built up to 6-16 percent infestation. (Schuh). IDAHO - Populations increased rapidly in Ashton area. Also increasing in Caribou, Butte, Custer and Teton Counties. Averaged 2-10 per leaf in potato fields in Canyon County. Fifty percent or more of plants some fields showing leafroll. (Bishop). MICHIGAN - Very common on peppers at Coloma, Watervliet and Sodus. (Hutson). MARYLAND - Several heavy infestations on pepper in northern Worcester County. (U. Md., Ent. Dept.).

Potato Aphids in Maine - Overall aphid abundance at Presque Isle not yet appreciable although some increase occurred during the past week. An average of 11.2 aphids of all species on three leaves per plant (top, middle, bottom) represents an increase of but 204 percent during the week. Slowing in the rate of increase was most evident in the case of the predominant aphid, Macrosiphum solanifolii. Increases were slightly below normal to about normal for Aphis abbreviata, Myzus persicae and M. solani. Slowing in rate of increase in population appeared to be due mostly to a sharp increase in abundance and effectiveness of parasites and predators, and possibly to unfavorable weather (hot, dry). (Shands).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - IDAHO - Light on potato foliage in American Falls vicinity and in seed fields near Arco in Butte County. (Bishop). NEW YORK - Second-brood larvae becoming quite numerous in Suffolk County on potatoes. (N. Y. Wkly Rpt.).

FLEA BEETLES - UTAH - Phyllotreta striolata caused moderate damage to potatoes at Antimony and Circleville. (Knowlton). MICHIGAN - Epitrix cucumeris numerous at Stanton, McBride and Vestaburg. (Hutson). MARYLAND - E. cucumeris heavy on potatoes in Frederick County. Phyllotreta sp. abundant and destructive to cabbage in Calvert County. (U. Md., Ent. Dept.).

POTATO LEAFHOPPER (Empoasca fabae) - MICHIGAN - Numerous in potato fields around Saginaw. (Hutson).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Adults averaged 2.9 per 100 sweeps in Weld County. (Colo. Ins. Sur., July 21). WYOMING - Taken at rate of 20 per 100 sweeps on lycium in Wheatland area, a 75 percent reduction from count the week of July 4. (Wyo. Ins. Sur.).

THREE-LINED POTATO BEETLE (Lema trilineata) - RHODE ISLAND - New generation of adults emerging on untreated potatoes in Kingston, July 20. (Kerr).

GOLDEN NEMATODE (Heterodera rostochiensis) - NEW YORK - During June about 8,000 soil samples collected from 5,900 of potato-growing acres in Suffolk County. The entire spring survey involved 18,600 acres from which 25,180 samples were collected. (PPC, East. Reg.). FLORIDA - Surveys started during May were completed by end of June. During the period, collections of samples from 434 properties representing 33,451 acres were made. Processing of samples underway. MISSISSIPPI Soil sample collections made in 7 counties during June. SOUTH CAROLINA - In Charleston County, 200 soil samples from about 6,000 acres were processed. NORTH CAROLINA - Soil samples collected from 639 acres in 7 commercial potato-growing counties. (PPC, Sou. Reg., June Rpt.). ARIZONA - Survey started June 1 in potato-growing areas of State completed on June 26. Soil samples representing 6,860 acres collected in Maricopa, Pinal and Yuma Counties. All samples that were processed were negative. (PPC, West.Reg.).

TOMATO FRUITWORM (Heliothis zea) - INDIANA - Light and heavy locally on early commercial tomatoes in central area. (McCoy, Matthew, Dobson). MISSOURI - Damaging in southeast area (Wkly. Rpt. Fr. Grs.). TEXAS - Causing concern in the vegetable-growing areas of Deaf Smith County. (Gaines). CALIFORNIA - Infestations fairly heavy on tomatoes and sweet corn, and damaging up to 6 percent of lima bean pods in some fields in Orange County. (Campbell).

BEET ARMYWORM (Laphygma exigua) - CALIFORNIA - Heavy and damaging beans in Wasco, Kern County. (Cal. Coop. Rpt.).

LIMA-BEAN POD BORER (Etiella zinckenella) - CALIFORNIA - In exposed areas, up to 20 percent of lima bean pods infested in fields in Orange County. (Campbell). ALABAMA - Scarce on lima beans in Lee County. (Guyton).

A LYGUS BUG (Lygus hesperus) - CALIFORNIA - Building up rapidly in bean fields in Orange and Los Angeles Counties. (Campbell).

MEXICAN BEAN BEETLE (Epilachna varivestis) - COLORADO - Adults averaged 4-7 per 10 plants in Larimer County. Egg masses numerous. Larvae appearing in Montrose County. (Colo. Ins. Sur., July 21). UTAH - Damage increased in Salt Lake, Weber and Cache Counties. (Knowlton).

A NITIDULID BEETLE (Meligethes nigrescens) - OREGON - Heavier than for past four years in the central Willamette Valley. As high as 12 per blossom in bush beans. Six to 8 can cause blossom drop. (Crowell).

PEA LEAF WEEVIL (Sitona lineata) - OREGON - Caused leaf injury which was noticed for the first time on bush beans. Adults began appearing in Willamette Valley week of July 13. (Crowell, Dickason).

CABBAGE APHID (Brevicoryne brassicae) - NEW JERSEY - Prevalent in most fields. (Ins. Dis. Newsl.). DELAWARE - Fairly common and building up on cabbage in New Castle County. (Burbutis, Mason). WISCONSIN - First of season seen on cabbage in southern areas. (Wis. Coop. Sur.). NEW MEXICO - Heavy and severely damaging cabbage in Bernalillo County. (N. M. Coop. Rpt.).

CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) - MARYLAND - Larvae heavy on headed cabbage in sections of Calvert County. (U. Md., Ent. Dept.).

HARLEQUIN BUG (Murgantia histrionica) - MISSOURI - Populations high on cabbage and related plants in the north central area. (Kyd, Thomas, Munson). TEXAS - Causing concern in the vegetable-growing areas of Deaf Smith County. (Gaines).

IMPORTED CABBAGEWORM (Pieris rapae) - MISSOURI - Troublesome on cabbage in central area. (Wkly. Rpt. Fr. Grs.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - NEW YORK - Populations heavy in Suffolk, Monroe and Livingston Counties on most vegetables. Aster yellows easy to find on lettuce and related crops. (N. Y. Wkly. Rpt.). MICHIGAN - Extremely numerous at Saginaw, Stockbridge, Paw Paw, Kalamazoo and Lansing. (Hutson). WISCONSIN - Even though commercial carrot fields have been treated for control of M. fascifrons, some aster yellows showing up. (Wis. Coop. Sur.). COLORADO - Building up. Populations at Rocky Ford reached 813 in one night's light trap collection. No symptoms of aster yellows reported on potatoes, carrots or lettuce to date. Trace amounts were caught in Baca, Costilla and Boulder Counties. (Colo. Ins. Sur., July 21).

SOUTHERN POTATO WIREWORM (Conoderus falli) - SOUTH CAROLINA - Moderate to serious injury to 9 percent of 3,000 carrots from planting near Charleston. Apparently resulted from feeding of this pest during May 1959. Screening of soil revealed average population of 1.8 larvae per square foot to a 6-inch depth. (Nettles, Reid et al.).

ONION THRIPS (Thrips tabaci) - COLORADO - Reinfestation occurring following application of controls in Prowers, Bent, Otero, Crowley, Pueblo and Montrose Counties. (Colo. Ins. Sur., July 21).

AN APHID (Micromyzus formosana) - CALIFORNIA - Heavy on onions for first record in Monterey County at Gonzales. (Cal. Coop. Rpt.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - INDIANA - Abundant in cucurbits, soybeans and tomatoes. (Gould).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Heavily damaged sweetpotatoes in the Arnaudville area of St. Landry Parish. (Spink).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - LOUISIANA - Heavily damaged sweetpotatoes in the Arnaudville area of St. Landry Parish. (Spink).

STRAWBERRY APHID (Pentatrichopus fragaefolii) - OREGON - Populations have declined to average 1-2 wingless forms per mature plant in the Willamette Valley. No winged forms present since about July 15. (Rosenstiel).

A WEEVIL (Sciopithes obscurus) - OREGON - Found injuring a strawberry field in Columbia County, June 18. About 90 percent in adult stage. By July 16, some eggs had been laid and adult population had declined about 75 percent from peak. (Rosenstiel).

A THRIPS (Frankliniella sp.) - TEXAS - Causing concern in the vegetable-growing areas of Deaf Smith County. (Gaines).

SQUASH BUG (Anasa tristis) - TEXAS - Causing concern in the vegetable-growing areas of Deaf Smith County. (Gaines).

JAPANESE BEETLE (Popillia japonica) - NEW YORK - Very serious on vegetable crops in Rockland County. (N. Y. Wkly. Rpt.).

TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - NORTH CAROLINA - Apparently declining on tobacco in Granville and surrounding counties. (Chamberlin). MARYLAND - Building up to damaging numbers in some tobacco fields in Calvert and St. Marys Counties. (U. Md., Ent. Dept.). VIRGINIA - Moderately abundant on tobacco in some fields in Pittsylvania and Campbell Counties. (Dominick, Ellis).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - NORTH CAROLINA - Light and apparently declining on tobacco in Granville and surrounding counties. (Chamberlin). MARYLAND - Increasing on tobacco generally, injury to middle leaves becoming noticeable. (U. Md., Ent. Dept.). VIRGINIA - Populations increasing on tobacco in Pittsylvania County. (Dominick).

TOBACCO BUDWORMS (Heliothis spp.) - NORTH CAROLINA - Light on tobacco in Granville County and apparently declining week of July 22. (Chamberlin). MARYLAND - H. virescens light to moderate, but increasing on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - NORTH CAROLINA - Egg deposition showed slight increase in Granville County week of July 24. (Chamberlin). Eggs and small larvae on increase in southeastern counties. (Guthrie). MARYLAND - Generally light on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

LOOPERS AND CUTWORMS - WISCONSIN - Feeding on tobacco in the daytime during the week of July 6 in Vernon County. (Wis. Coop. Sur.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - VIRGINIA - Square counts were 15, 3 and 4 percent in 3 fields in Greensville County and no punctured squares found in 3 fields in Nansemond County. (Morris). SOUTH CAROLINA - Puncturing nearly a third of squares in untreated fields over State. Some county agents report 90 percent square infestations. (Cott, Lett.). In Florence area, second-generation adults now emerging and causing rapid rise in infestation counts in all fields. (Fye et al.). GEORGIA - Percent punctured squares averaged 16 in 25 northern area cotton fields and 49 in 33 middle and southern area cotton fields. (Robertson, Johnson). ALABAMA - Infestations increasing generally over State. Most noticeable increase was in central area, where infestations ranged 3-100 percent. Infestations in northern area increasing slowly. Average percent square infestation for State was 19.5. (Grimes). TENNESSEE - Percent square infestation averaged 10 in western cotton area, same as previous week. Adults

continue to emerge from squares punctured by overwintered weevils. (Locke). MISSISSIPPI - Second-generation emergence increased local infestation in some fields in delta counties. Average infestation, 2.6 percent. Showery conditions interfering with control measures and some fields will be heavily infested during next week. (Merkl et al.). LOUISIANA - Infestations averaged 13 and 16 percent in Morehouse Parish, 15 percent in Concordia Parish, 18 percent in Catahoula Parish, 36 percent in Lafayette Parish, ranged 2-40 in Tensas Parish and ranged 0-40 in Richland Parish. In Richland, Ouachita and Caldwell Parishes, infestations ranged light to moderate. (Spink). Average percent square infestations was 12 in Madison Parish. Control conditions poor, infestations may become general and damaging by August 1. (Smith et al.). ARKANSAS - Overwintering adults continue to emerge and there is a general emergence of first-generation adults. Second-generation adults are emerging and critical period of southeastern and southwestern areas appears to be around August 1. Percentage of fields infested range from 44-92; however, percent punctured squares range 3.7-14.3. (Ark. Ins. Rpt.). MISSOURI - Three fields out of 903 scouted, infested. (Kyd, Thomas, Munson). OKLAHOMA - Infestation counts in cotton were as follows: 2 percent in field in McClain County; 24 and 36 percent in 2 fields in Marshall and Pittsburg Counties, respectively; 2 and 15 percent in 2 fields in McCurtain County; 16-23 percent in 3 fields in Muskogee County; 1 percent in 3 of 5 fields in Pawnee County. (Pennington, Vinson, Meharg, Goin, Washum, Stiles). TEXAS - In the lower Rio Grande Valley, considerable defoliation has begun and a large number of cotton fields have begun to mature, causing weevils to move into late-maturing cotton. A general increase in populations observed in central area as second generation begins to appear. (Gaines). In McLennan and Falls Counties, infestations increasing generally. Percent infestation averaged 31.9 in treated fields and 67.9 in untreated fields, with overall average of 38. Infestations increased sharply in fields where treatments delayed because of rains. (Parenchia et al.).

BOLLWORMS (*Heliothis* spp., et al.) - VIRGINIA - Egg counts very light in 3 fields in Nansemond County. No eggs or damaged terminals found in 3 fields in Greensville County. (Morris). SOUTH CAROLINA - Buildups being reported from all sections of State. (Cott. Lett.). Light to heavy infestations expected during next 2-3 weeks in Florence area. (Fye et al.). GEORGIA - Egg and larval counts in north and south Georgia averaged 1 each per 100 terminals. (Robertson, Johnson). ALABAMA - Infestations throughout State lower than previous week. Percent infestation averaged 0.84. Highest infestations recorded in Autauga, Geneva and Lowndes Counties. (Grimes). TENNESSEE - Causing light damage in northern counties in western area. Some controls being applied. (Locke). MISSISSIPPI - Activity increased markedly in delta counties. Egg counts averaged 1.4 per 100 terminals on July 21 and 10.2 per 100 terminals on July 23. Larvae emerging in cotton fields south of Stoneville and controls have been applied in some fields. Moth catches in light traps have not been excessive, but a general increase has been observed. Extent of damage should be determined from July 30 to August 2. (Merkl et al.). LOUISIANA - Infestations averaged 1 percent in Morehouse Parish; eggs averaged 8 and larvae 1 per 100 terminals in Lafayette Parish; eggs ranged 5-25 per 100 terminals in Tensas Parish; and in 5 Richland Parish fields, eggs ranged 0-1 per 100 terminals. (Spink). In Madison Parish, square infestations averaged 1 percent and eggs and larvae averaged 6.06 and 1.32 per 100 terminals, respectively. There has been a sudden increase in moth catches in a light trap. On July 24, a very heavy hatch of young larvae occurred. Controls are being applied by airplane due to wet fields. A serious problem developed within a few days. (Smith et al.).

ARKANSAS - Third-generation moths appearing and egg deposition has begun. Beneficial insect populations high in untreated fields. (Ark. Ins. Rpt.). MISSOURI - Egg counts ranged 0-9 per 100 terminals and larval counts 0-4 per 100 terminals. Total of 209 fields infested out of 903 scouted. (Kyd, Thomas, Munson). OKLAHOMA - Infestation counts averaged 8 percent in cotton field in Marshall County; averaged 3 and 25 percent in 2 fields in McCurtain County; ranged 1-3 percent in 3 fields in Muskogee County; and ranged 1-2 in 3 of 5 fields in Pawnee County. (Vinson, Goin, Washum, Stiles). TEXAS - Infestations

continued steady, with isolated heavy numbers noted in many sections. (Gaines). In McLennan and Falls Counties, counts averaged 10.2 eggs and 5.4 larvae per 100 terminals and square and boll injury averaged 4.3 and 4.7 percent, respectively. Infestations at injurious levels in most succulent fields. (Parencia et al.). NEW MEXICO - Rapid buildup during past week in cotton fields in southern counties. Eggs and young larvae very abundant. Controls being applied. (N. M. Coop. Rpt.) ARIZONA - Light infestations occurring in some fields over State. (Ariz. Coop. Sur.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - During June, bloom inspections completed in 17 counties in lower Rio Grande Valley. Survey this year revealed one of the lightest infestations recorded in many years. (PPC. South. Reg.).

FALL WEBWORM (Hyphantria cunea) - CALIFORNIA - Light infestation of cotton occurred in Westmorland area of Imperial County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Light to medium populations some cotton fields in central area and in Yuma County. Medium infestations continue in some Cochise County fields. (Ariz. Coop. Sur.). TEXAS - Continues to be of some concern in many sections. (Gaines).

BEE T ARMYWORM (Laphygma exigua) - ARIZONA - Populations high some central area cotton fields. In most infested fields, larvae feeding on squares and small bolls as well as foliage, with many plants almost completely stripped. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Continues to increase in Yuma County, with some heavy populations. (Ariz. Coop. Sur.).

COTTON LEAFWORMS - TEXAS - Continue to be of concern in many sections. (Gaines).

APHIDS - ALABAMA - Light to moderate infestations of Aphis gossypii continue in central and southern areas. Activity beginning to increase in northern area. (Grimes). NEW MEXICO - Heavy, spotty infestations of A. medicaginis found in several fields in northern Dona Ana County. (N. M. Coop. Rpt.).

APHIDS (undetermined) - SOUTH CAROLINA - Heavy infestations of undetermined species causing leaf shedding in Florence area and damage to lint can be expected if condition is not corrected. (Fye et al.). GEORGIA - Very light to heavy infestations in 58 cotton fields checked. (Robertson, Johnson). TENNESSEE - Increasing in spots within fields in western area. Controls may be necessary if infestations continue to increase. (Locke). MISSISSIPPI - Infestations spotty over delta counties, with some heavy populations in Stoneville area. (Merkl et al.). ARKANSAS - Populations increasing, especially in early treated fields. (Ark. Ins. Rpt.). TEXAS - Heavy infestations causing damage to young cotton in the high plains. (Gaines).

WHITEFLIES - MISSISSIPPI - Infestations spotty in cotton over delta, with some heavy populations in Stoneville area. (Merkl et al.).

SPIDER MITES - GEORGIA - Light to heavy infestations in 58 fields checked. (Robertson, Johnson). TENNESSEE - Causing severe spot damage to cotton in Dyer, Obion and Lake Counties. Growers confusing mite damage with rust most cases and are letting infestations get out of hand. Spot control has been very effective so far. (Locke). MISSISSIPPI - Infestations general over delta counties. Damage has been reduced by heavy rains, but some fields will require control measures when rains have gone. (Merkl et al.). ARKANSAS - Increasing, spot treatments highly effective. (Ark. Ins. Rpt.). ARIZONA - Medium to heavy in Maricopa County, with considerable damage in some cotton fields. (Ariz. Coop. Sur.). CALIFORNIA - Sharp increase on cotton occurred in Tranquility-San Joaquin-Helm and Burrell areas, Fresno County. (L. A. Ruud).

LYGUS BUGS (*Lygus* spp.) - CALIFORNIA - Continue to increase in cotton in Helm-Kearney Park area of Fresno County. (L. A. Ruud). ARIZONA - Continue very heavy in cotton, statewide. Counts average 15-25 per 100 sweeps, with heavy square damage. Average percent punctured squares was 42 in 10 fields in Maricopa County. (Ariz. Coop. Sur.). NEW MEXICO - Remain a problem in cotton fields throughout State. (N. M. Coop. Rpt.).

FLEAHOPPERS - NEW MEXICO - Still a problem in cotton fields throughout the State. (N. M. Coop. Rpt.). TEXAS - Continue to be a problem in isolated areas of the high plains and on young cotton in north central and northeast areas. (Gaines). OKLAHOMA - *Psallus seriatus* counts ranged 10-20 per 25 plants in 2 cotton fields in Kiowa and Caddo Counties (Hudson) and counts light in cotton field in Marshall County (Vinson).

(Weather continued from page 696)

Dry conditions have now been alleviated east of the Mississippi, except in portions of the Great Lakes and in widely scattered local areas elsewhere. Some areas of the Gulf coastal states have received excessive early summer totals. July rainfall at New Orleans, for example, totaled 18.12 inches through the 25th, and now exceeds an 88-year record by 5 inches and is $2\frac{1}{2}$ times normal; almost 36 inches of rain has fallen there in the past 66 days. Extremely hot afternoon temperatures, reaching well above 100° in the Dakotas, Montana and Wyoming at the beginning and end of the week, combined with no general beneficial rains, have resulted in growing soil moisture shortages over much of the northern Great Plains. West of the Rockies the sustained hot and generally dry weather continued in most sections throughout the week. Some moderate, locally heavy, thundershowers provided moisture in scattered areas of Utah, Nevada and Arizona. Severe thunderstorms with high winds and hail in Arizona on the 26th caused locally heavy damage. Some very light rain in western Washington, and scattered showers in Idaho, Oregon and California left no significant amounts of precipitation. Maximum temperatures well above 100° were again common throughout the Western States during the week, except along the immediate coast. Lewiston, Idaho, recorded 109° on Thursday, an alltime record for that place; Vale, Oregon, also reported 109°, and Needles, California, 118°. Range and nonirrigated crops are very dry in the Western States; forest fire danger is high with lightning-induced fires reported in eastern Oregon; and some irrigation water shortages are developing. (Summary supplied by U. S. Westher Bureau).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

JACK-PINE BUDWORM (Choristoneura pinus) - WISCONSIN - Eggs hatching in northwestern counties. Pupal parasitism has been heavy in some areas. (Wis. Coop. Sur.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - COLORADO - Possibly this species, causing considerable damage to pine on Cheyenne Mountain, El Paso County. (St. For. Serv., July 21).

NANTUCKET PINE MOTH (Rhyacionia frustrana) - OKLAHOMA - Second-generation moths began emerging July 20-24 at Stillwater. (Bieberdorf).

BARK BEETLES - SOUTH CAROLINA - Kills by Ips spp. encountered occasionally, especially in Williamsburg, Florence, Darlington and Chesterfield Counties. Considering statewide dry weather, losses are light. Dendroctonus terebrans infestations far fewer than in 1958. Attacks to living trees encountered only in Oconee, Pickens, Greenwood and McCormick Counties, with no kills present. (Nettles et al.)
NORTH CAROLINA - Small outbreak of D. terebrans observed in Cherokee County July 2. (Howell).

WHITE-PINE WEEVIL (Pissodes strobi) - VIRGINIA - Larvae have killed leaders on 25 of 75 young white pines at Claytor Lake, Pulaski County, (Morris) approximately 30 percent of trees in another area of the same county (Bishop, Chappell) and damaged white pines in a Rockbridge County area (Amos).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - WISCONSIN - Larvae have caused severe defoliation of pines in one northwestern location, with some 3-foot trees completely stripped. (Wis. Coop. Sur.).

LARCH SAWFLY (Pristiphora erichsonii) - WISCONSIN - Larval defoliation of larch prominent in many stands across northern part of State and in parts of the central area. (Wis. Coop. Sur.). MINNESOTA - Larvae heavily parasitized by a dipteran, Bessa selecta, in area north of Independence, St. Louis County. (Minn. Ins. Rpt.).

SPIDER MITES - MINNESOTA - Tetranychus telarius populations building up on evergreens during present hot weather. (Minn. Ins. Rpt.). NORTH DAKOTA - Infestations of undetermined species range light to severe on juniper plantings in southwestern area. (N. D. Ins. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - NEW YORK - Nearly mature larvae have been found on Long Island. (N. Y. Wkly. Rpt.). DELAWARE - Remains abundant statewide on several hosts. Now abundant on white pine in Kent County. (Burbutis, Mason). MISSOURI - Troublesome in southeastern area of State, primarily on evergreens. (Wkly. Rpt. Fr. Grs.).

FALL WEBWORM (Hyphantria cunea) - DELAWARE - Abundant on wild apple along roadsides in Sussex County. (Burbutis, Mason). SOUTH CAROLINA - Abundant throughout most of State, with light to moderate defoliation to several hardwoods. (Nettles et al.)
NEW MEXICO - Heavy on cottonwood trees throughout most of State. Most severe infestations are in Eddy and Lea Counties, where some trees are almost completely defoliated. (N. M. Coop. Rpt.).

A GEOMETRID (Calocalpe undulata) - WEST VIRGINIA - Heavy on wild black cherry in localized areas of Preston and Monongalia Counties. (W. Va. Ins. Sur.).

GYPSY MOTH (Porthetria dispar) - NEW YORK - Control program in Delaware and Otsego Counties completed on June 11, with total of 85,560 acres treated. No larvae have been found to date in treated areas. VERMONT - Controls have been completed on 137 acres in Charlotte and 40 acres each in Salisbury and Shelbourne.
MASSACHUSETTS - Controls have been applied to 300 acres. CONNECTICUT - A total of 8,500 acres were treated. RHODE ISLAND - Controls have been applied to 35,293 acres. (PPC, East. Reg., June Rpt.). MICHIGAN - It is planned to trap some 1,800 square miles in the State, using approximately 5,000 traps. (PPC, Cent. Reg., June Rpt.).

MIMOSA WEBWORM (Homadaula albizziae) - VIRGINIA - Heavy on a number of mimosa trees in southern Southampton County. (Morris). FLORIDA - Larvae heavy on mimosa tree at Pensacola, Gadsden County. (Fla. Coop. Sur.). ALABAMA - Heavy on mimosa trees in Lee County. Activity much wider spread than at same time in 1958. (Grimes). OHIO - Damaging honeylocust and albizzia in southwestern area of State, particularly in Hamilton, Montgomery and Green Counties. An occasional honeylocust almost defoliated. Adults emerging in relatively large numbers. (R. B. Neiswander, M. Flake).

OAK SKELETONIZER (Bucculatrix ainsliella) - OHIO - Feeding by high larval populations during June and early July caused severe browning and disfigurement of red oak foliage in scattered sections of Cleveland. (Griswold).

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) - MASSACHUSETTS - Appeared early in July in Norfolk County and has been reported quite generally in eastern part of the State during the month. (PPC). RHODE ISLAND - Heavier than usual and primarily on white oak statewide. Causing considerable comment. (Mathewson, Hansen). OHIO - Very heavy on white oaks in vicinity of Wooster, Wayne County, and causing strong discoloration, curling and dropping of foliage. (Griswold).

A SPINY ELM CATERPILLAR - NORTH DAKOTA - Scattered larval infestations continue in eastern part of State. Defoliation severe in sections of some shelter-belt plantings. (N. D. Ins. Rpt.).

WALNUT CATERPILLAR (Datana integerrima) - ILLINOIS - Feeding heavily on walnut trees in many parts of the State. (Ill. Ins. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - A heavy infestation occurred on an elm tree in El Cajon, San Diego County. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - RHODE ISLAND - Appears generally heavier for this time of year than for last several years in Providence County. (Mathewson).

LOCUST LEAF MINER (Chalepus dorsalis) - WEST VIRGINIA - Moderate on locust statewide, but much lighter than in 1957 and 1958. (W. Va. Ins. Sur.). INDIANA - Causing serious damage in localized areas of Decatur and Rush Counties. (Matthew, Macklin). ILLINOIS - Locust trees in central area of the State have been almost completely defoliated. (Ill. Ins. Rpt.).

ELM APHID (Myzocallis ulmifolii) - CALIFORNIA - Moderate to heavy on street elms in a local area of Auburn, Placer County. The first record in the county. (Cal. Coop. Rpt.).

AN ELM APHID (Myzocallis pulchellus) - CALIFORNIA - Heavy on street elms in Auburn, Placer County, and heavy honeydew production is causing unsightly foliage. This species is new to the county and to the State. (Cal. Coop. Rpt.).

APHIDS - MARYLAND - Undetermined species abundant on crapemyrtle at Severna Park, Anne Arundel County. (U. Md., Ent. Dept.). NORTH CAROLINA - Infestations of Myzocallis kahawaluokalani present in most crapemyrtle bushes around Ashboro. (Young, Farrier). IDAHO - Unidentified species are generally abundant on walnuts and maples in the Weiser area (Hackler) and on chrysanthemums in the Moscow area (Barr). UTAH - Pterocomma spp. extremely numerous on weeping willows about homes at Kanab, Kane County. Several species of predators have controlled infestations. (Knowlton). CALIFORNIA - Heavy populations of Pemphigus populi-caulis and Thecabius populi-monilis occurred on cottonwood trees in San Andreas, Calaveras County. Myzocallis spp. heavy on oaks in San Francisco. (Cal. Coop. Rpt.).

A MIRID (Neoborus pacificus) - CALIFORNIA - Heavy on ash trees in San Jose, Santa Clara County. (Cal. Coop. Rpt.).

A SCALE INSECT (Chionaspis sylvatica) - WEST VIRGINIA - Heavy on blackgum trees in localized areas of Hardy County. Det. H. Morrison. (W. Va. Ins. Sur.).

PEAR LEAF BLISTER MITE (Eriophyes pyri) - CONNECTICUT - Moderately abundant on mountain ash foliage in northwest part of State and scattered locations elsewhere. Affected trees heavily infested. Det. J. P. Johnson. (Schread).

A WEEVIL (Brachyrhinus cribricollis) - CALIFORNIA - Heavy infestation damaging roses and pittosporum in Riverside, Riverside County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Aedes sollicitans biting at rate of 100-150 per minute in Carteret County on July 20 and 50 or more per minute in Pamlico, Beaufort and Carteret Counties on July 24. (Ashton). MINNESOTA - During the period July 14-18, biting collections at dusk were 77 percent Aedes vexans and 20 percent A. trivittatus, while during normal working hours in the field, collections were 62 percent A. vexans and 34 percent A. trivittatus. A. vexans comprised 92 percent of light trap collections and 70 percent of larval collections. (Minn. Ins. Rpt.). WISCONSIN - Nighttime populations of A. vexans will continue high for a time, and there will be increased daytime biting by A. dorsalis. Culex pipiens is invading homes. (Wis. Coop. Sur.). OREGON - Mosquitoes, especially Aedes spp., are only 5-10 percent as numerous as in past years along shores of Crescent Lake, Klamath County. Apparently due to a dry year and subsequent scarcity of standing water along margins. (Vertrees).

MOSQUITOES (undetermined) - WISCONSIN - A moderate problem in most counties, but populations are heavy in some counties. (Wis. Coop. Sur.). UTAH - Annoying in areas of Carbon, Tooele, Rich, Piute and in Garfield Counties. Causing some annoyance in areas of Duchesne County; however, generally less troublesome than at same time in 1958. Extremely numerous in Manila, Glenwood and Sheep Creek areas of Daggett County. Residents and livestock severely annoyed. (Knowlton).

A MUSCID (Musca autumnalis) - OHIO - Continues abundant on faces of cattle over wide areas. Has also been observed on sheep, ponies and riding horses. At present it is by far the most annoying fly species on cattle in the State. Oviposition has been observed in fresh cow dung in pastures, where larvae are abundant. (C. R. Neiswander). ILLINOIS - Numbers ranged 1-30 or more around nose and eyes of beef cattle at Urbana. Det. W. Downes. (Ill. Ins. Rpt.). This is the first ARS record of this species from Illinois. INDIANA - Observed on cattle in pastures in Benton, Warren, Tippecanoe and Washington Counties. (Matthew, Dobson).

A SARCOPHAGID (Wohlfahrtia opaca) - UTAH - It is estimated that this species has cost the mink growers of the State over \$1,000,000 during 1959. This is possibly the most serious year experienced by this business in the State. (Knowlton).

HORN FLY (Siphona irritans) - OKLAHOMA - Averaged 500 per head on 40 cows and 1,000 per head on bulls checked in Kay and Noble Counties. (VanCleave, Pennington). Averaged 150 per cow on 15 checked in Troy area and 600 per animal on 20 checked in Coleman area, both in Johnston County. (Vinson). NEW MEXICO - Populations extremely heavy on cattle in San Miguel County. (N. M. Coop. Rpt.). UTAH - Light to numerous in Panguitch, Hatch and Panguitch Lake areas of Garfield County and in Paragonah-Kanarraville area of Iron County. Numerous on cattle near St. George and Kanab in extreme southern part of State and in Heber-Midway area of Wasatch County. (Knowlton).

TABANIDS - DELAWARE - *Tabanus atratus* adults numerous in Kent and New Castle Counties. (Burbutis, Mason). **LOUISIANA** - *Tabanus* sp. averaged better than 3 collected per 15-minute trapping period in Calcasieu, St. Landry, Caddo and Tensas Parishes. (Spink). **UTAH** - Unidentified species troublesome to cattle in several canyons in Garfield County and in areas of Rich and Piute Counties. *Tabanus* spp. severely annoying to livestock in local areas of Duchesne, Uintah, Tooele and Box Elder Counties. (Knowlton). *Chrysops* spp. extremely numerous and severely annoying to residents and livestock in areas of Daggett County and in mountains about Posey Lake north and in Escalante. Also annoying in areas of Duchesne, Wasatch and Tooele Counties. (Knowlton, Thornley, Lindsey).

BLACK FLIES - INDIANA - Large, compact masses in ears of hogs. Several herds involved in Dearborn County. (Chandler).

MASKED HUNTER (*Reduvius personatus*) - **IDAHO** - Unusually abundant this year in Moscow area; being attracted to lights and entering homes, with many complaints from householders. (Barr).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (*Trogoderma granarium*) - **TEXAS** - One new infested property was found in the El Paso section, bringing the total infested properties in this area to 22. A total of 264 properties were inspected during the month. Fumigation of the newly infested property was begun the last 2 days of the month. **OKLAHOMA** - Surveys were conducted in 12 counties, involving 2,888,700 cubic feet of grain and storage space in 38 establishments. **ALABAMA** - Negative results were obtained from inspections. **FLORIDA** - In Volusia County, 6 feed stores and one storage warehouse were surveyed. (PPC, So. Reg., June Rpt.). **ARIZONA** - Two new infestations were found during June in Maricopa County. (PPC, West. Reg.).

FLAT GRAIN BEETLES (*Laemophloeus* spp.) - **NEBRASKA** - Moderate numbers in shelled corn and sorghum bins in Syracuse and Unadilla. (Roselle).

INDIAN-MEAL MOTH (*Plodia interpunctella*) - **NEBRASKA** - Heavily infesting numerous bins of shelled corn and sorghum at Syracuse and Unadilla. (Kantack, Webb).

BENEFICIAL INSECTS

LADY BEETLES - NEBRASKA - Counts of *Hippodamia* spp. in alfalfa fields in southeastern part of State are gradually increasing; now range 2-17 per 10 sweeps. (Webb). **OKLAHOMA** - *H. convergens* averaged as high as 10 per sweep in few alfalfa fields heavily infested with aphids in northern Alfalfa County and less than 2 per sweep in alfalfa fields in remaining portions of northwest and north central areas. (VanCleave, Pennington, Owens). **IDAHO** - Populations of late-instar larvae of undetermined species averaged 3 per sweep in alsike clover fields in Cavendish, Kamiah and Grangeville areas. Few pupae present. (Portman).

SYRPHIDS - IDAHO - Late-instar larvae of undetermined species averaged 2 per sweep in alsike clover fields in Cavendish, Kamiah and Grangeville areas, with a few pupae present. (Portman).

ALKALI BEE (*Nomia melanderi*) - **WYOMING** - Population very low in Riverton area, where alfalfa seed is produced. (Davison).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (*Popillia japonica*) - **RHODE ISLAND** - Heavy, localized adult emergence occurred in North and South Kingstown. (Mathewson, Hansen). **NEW YORK** - Heavy infestation in central Suffolk County. (N. Y. Wkly. Rpt.). **VIRGINIA** - Approximately 120 acres in city of Danville were treated for control. (PPC, East. Reg., June Rpt.). **SOUTH CAROLINA** - This is first year numbers have been sufficient to cause damage to crops in Spartanburg County. (Nettles et al.).

NORTH CAROLINA - Adults were trapped for the first time in Moore and Hoke Counties.
TENNESSEE - Adults were trapped for the first time in Greene and Loudon Counties.
GEORGIA - Foliage treatments were applied to 225 acres about the Atlanta Airport, where the population was exceedingly high. Adult control was very satisfactory. (PPC, So. Reg., June Rpt.).

FALSE CHINCH BUG (Nysius ericae) - OREGON - Causing concern in localized area north of Medford, Jackson County, by moving in large numbers on to properties and into homes, apparently from cut and drying grain in adjoining fields. (Berry).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - During June, this pest was found for the first time in Calhoun County, MISSISSIPPI, and Dallas County, TEXAS. Acreages treated during June were : 24,364 in Union County, ARKANSAS; 28,897 in FLORIDA; 4,537 in GEORGIA; 2,428 in 21 parishes of LOUISIANA; 3,753 in MISSISSIPPI; 136 acres in NORTH CAROLINA, including 60 acres of infestations in Carteret County; and some 7,219 acres in TEXAS. (PPC, So. Reg.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEW JERSEY - Becoming pests in homes as they search for hibernation quarters. (Ins. Dis. Newsl.).

CORRECTIONS

CEIR 9(28) : 618 - EUROPEAN CORN BORER - ILLINOIS - Last statement should read: "An estimated 0.5 percent of the fields in western and northern areas warrant treatments."

CEIR 9(29) : 663 - Leucinodes orbanalis should read Leucinodes orbonalis. It is suggested that BRINJAL BORER may be preferable as a common name for this species. (PPC).

CEIR 9(30) : 668 - Under highlights, note on EUROPEAN CHAFER should read: "First collection since 1954 at this location."

ADDITIONAL NOTES

NEW YORK - EUROPEAN CORN BORER (Pyrausta nubilalis) present as larger larvae, pupae, moths and second brood eggs. Moth emergence in cages in Hudson Valley area at peak July 20 and declined sharply thereafter. CORN EARWORM (Heliothis zea) eggs and small larvae readily found at Salt Point in Dutchess County, July 21. (N. Y. Wkly. Rpt.).

NEVADA - PEA APHID (Macrosiphum pisi) averaged 5 per sweep and LYGUS BUGS averaged 50 nymphs and adults per sweep in hayfields in Baker area, White Pine County. PEAR-SLUG (Caliroa cerasi) continues heavy, locally, on pear and cherry trees and APHIDS and MITES are very heavy on ornamental and shade trees in southern Washoe County. EUROPEAN ELM SCALE (Gossyparia spuria) is moderate to heavy on elms in northwestern area and Keonella confluens is light to heavy on willows in Reno-Sparks area of Washoe County. Light trap surveys for PINK BOLLWORM (Pectinophora gossypiella) continue negative in Clark and Nye Counties. BOX ELDER BUG (Leptocoris trivittatus) is extremely numerous on sides of houses in Ely, White Pine County. (Bechtel et al.).

IOWA - Few second-brood EUROPEAN CORN BORER (Pyrausta nubilalis) adults taken in traps at Ames and Ankeny. One new egg mass found at Ankeny July 23. PEA APHID (Macrosiphum pisi) reported very abundant in alfalfa in Floyd County. SPIDER MITES are abundant on evergreens. (Iowa Ins. Inf.).

PENNSYLVANIA - ALFALFA WEEVIL (Hypera postica) has been found for the first time in Bradford, Lackawanna and Susquehanna. Det. by W. H. Anderson and R. E. Warner. (Newton).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ALABAMA						
Auburn 7/17,24			33		2	60 7
ARKANSAS						
Fayetteville 7/16-22	4	7				30
Hope 7/16-22	4	7				10
Kelso 7/16-22	8	2				7
*Morrilton 7/16-22	6	6	39			13
FLORIDA						
Gainesville 7/14,22					2	5 1
Quincy 7/13					3	9 4
ILLINOIS						
Urbana 7/17-23	16	45		24		
INDIANA (Counties)						
Lawrence 7/16,18,20	14	4		2	1 1	
Tippecanoe 7/16-23	172	49		27		
KANSAS						
Garden City 7/16,18-19	18	11		16	2	13
Hays 7/21,23	23	4		1		3
Manhattan 7/18-24	18	9		8	1 1	3
Wathena 7/18-21	15	14		9	2	2
LOUISIANA						
Baton Rouge 7/17-23			73			10
Franklin 7/20,23			15			1
MARYLAND						
Upper Marlboro 7/14-20	1	1			2 5	
MISSISSIPPI						
*Stoneville 7/17-23	43	19	35	2	6	91 4
MISSOURI						
Columbia 7/19-24	40	50	12		6	
Sikeston 7/18-24	4	3		3		36
NEBRASKA						
Concord 7/8-14	236	59		38		12
Kearney 7/7-17	512	16	5	214	5 1	70 2
Lincoln 7/11-18	238	212		99		25
North Platte 7/7-21	655	59	6	208	26 1	18 4
Scotts Bluff 7/10-23	130	37		97	2	1
NORTH CAROLINA						
Clayton 7/23		4			2 2	3
Faison 7/17		2			4	10
SOUTH CAROLINA						
Clemson 7/18-24	17	4		11	1 7	7
TENNESSEE (County)						
Blount 7/14-20	15	3		1	1 2	2

(Continued on page 717)

*Two traps - Morrilton; 3 traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
TEXAS						
Brownsville 7/11-17		14	356		6	1 385 65
Waco 7/18-24	16			40		585 5
WISCONSIN						
Antigo 7/13-18	13					
*Arlington 7/14-20	496	162		168	4	
Beaver Dam 7/14-20	461					
Fox Lake 7/14-20	147					
Janesville 7/14-20	1044					1
Johnsburg 7/14-20	81	27		21		
La Crosse 7/15-19	235	34		30		1
Middleton 7/14-20	129	35		46		
Platteville 7/14-20	1543	156		198		3
River Falls 7/14-20	48			3		
Stevens Point 7/14-20	1			4		
*Theresa 7/14-20	449					
Waterford 7/14-20	135					

*Two traps - Arlington; 3 traps - Theresa

MUSCA AUTUMNALIS, A NEW PEST OF CATTLE IN THE UNITED STATES

Economic Importance: Recently a muscid fly was found to be particularly abundant and seriously annoying on cattle in Ohio and Indiana. Specimens from these States were determined by C. W. Sabrosky as Musca autumnalis Deg., a species new to the

Ohio-Indiana area. In mid-July, it was reported as the most abundant fly on cattle in Ohio. As many as 50 adults per face have been recorded in that State, while in east central Indiana an average of 100 per animal was reported. The pest seems to be widely distributed in those areas. Musca autumnalis was first found in North America in 1952 in Nova Scotia, Canada. The first United States record was from Long Island, New York, in 1953. Although this species has been known in the Old World for many years, it has been regarded primarily as a nuisance in buildings where it hibernates in the fall. Late in 1958, however, a report from Ontario, Canada, stated that the fly was abundant in that area and was causing annoyance to cattle.



Flies on Face of Cow

(Photo courtesy of Ohio Exp. Sta.)

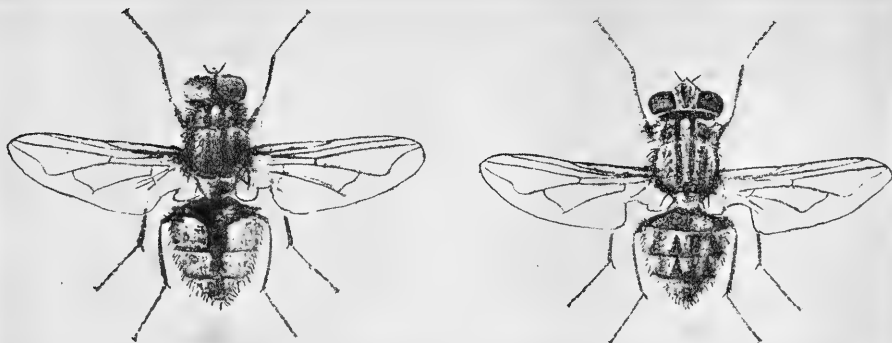
Distribution: Parts of Canada and the United States (New York, Maine, Virginia, Ohio, Indiana, Illinois), Europe (including British Isles), Israel, Kashmir and China (Shantung).

Hosts: Adults feed on mammals, larvae in cow dung and other kinds of excrement.

Life History and Habits: Details on life history of M. autumnalis are not available, but some important habits have been reported. Larvae develop in cow dung and various other kinds of excrement. Pupation occurs in the soil around the excrement. Adults suck blood and other exudations from the surface of mammals

but cannot pierce the skin. Flights occur normally from early spring until late autumn. The males are often seen in large numbers, congregating in the sun on fences or tree trunks. They seem especially fond of white surfaces and tend to leave the animals when they enter barns, stables or other shelters. Adults hibernate in large numbers in buildings. Preliminary observations in Ohio indicate that the adults accumulate primarily on faces of cattle, under and around the eyes, in and around nostrils, and at the lips (see photograph).

Description: The EGG is stalked; LARVAE, when mature, have a characteristic yellow color. The ADULT is larger than Musca domestica. MALE eyes closely set, practically meeting, separated by less than the width of ocellar triangle. (In M. domestica male, eyes separated by at least twice width of ocellar triangle.) Abdomen, orange-yellow with black median stripe; first tergum black. Gena or cheeks, white; thorax, bluish-gray, pollinose anteriorly with four dark stripes. FEMALE - Vertex wider than male, similar to M. domestica, but distinguished from it by the breadth of the frontal stripe, which is less than twice that of one of the orbits, whereas in domestica the frontal stripe is 3 or 4 times as wide. In autumnalis, orbital stripe gray, pollinose, at least half as wide as black median frontal stripe. In domestica female, orbital stripe golden-yellow below, black above, at most one-third as wide as frontal stripe. Gena or cheeks, gray. Thorax of M. autumnalis slate-gray with four broad black stripes, abdomen, grayish-green. Autumnalis also differs from domestica in that it has, on the middle of the propleura base and the ridge above the thoracic squama, a few fine bristles on its inner end. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies. Special material for the conditions in Ohio furnished by C. R. Neiswander and R. P. Holdsworth). CEIR 9(31) : 7-31-59.



Male and Female of Musca autumnalis

Photograph of flies on face of cow furnished by Department of Public Relations, Ohio Agricultural Experiment Station. Figures of male and female from Patton, W. S. 1931. Insects, Ticks, Mites, and Venomous Animals of Medical and Veterinary Importance. Part II. Public Health. 738 pp., Croydon.

STATUS OF SOME IMPORTANT INSECTS IN THE UNITED STATES

PEPPER MAGGOT (*Zonosemata electa* (Say))

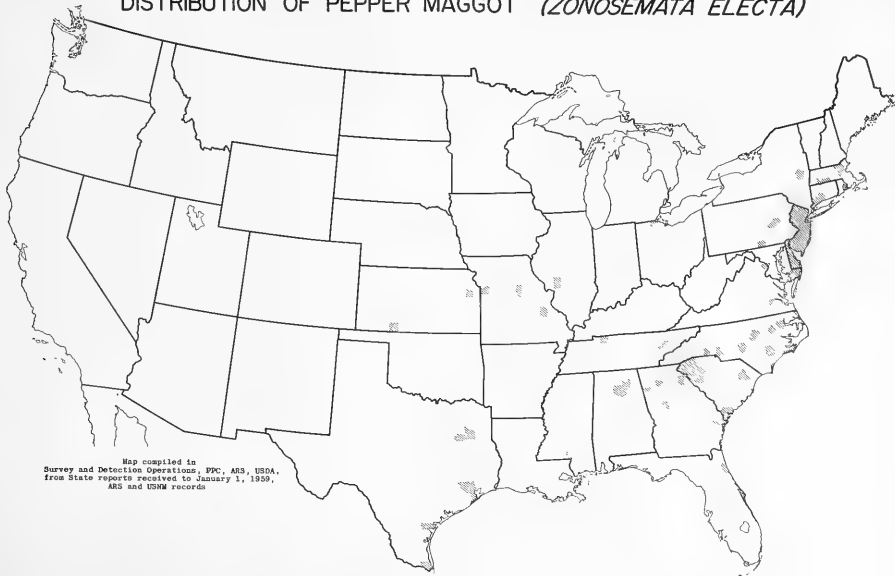
Economic Importance: Pepper maggot is an important, sporadic native pest of peppers. During 1956, pepper fields in areas of North Carolina, South Carolina and Georgia were heavily attacked. In the Piedmont of South Carolina, some pimiento pepper fields had up to 50 percent damage. In Cleveland County, North Carolina, the damage caused by this pest resulted in the temporary closing of pepper markets. Pepper maggot has been an important pest of peppers in New Jersey since about 1915. Peppers most subject to attack are generally one-half to one-fifth inch in diameter. Horsenettle is considered the original host of this insect.

Distribution: As far as known *Z. electa* occurs only in the United States. Its distribution extends from New York and Massachusetts to Indiana and southward to Florida and Texas. (See Map).

Hosts: Feeds on the nightshade family. Recorded hosts are Carolina horsenettle, eggplant, pepper, silverleaf nightshade, soda-apple nightshade, taperleaf groundcherry and tomato.

Life History and Habits: Studies conducted in New Jersey revealed the following data. There is but one generation a year. Adults are found in pepper fields from June 25 to August 25. Maximum fly population and peak oviposition are from about July 15 to August 10. In the field, both sexes are found resting on various parts of the plants; but preferably on small peppers from 0.5 to 1.5 inches in diameter. Adults are active in daylight hours; however, during the middle of the day in hot, bright weather they seek shade. Before ovipositing,

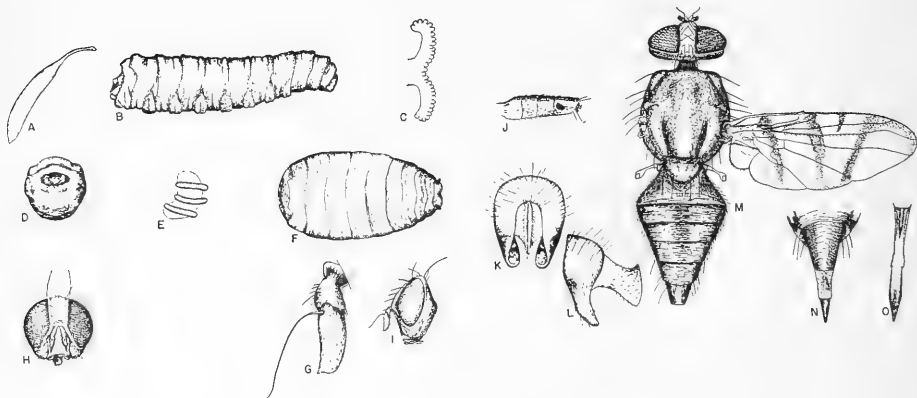
DISTRIBUTION OF PEPPER MAGGOT (*ZONOSEMATA ELECTA*)



Map compiled in
Survey and Detection Operations, PPC, AES, USDA,
from State reports received to January 1, 1959,
AES and USNM records.

the female walks over a young pepper looking for a suitable point to oviposit. Not all punctures contain eggs. Eggs hatch in 8 to 10 days. Some young larvae may feed at the point of emergence, but eventually they migrate to the core where they remain and feed 2 to 3 weeks until full grown. As pupation nears, larvae seek an exit point. Mature maggots usually burrow 2 to 4 inches into the soil, as deep as 10 inches in sandy types, pupate, and remain there until the following spring.

Description: EGG is quite large, about 2 to 2.2 mm. long and 0.3 to 0.35 mm. wide; opaque white and resembles a summer crooked-neck squash. Newly hatched LARVA is about 1.5 mm. long and when mature is from 11 to 12 mm. in length and 3 mm. in diameter. Generally, the maggot resembles a short-pointed peg. When small, the larva has a translucent white color with the trachea visible. As the larva matures, it turns opaque white and when mature it has a yellow tint. The caudal spiracles are brown and rather small, while the cephalic spiracles are yellow and quite large. The PUPA is about 8 mm. long and 4 mm. wide. The puparium is heavily chitinized and distinctly medium buff-brown. The ADULT is brightly colored and yellow striped. The head is pale yellowish; eyes, green; thorax, honey-yellow; abdomen, pale yellow, last segment with a black dot on each side; wings, clear with brown bands. Legs are yellowish, with short black bristles on the under sides. The male is about 6.5 mm. long and its wing measures about 5.6 by 2.4 mm. The female is about 7.5 mm. long and its wing measures about 6.5 by 2.4 mm. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 9 (31): 7-31-59.



Figures of *Zonosemata electa*: A, Egg; B, larva (side view); C, anterior spiracle of larva; D, larva (rear view); E, posterior spiracle of larva; F, puparium (upper aspect); G, antenna of adult male; H, head of adult male (front view); I, same (side view); J, abdomen of adult male (side view); K, male genitalia (from anal end); L, same (side view); M, adult female; N, ovipositor sheath showing ovipositor partly extruded (from below); O, ovipositor (from below).

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Threatening to severe GRASSHOPPER infestations in several North Dakota counties; severe damage to late crops may be expected. CORN LEAF APHID infestations on corn heavy in areas of Indiana and Ohio, abundant in northeast and northwest Illinois and light to heavy in barley and oats in several Idaho counties. CORN EARWORM infestations heavy on corn in New Mexico. (p. 725). SORGHUM WEBWORM very heavy in late sorghum in areas of Brazos and Burleson Counties, Texas. SPIDER MITES heavy in sorghum in areas of Arizona and New Mexico. (p. 726).

PEA APHID damaging alfalfa in areas of Idaho, Utah and Wisconsin. POTATO LEAFHOPPER at highest level in 2 years in alfalfa in New Jersey. (p. 727). RED-NECKED PEANUTWORM and VELVETBEAN CATERPILLAR damaging peanuts in south-eastern Alabama. (p. 728).

BOLL WEEVIL infestations continue to increase in several states. (p. 733). Two PINK BOLLWORM adults trapped outside 1958 infested area in Maricopa County, Arizona. (p. 734). LYGUS BUGS continue to damage cotton in California, New Mexico and Arizona. (p. 735).

JEFFREY PINE BEETLE killing mature Jeffrey pines on several thousand acres in area of Plumas National Forest in California. (p. 736).

A MUSCID (Musca autumnalis) continues troublesome to livestock in Ohio, Indiana, Illinois and New York. (pp. 737,741).

INSECT DETECTION: New county records in California include rice water weevil in Sutter County (p. 727) and Cotinis texana for Kern County (also first record north of Tehachapi Mountains). (p. 730). Spanogonicus albofasciatus officially recorded for first time in Nevada. (p. 732).

A RICE DELPHACID (Sogatia orizicola) and the rice disease (hoja blanca) reported for first time in Louisiana in 3 fields in St. Tammany Parish. (p. 735).

ADDITIONAL NOTES (p. 741).

INTERCEPTIONS of special interest at U. S. ports of entry. (p. 742).

Reports in this issue are for the week ending July 31, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

AUGUST 1959

The Weather Bureau's 30-day outlook for August calls for temperatures to average above seasonal normals over most of the Nation, except for below normal over the Southeast and near normal over the Southern Plains, Ohio Valley and Middle Atlantic States. Greatest unseasonal warmth is expected over the Northern Plains. Precipitation is expected to be subnormal over most of the Great Plains and Middle Mississippi Valley. Above normal rainfall is indicated east of the Appalachians and south of New England, as well as over the Plateau States. In unspecified areas, about normal amounts are indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING AUGUST 3

This week brought above-normal temperatures to most sections of the Nation. Cool, dry air, covering the Pacific Northwest early in the week, spilled into the northern Great Plains and the Great Lakes and into the Middle and North Atlantic States over the weekend, displacing briefly the extreme heat and high humidity prevalent east of the Rockies for most of the week. Some extremely cool temperatures for August were reported, including 29° at Drummond and West Yellowstone, Montana, and 31° at Saranac Lake, New York, with 40° to 50° levels at lower elevations across the northern tier of states, but relief was very brief in most of the Great Plains and the Far West where high 90° and 100° readings returned later in the week.

Rainfall in all sections was of the spotty shower and thunderstorm type. Precipitation from the east central Great Plains to the Atlantic coast was locally heavy, but quite variable. Strong, gusty winds were reported in connection with many of the more severe thunderstorms. Excessive amounts over eastern Nebraska and northwestern Iowa included 9.30 inches in 24 hours at Schuyler, Nebraska. Additional substantial scattered precipitation was reported from the Gulf States and Middle Atlantic and Ohio Valley areas. Tampa, Florida, has received more precipitation so far this year than is normally expected for a full 12 months. Although widely scattered showers fell, generally dry weather continued in most of New England, in the upper Great Lakes, the extreme northern Great Plains, and from the Rockies westward. Much of northern New England, northern Wisconsin and Minnesota, the Dakotas, and all of the western States are very dry. Thunderstorms started several range and forest fires in Idaho and California and high fire hazard continues throughout the West. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - IDAHO - Late instar nymphs and adults of undetermined species abundant on pastures bordering Little Salmon River north of New Meadows. (Foote). UTAH - Spotted grasshopper damage in Iron County. Melanoplus packardi dominant species in some outbreaks. Grasshoppers causing moderate injury to alfalfa in several areas of Emery County. (Knowlton). KANSAS - Counts ranged from less than 1 in crops to 5 per square yard in field margins in southeastern, east central and northeastern counties. Dominant species was M. femur-rubrum (second and third instars). (Peters). NEBRASKA - Extensive damage by grasshoppers leaf-feeding on corn noted locally in Cuming County. Controls were effective. (Webb). SOUTH DAKOTA - Grasshoppers averaged 7 per square yard in alfalfa in northeast area. Marginal counts averaged 11 per square yard. M. femur-rubrum dominant species. (Mast). NORTH DAKOTA - Threatening to severe infestations of grasshoppers in Divide, Burke, Renville and Bottineau Counties. Leaf stripping common in small grains with some head clipping observed. Adults dispersed through most fields. Counts of 8-10 and 10-20 per square yard common. Severe damage to late crops may be expected following small grain harvest in these areas. (N. D. Ins. Rpt.). WISCONSIN - M. femur-rubrum nymphs averaged 5 per square yard in alfalfa in Jackson, Chippewa, Dunn, Eau Claire, Clark, Wood and Monroe Counties, with highest counts up to 10 per square yard. In north central part of Columbia County, counts ranged 10-35 per square yard, and in northwestern Green Lake County, counts 25-50 per square yard. Nymphs ranged from third to fourth instars in aforementioned counties. (Wis. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - IDAHO - Light to heavy in barley and oats in Fremont, Bonneville and Bingham Counties. Widespread occurrence of yellow dwarf disease observed. (Bishop). Abundant on 300 acres of barley near Idaho Falls. (Kohl). Heavy on barley in Jefferson County, especially near Mud Lake. (Gooch). WYOMING - First of season found on corn tassels in Goshen and Laramie Counties. Populations very low at present. (Davison). UTAH - Damaged a number of barley fields in Emery County. (Knowlton). NEW MEXICO - Field corn in northern Dona Ana County heavily infested. Light to heavy infestations on corn and grain sorghum in Luna County. (N. M. Coop. Rpt.). WISCONSIN - Populations vary considerably, but distribution is general with over 60 percent of plants noticeably infested in many corn fields. (Wis. Coop. Sur.). ILLINOIS - Abundant in northeast and northwest sections of State. Considering only those heavily infested, the maximum field had 20 percent infestation, the average ranges between 2 and 4 percent. (Ill. Ins. Rpt.). INDIANA - Heavy infestations on field corn tassels in Jay, Grant, Benton and Allen Counties. (Matthew). OHIO - Severe infestation throughout northwestern area; many fields with 25-50 percent of plants with colonies. (C. R. Neiswander). DELAWARE - Present in all counties. Alate forms more numerous than apterous forms, colonies increasing. (Burbutis, Mason).

CORN EARWORM (Heliothis zea) - IDAHO - Increasing in sweet corn in Parma area, but numbers low. Up to 10 percent of ears infested some fields. (Scott). UTAH - Damage light in Cache, Box Elder and Salt Lake Counties. (Knowlton). NEW MEXICO - Heavy, severely damaging field and sweet corn throughout State. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 5 and 11 percent in two sorghum fields in Tillman County and 17 percent in sorghum field in Cotton County (Hatfield); 8 and 15 per 100 terminals in 2 peanut fields in Marshall County; and infested 10-25 percent of terminals in peanut field in Crescent area and 5 fields in Caddo County (Walton, Manley). NEBRASKA - Few larvae noted in corn in Hall and Cuming Counties. (Webb). MARYLAND - Ear infestations in sweet corn reaching maturity, 1-9 percent in Queen Annes and Talbot Counties. (U. Md., Ent. Dept.).

FALL ARMYWORM (Laphygma frugiperda) - MISSOURI - In southwest, 6-12 percent of late-planted corn infested with 1 larva per stalk. (Kyd, Thomas, Munson). MARYLAND - First infestations of season on early sweet corn in Queen Annes County. Injury light and spotty. (U. Md., Ent. Dept.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - DELAWARE - Young second-brood larvae and fifth-instar larvae of first generation present in ears of field corn in Sussex County. (Burbutis, Mason). MARYLAND - Second-generation eggs and larvae light on late corn in all sections. (U. Md., Ent. Dept.). VIRGINIA - Heavily damaging corn stalks in Charlotte County. (Rosell, Morton). ILLINOIS - First-generation borers per 100 stalks averaged 7.4 in northwest, 7.6 in northeast, 1.7 in east, 3.6 in central, 4.0 in west and 1.1 in west-southwest. Overall average was 4.2 borers per 100 stalks. In northern area, pupation varies 20-60 percent and some emergence has occurred. Populations of first generation lower than those of 1958, but percent of first-generation borers that pupate will apparently be greater. Therefore, second-generation populations expected to be about same as in 1958. (Ill. Ins. Rpt.). MISSOURI - Three to five percent pupation in extreme northern area. No emergence noted. (Kyd, Thomas, Munson). NEBRASKA - Intensive survey made in corn fields in Hall and Cuming Counties. In Hall County, 21.67 percent of stalks infested with 0.131 borers per stalk. In Cuming County, 37.55 percent of stalks infested with 0.286 borers per stalk. These numbers less than half those of 1958, but are more comparable to the infestations found in summer survey of 1957 in Hall and Cuming Counties. Of live borers found, 22.38 percent in Hall County and 15.13 percent in Cuming County in pupal stage. Emergence of first-brood adults evident in State. Eggs and larvae reported latter part of July in Merrick County. (Webb). SOUTH DAKOTA - Damaged plants with shot-holes averaged 13 per 100 in northeast area. No egg masses found. (Mast).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - ARIZONA - Continues to increase in central and southeast area sorghum. Many fields in Maricopa County have an average of 80 percent of stalks infested with larvae either in whorl or in base of stalk. (Ariz. Coop. Sur.).

A NOCTUID (Simyra henrici) - ILLINOIS - Larvae found in 15 of 50 corn fields in 5 western and northwestern counties. Populations varied from 1-9 per 100 plants. Sixteen percent of Simyra henrici observed killed by parasites. (Ill. Ins. Rpt.).

CUTWORMS - CALIFORNIA - Caused medium to heavy damage to corn and sorghum plantings in Glenn County. (Cal. Coop. Rpt., June Summ.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Very heavy in late grain sorghum in river bottom areas in Brazos and Burleson Counties. (Randolph). MISSOURI - First record of year noted in southwest. (Kyd, Thomas, Munson).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Causing heavy damage, 25-80 percent, to late grain sorghum in river bottoms in Brazos and Burleson Counties and in Bell County. (Randolph). OKLAHOMA - Counts 1-3 adults per seed head in sorghum fields checked at Perkins Experiment Station farm in Payne County. Plants in flowering stage. Adults coming from earlier planted fields were fairly numerous. (Henderson).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Medium on field and sweet corn in Columbia Furnace area of Shenandoah County; population seems to have become more intense in past 2 weeks. (Blaser).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - MISSOURI - Adults noted in silks of corn and heads of grain sorghum. Counts range from 3-8 per ear in corn and from 2-9 in grain sorghum. (Kyd, Thomas, Munson).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - NEBRASKA - Adults noted feeding extensively in whorls and on leaves of corn in southern counties; locally severe. (Roselle, Webb).

SPIDER MITES - ARIZONA - Heavy infestations in Yuma County sorghum fields. (Ariz. Coop. Sur.). NEW MEXICO - Heavy infestations damaging corn in Bernalillo County. (N. M. Coop. Rpt.). IDAHO - Populations of Tetranychus spp. increasing in red clover and alfalfa in southwestern area. Many fields have been treated. (Waters).

WHEAT STEM SAWFLY (Cephus cinctus) - NORTH DAKOTA - Fifth annual survey completed in 8 northwestern counties. Infestation in spring wheat is 2 percent lower than that recorded in 1958. Percent stems infested range 0-60, with average of 10 percent. Areas of heaviest infestation continue much the same as in previous years. (N. D. Ins. Rpt.).

HESSIAN FLY (Phytophaga destructor) - KANSAS - The 1959 survey showed a higher average percent infestation than for 1958, except for the southeastern area. The average percent infestation for 1958 was 0 in southwest, 0.2 in south central, 12.1 in southeast, 1.7 in northwest, 1.1 in north central and 1.9 in northeast. In 1959, the average percent infestation was 0.03 in southwest, 1.1 in south central, 6.3 in southeast, 16.7 in northwest, 3.6 in north central and 5.2 in northeast. (E. T. Jones).

WHEAT STEM MAGGOT (Meromyza americana) - WASHINGTON - Light damage on wheat at Davenport. (Pratt).

A RICE DELPHACID (Sogata orizicola) - TEXAS - Approximately 57,730 acres of rice surveyed for symptoms of hoja blanca disease (which this species transmits) in 17 counties with negative results. (Hawkins, PPC).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - CALIFORNIA - Light infestation in rice and watergrass reported from Yuba City and Nicolaus areas of Sutter County. First record in county. (Cal. Coop. Rpt.).

PEA APHID (Macrosiphum pisi) - IDAHO - Populations range from minor to severe in alfalfa in Jefferson County. Some wilting of second-cutting stands occurring and controls being applied. (Gooch). Severely injuring alfalfa in Bonneville and Bingham Counties. (Bishop, Portman). Extremely abundant on second-cutting alfalfa in Twin Falls County. Predators abundant. (Manis, Barr). UTAH - Causing some injury to scattered alfalfa fields in Cache and Emery Counties. (Knowlton). OKLAHOMA - None noted in survey of southwestern area alfalfa. (VanCleave, Latham). SOUTH DAKOTA - Averaged 3 per sweep in alfalfa in northeast area. (Mast). WISCONSIN - Some counties reporting moderate to heavy populations in alfalfa were Buffalo, Calumet, Dane, Oconto, Outagamie, Polk, Sauk, Trempealeau, Walworth, Waukesha and Winnebago. (Wis. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - MISSOURI - Counts range 3-45 per sweep in southwest and 0-4 in north and north central areas. (Kyd, Thomas, Munson). KANSAS - Found most alfalfa fields examined in southeastern, east central and northeastern areas. Counts less than one per sweep. (Peters). Increasing throughout Finney County. Populations vary greatly, 25-100 or more per sweep. (DePew). OKLAHOMA - Populations low in alfalfa in southwestern area. (VanCleave et al.). TEXAS - Light on alfalfa in Brazos and Burleson Counties. (Randolph). UTAH - Light in alfalfa in Washington, Iron and Beaver Counties. (Knowlton). ARIZONA - Light most alfalfa fields in Yavapai and Navajo Counties. (Ariz. Coop. Sur.). CALIFORNIA - Populations subsided during June over State as parasites, predators and fungus were very active. (Cal. Coop. Rpt., June Summ.).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Counts in alfalfa at highest point in 2 years survey, more than 10 per sweep in one field. (Ins. Dis. News1.). DELAWARE - Adults and nymphs common in New Castle County and present in Kent and Sussex Counties on soybeans. Adults present to common in alfalfa. (Burbutis, Mason). MARYLAND - Light on soybeans in Worcester County. (U. Md., Ent. Dept.). OHIO - Populations appear stable. Some severe injury present in fields across State; generally light to moderate. Adults range up to 3 per sweep. (Treecce). MISSOURI - Counts 1-3 adults per sweep in alfalfa in southwest and 5-25 nymphs and adults per sweep in north. (Kyd, Thomas, Munson). WISCONSIN - Very heavy in some alfalfa fields. Generally, nymphs and adults abundant, but yellowing appears more pronounced in sparse and latest cut alfalfa. (Wis. Coop. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MISSOURI - Counts 4-12 per sweep in ladino and red clover in southwest. (Kyd, Thomas, Munson).

LYGUS BUGS (Lygus spp.) - UTAH - Moderately numerous in alfalfa in areas of southwestern Utah and at Nephi in central area. (Knowlton). IDAHO - Populations appear to be increasing in southeastern and south central counties on alfalfa. Counts per 10 sweeps averaged 5-8 in Montpelier area, 3-5 near Preston, 8-10 near Aberdeen and 5-7 around Arco. Late instar nymphs 50-75 percent of population. (Foote). Light in alfalfa near Roseworth. (Barr, Manis). NEBRASKA - L. lineolaris populations building up to 25-30 per 10 sweeps in some alfalfa fields in southeastern area. (Webb).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - WISCONSIN - Populations in alfalfa vary, but high numbers of nymphs and adults found. (Wis. Coop. Sur.). SOUTH DAKOTA - Averaged 5 per 10 sweeps in northeast area. (Mast).

A NITIDULID (Meligethes nigrescens) - OREGON - More abundant than previous week on red clover in Willamette Valley, controls effective only temporarily due to rapid reinfestation. (Dickason, Crowell).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - IDAHO - Adults and larvae greatly reduced compared with same date in 1958. (Waters).

CLOVER LEAF WEEVIL (Hypera punctata) - CALIFORNIA - Medium to heavy infestations on alfalfa in Scott Valley, Siskiyou County. (Cal. Coop. Rpt., June Summ.).

BLISTER BEETLES - COLORADO - Epicauta sp. and E. fabricii populations migrated to edges of cut alfalfa in Larimer County; 60-100 per 100 sweeps. Areas in Crowley and Bent Counties being damaged. (Colo. Ins. Sur., July 27). TEXAS - Undetermined species heavy on alfalfa in Brazos and Burleson Counties. (Randolph). MARYLAND - Adults of undetermined species moderately injuring sweet corn silks in sections of Queen Annes County. (U. Md., Ent. Dept.).

ARMYWORMS (Laphygma exigua and Prodenia ornithogalli) - ARIZONA - Populations extremely heavy some alfalfa fields in central area; some fields almost completely defoliated. (Ariz. Coop. Sur.).

GARDEN WEBWORM (Loxostege similalis) - ARIZONA - Increasing in Maricopa County alfalfa fields. (Ariz. Coop. Sur.).

A PYRALID (probably Nomophila noctuella) - OHIO - Larvae observed in Trumbull County living in earthworm holes in June seeding of alfalfa. Apparently larvae cut off stems and leaves, dragging them into the holes where they are consumed. Mature larvae observed on July 23; larvae and pupae on July 27. One adult emerged in laboratory on July 29. On July 27, 36 percent of alfalfa stems injured. (Treece).

RED-NECKED PEANUTWORM (Stegasta basqueella) - ALABAMA - Heavy larval infestation observed in southeastern area. Extensive damage in Geneva, Houston and Henry Counties. Light infestations in Coffee County. (Grimes, McQueen, Carter). OKLAHOMA - Counts averaged 30 and 50 per 100 terminals in 2 peanut fields in Marshall County and 30 per 10 feet of row in peanut field in Johnston County. (Vinson). Heavy in some peanut fields in Hollis area. (Howell). Counts averaged 33 percent infested terminals in peanut field in Crescent area and from 36-70 percent in 5 peanut fields in Caddo County. (Walton, Manley).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Light to moderate infestations noted in Geneva and Covington Counties where 4-5 larvae per plant common. Adults numerous. (Grimes, Carter, McQueen, Ruffin).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Larvae common in New Castle County and present in Kent and Sussex Counties on soybeans and clover. (Burbutis, Mason). MARYLAND - Larvae light to moderate on soybeans on lower Eastern Shore. (U. Md., Ent. Dept.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Causing considerable ragging of leaves of soybeans in Brazos and Burleson Counties. (Randolph).

LEAFHOPPERS - ALABAMA - Heavy infestations observed over peanut-growing area. (Grimes).

A THRIPS (Sericothrips variabilis) - DELAWARE - Prevalent on soybeans in Sussex County. (Burbutis, Mason).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - CALIFORNIA - Above normal in peaches in Sutter County. (Cal. Coop. Rpt., June Sum.). UTAH - Thirty to 80 percent of apples "wormy" in small orchards, at Nephi, Levan, Santaquin and Salt Lake City. (Knowlton).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MISSOURI - Number one pest on fruit in State. Larvae of all sizes, as well as pupae and adults, present in many orchards. (Wkly. Rpt. Fr. Grs.). WISCONSIN - Second-generation larvae hatching in Door County July 25. (Wis. Coop. Sur.). MASSACHUSETTS - Hatching of second brood has been rapid during past week. (Crop. Pest. Cont. Mess.).

APPLE MAGGOT (Rhagoletis pomonella) - INDIANA - Adults emerging in great numbers in Lawrence and Orange Counties. (Marshall). WISCONSIN - Infestations increased since first of July. (Wis. Coop. Sur.).

EUROPEAN RED MITE (Panonychus ulmi) - CALIFORNIA - Heavy on prunes in Yountville-Napa area, Napa County. (Cal. Coop. Rpt., June Sum.). IDAHO - Heavy, but spotty on fruit trees near Idaho Falls. (Kohl). ILLINOIS - While normally expected to decrease, increases recorded in the Carbondale area. (Meyer).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Heavy on prunes in Napa-Yountville area, Napa County. (Cal. Coop. Rpt., June Sum.). INDIANA - Unusually heavy in some apple orchards in Vincennes area. (Hamilton).

ORCHARD MITES (undetermined) - MISSOURI - Recent rains reduced populations somewhat, but still constitute a threat. (Wkly. Rpt. Fr. Grs.). IDAHO - Heavy build up of several species now occurring on apple trees in Buhl area. (Manis, Barr).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - KANSAS - Infesting fruit trees in Sedgwick County. (Eshbaugh). OREGON - Less numerous than in 1958. April to July 23, 1958, 11 properties infested, 49 moths caught; April to July 23, 1959, 6 properties infested, 27 moths caught. (Larson).

PEAR-SLUG (Caliroa cerasi) - IDAHO - Damage to cherry trees appearing in Twin Falls area. (Barr, Manis).

FILBERTWORM (Melissopus latiferreanus) - CALIFORNIA - Heavy in cherry fruit in Mt. Shasta, Siskiyou County. (Cal. Coop. Rpt.).

WESTERN CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - CALIFORNIA - Larval inspection began in early June. Cherry fruit was collected and a total of 366 samples were processed. Seedling host removal continued with 115 trees being removed. All inspections were negative. (Cal. Coop. Rpt., June Sum.). Larvae taken in cherry fruit in Humbug and Mt. Shasta areas in Siskiyou County and in the Burrill Creek and Hoopa areas of Humboldt County. Represent new infestation sites in both counties. (Cal. Coop. Rpt.).

WALNUT APHID (Chromaphis juglandicola) - CALIFORNIA - Light to heavy on walnut trees in Santa Clara County, moderate in San Benito and Merced Counties and light to moderate locally in Yuba County. (Cal. Coop. Rpt., June Sum.).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Activity has decreased on pecan trees in southern part of State. In Mobile County, webbing limited for most part to persimmon trees. (Seibels).

BLACK SCALE (Saissetia oleae) - CALIFORNIA - Trace to heavy local infestations on citrus in Orange County and moderate in east Redlands, San Bernardino County. (Cal. Coop. Rpt., June Sum.).

CITRICOLA SCALE (Coccus pseudomagnoliarum) - CALIFORNIA - Heavy on citrus in Hemet area, Riverside County. (Cal. Coop. Rpt., June Sum.).

CITRUS MEALYBUG (Pseudococcus citri) - CALIFORNIA - Unusually light in both San Diego and Santa Barbara Counties. In San Diego County, 103,500 of Cryptolaemus montrouzieri, a predacious coccinellid, were released. (Cal. Coop. Rpt., June Sum.).

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Reported developing insecticidal resistance on citrus in San Gabriel Valley, Los Angeles County. Above normal and increasing in El Cajon area, San Diego County. (Cal. Coop. Rpt., June Sum.).

CITRUS THRIPS (Scirtothrips citri) - CALIFORNIA - Heavier than normal in occasional citrus groves, causing considerable scarring of fruit in Los Angeles County. Heavy foliage damage to grapefruit trees in Borrego, San Diego County, and heavy in local areas of San Bernardino County. (Cal. Coop. Rpt., June Sum.).

SPIDER MITE (Eotetranychus yumensis) - ARIZONA - Increasing on citrus in Yuma County, particularly on lemons. (Ariz. Coop. Sur.)

ACHEMON SPHINX (Pholus achemon) - CALIFORNIA - Light infestations damaging grape plantings in Borrego, San Diego County. (Cal. Coop. Rpt., June Sum.).

GREEN JUNE BEETLE (Cotinis nitida) - SOUTH CAROLINA - Seriously affecting ripe grapes in Laurens County. (Nettles et al.).

A SCARABAEID (Cotinis texana) - CALIFORNIA - Adults taken on fig trees in Bakersfield for first record in Kern County and north of the Tehachapi Mountains. (Cal. Coop. Rpt.).

PACIFIC COAST WIREWORM (Limonijs canus) - CALIFORNIA - Heavy locally on grape plantings in Lodi area, San Joaquin County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NORTH DAKOTA - Some serious damage to late-treated potatoes in Grand Forks, Walsh and Pembina Counties. (N.D. Ins. Rpt.). IDAHO - Light in potato fields in Fremont County (Bishop) and very abundant and general on potatoes near Idaho Falls. (Kohl).

Potato Aphids in Maine - Retardation in rate of aphid increase continued throughout the week. Appeared to be due largely to predators and parasites. Overall aphid numbers now average slightly less than a week ago. Changes in field-to-field numbers ranged from increases up to 150 percent to very sharp reductions. Predators and parasites appear to be generally more abundant than usual. Macrosiphum solanifolii predominates, followed by Aphis abbreviata, Myzus persicae and M. solani. (Shands).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Counts are at highest point in two years of survey. (Ins. Dis. Newsl.). NORTH DAKOTA - Range 7-10 per sweep in Fargo area but remain at 3 per sweep in northern Red River Valley counties. Beginning to decline in northern area. Severe "hopperburn" in garden plantings in many areas. (N.D. Ins. Rpt.).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Population has decreased markedly from about July 1. (Wyo. Ins. Sur.).

POTATO TUBERWORM (Gnorimoschema operculella) - CALIFORNIA - Light to heavy in Chino area, San Bernardino County, and light locally in San Benito, Riverside and Santa Barbara Counties. (Cal. Coop. Rpt., June Sum.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - COLORADO - In light trap collections in Rocky Ford, Otero County, July 9-17, 1,378 were collected. In Greeley, Weld County, 56 were collected July 15-21. (Colo. Ins. Sur.). NORTH DAKOTA - Average about 3 per sweep in northern Red River Valley counties. (N.D. Ins. Rpt.).

TOMATOWORMS - NEW MEXICO - Protoparce sp. and Heliothis zea causing considerable damage to tomatoes where adequate controls not used in Luna and Dona Ana Counties. (N. M. Coop. Rpt.).

BLISTER BEETLES (Epicauta spp.) - NEBRASKA - E. pennsylvanica and Epicauta sp. common in garden vegetables of most central and southern counties. (Roselle). ALABAMA - Moderate on tomatoes in St. Clair County. Severe defoliation of plants in localized areas. (Grimes, McQueen).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Colonies continue to build up on peppers in Kent and Sussex Counties. (Burbutis, Mason).

EUROPEAN CORN BORER (Pyrausta nubilalis) - DELAWARE - Adults fairly common in pepper fields in Sussex County. (Burbutis, Mason).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEW MEXICO - Heavy, spotty infestations damaging beans in Virden Valley, Hidalgo County. (N. M. Coop. Rpt.). COLORADO - Larvae range 30-40 per 10 plants in Larimer County. (Colo. Ins. Sur., July 27). WYOMING - Taken at the following areas per 100 sweeps: north of Torrington, 2 adults, 26 larvae; east of Torrington, 2 adults. (Wyo. Ins. Sur.). UTAH - Damage severe at Logan in home gardens and damaging throughout Emery County. (Knowlton).

A NITIDULID (Meligethes nigrescens) - OREGON - Has increased since last week on beans in Willamette Valley. (Dickason, Crowell).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Caused considerable damage to bean foliage in Virden Valley, Hidalgo County. (N.M. Coop. Rpt.).

COWPEA APHID (Aphis medicaginis) - PENNSYLVANIA - Very abundant in many lima bean plantings in Indiana County July 21. (Pepper).

HARLEQUIN BUG (Murgantia histrionica) - ARIZONA - Heavy on cabbage and other garden vegetables in Navajo County. (Ariz. Coop. Sur.).

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Elimination of Russian thistle host progressing from Altamont Pass in Alameda County into Merced County and Little Panoche Canyon in Fresno County. Area around Coalinga completed. Hand hoeing covered an estimated 18,995 acres. Survey in Riverside County revealed 14,000-15,000 acres in Perris Valley and Beaumont-Banning areas. Largest acreage occurred in Santa Ana riverbed ranging from 0.25 to 0.75 mile wide and 14 miles long. Leafhopper populations generally low over area. (Cal. Coop. Rpt., June Sum.)

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - NORTH DAKOTA - First maggot damage in two to three years in an early-planted, treated field near Forest River in Walsh County. Advanced growth of beets may prevent serious reduction in yield. (N. D. Ins. Rpt.).

ONION THRIPS (Thrips tabaci) - COLORADO - Range 4-25 per onion plant in Prowers, Otero, Bent, Crowley and Pueblo Counties. (Colo. Ins. Sur., July 27).

ONION MAGGOT (Hylemya antiqua) - WASHINGTON - Harvest of onions nearly complete at Walla Walla. No damage to mature onions; severe damage to field of seedling onions and light damage to field of winter onions. No adults recovered from treated fields in Columbia Basin. Numerous in fields that were planted in onions in 1958 but now in other crops. (Woodworth).

MELON APHID (Aphis gossypii) - NEW MEXICO - Have been a very serious problem on melons and cantaloups in southern counties. (N. M. Coop. Rpt.).

PYRAUSTIDS (Diaphania spp.) - SOUTH CAROLINA - Larvae of D. nitidalis and D. hyalinata numerous in stems of cantaloups which have about 10 days before ripening at Florence. (Nettles et al.).

A PLANT BUG (Spanogonicus albofasciatus) - NEVADA - The note in CEIR 9(29): 660 from Nevada under additional notes is the first official record of this species in the State; however, the species must have been present in the State for a considerable length of time since its distribution extends from Churchill County into Clark County. The cantaloup growers in Churchill County are of the opinion that this pest is causing considerable damage to the small melons and blooms. (Burge).

MORNING-GLORY LEAF MINER (Bedellia somnulentella) - CALIFORNIA - Light on sweet-potatoes in Oceanside, San Diego County. (Cal. Coop. Rpt.).

APHIDS (undetermined) - MASSACHUSETTS - Continue to be critical problem on vegetables. (Crop Pest Cont. Mess.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - TEXAS - Moderate to heavy in vegetable-growing area of Deaf Smith County. (Gaines).

YELLOW WOOLLYBEAR (Diacrisia virginica) - INDIANA - Larvae abundant on rhubarb foliage at LaFayette. (Schuder).

OBLIQUE-BANDED LEAF ROLLER (Archips rosaceana) - OREGON - On untreated raspberries locally in Gresham area. (Rosenstiel).

A HORNTAIL (Hartigia cressoni) - CALIFORNIA - Heavy and damaging loganberry plantings in Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults abundant on large tobacco in Prince Georges and Calvert Counties. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Heavy injury noted to ripe tobacco in several fields in Prince Georges and Calvert Counties. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - NORTH CAROLINA - Numerous weevils, apparently both first and second generations, appearing in many fields in lower southeastern area. (Cott. News Lett.). SOUTH CAROLINA - Weevils heavily damaging squares and young bolls. Percentage of infestation was 32 in untreated fields and 16 in treated fields. (Cott. Lett.). Infestation counts rising in Florence area. Some indications of migratory movement present. (Fye et al.). GEORGIA - In 45 cotton fields surveyed in northeast and southern areas, square counts made in only 26 of 45 fields, due to scarcity of squares. Punctured squares ranged 10-86 percent, averaging 44 percent. (Johnson). ALABAMA - Infestations increasing in all sections of State. Highest counts in central area. Average infestations in several counties were 35 in Macon, 34 in Pickens, 10 in Limestone, 22 in Lee and 14 in Geneva. Infestation counts throughout State averaged 22.22 percent. In central and southern areas, drought conditions caused large percentage of dryland cotton to stop fruiting. Infestations in these areas increasing because of reduced number of squares and increased number of weevils present. (Grimes et al.). TENNESSEE - Increasing in southern counties in western area. Heavier infested fields are usually older fields. Conditions ideal for further buildup. No short or long distance migration observed. Infestation counts averaged 13 percent. (Locke). MISSISSIPPI - General infestations remain low in delta counties. Average infestation was 3.8 percent. (Merkl et al.). LOUISIANA - Average percent infestation in number of fields by parishes as follows: Tensas - 20.5 in 198 fields; 17 in 58 fields and 25 in 9 fields; Franklin - 19 in 104 fields; Rapides - 13 in 103 fields; Grant - 17 in 74 fields; Ouachita - 12 in 99 fields; Clairborne - 18 in 10 fields; Morehouse - 11 in 140 fields; Pointe Coupee - 34 in 6 fields. (Spink). Percent square infestation averaged 12 in Madison Parish. (Smith et al.). ARKANSAS - Overwintering weevils continue to emerge. First-generation emergence general. Second-generation emergence will be general most areas of State by August 5-10. Third-generation weevils present in southeastern area. Percentage of infested fields, 79.3 compared with 71.6 the previous week. (Ark. Ins. Rpt.). MISSOURI - Of 956 fields scouted, 14 infested with 0.5-9 percent of squares punctured. (Kyd, Thomas, Munson). OKLAHOMA - Percent damaged squares ranged 1-18 in most fields surveyed in southwestern area (VanCleave, Latham, Hudson); 3-20 in fields checked in Cotton, Kiowa, Tillman, Jackson and Harmon Counties (Hatfield); 2-6 in fields checked in Marshall County (Vinson); and 2-8 in fields checked in Stephens County. (Pennington). TEXAS - Continues a problem in many areas, with some sections reporting very high infestation counts, following rapid buildup. (Gaines). In McLennan and Falls Counties, infestation averaged 54.1 percent punctured squares in 21 treated fields and 92.8 percent in 10 untreated fields. (Parencia et al.).

BOLLWORMS (*Heliothis* spp., et al.) - SOUTH CAROLINA - Becoming more numerous throughout State. (Cott. Lett.). In Florence area, damage increased during week and is expected to continue at fairly high level as moth flight increases. (Fye et al.). GEORGIA - Egg counts made in 45 cotton fields in northeast and southern areas. Eggs averaged 1 and larvae averaged 7 per 100 terminals. Older larvae present in squares in many fields. (Johnson). ALABAMA - Infestations increasing most areas of State. Highest infestations in Macon, Geneva and Pickens Counties. Average percent infestation for State was 2.35. (Grimes et al.). TENNESSEE - Found most fields in western area, but damage light. (Locke). MISSISSIPPI - Light to medium infestations common in delta counties. Controls being applied in majority of fields. Egg deposition passed peak and no serious infestation is anticipated. (Merkl et al.). LOUISIANA - In 48 fields checked in Tensas Parish, infestations light. In Morehouse Parish, infestations averaged 3 percent and in Pointe Coupee Parish, eggs ranged 2-10 and larvae 0-20 per 100 terminals. (Spink). Average square infestation, 3 percent in Madison Parish. Eggs averaged 6.23 and larvae 4.14 per 100 terminals. With very humid conditions and daily showers still being forecast, it appears that present problem may be a continuous one. (Smith et al.). ARKANSAS - Third-generation moths continue to emerge. Egg deposition has not been as heavy as anticipated. Beneficial insects doing excellent job of controlling infestations in untreated fields. Percentage of fields infested, 37.8 compared with 21.4 previous week. (Ark. Ins. Rpt.).

MISSOURI - Total of 502 of 956 fields scouted infested. Eggs ranged 0-13 and larvae 0-11 per 100 terminals. (Kyd, Thomas, Munson). OKLAHOMA - Most fields checked in southwestern area showed some damage. Counts ranged 1-6 percent damaged squares. (VanCleave, Latham, Hudson). Counts ranged 4-9 percent damaged squares in 10 of 11 fields checked in Cotton, Kiowa, Tillman, Jackson and Harmon Counties (Hatfield); varied greatly in fields checked in Marshall and Johnston Counties (Vinson); and ranged 4-8 percent damaged squares in most fields in Stephens County. (Pennington). TEXAS - Continue a problem in many areas, with some sections reporting very high infestation counts, following a rapid buildup. (Gaines). NEW MEXICO - Generally heavy in northern Dona Ana County and near Hachita, Grant County. Spotty, heavy infestations in southern Dona Ana and Luna Counties. (N M Coop. Rpt.). ARIZONA - Remain light most fields over State; however, in some fields more larvae are getting past early instars. (Ariz. Coop. Sur.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - On July 23, one adult taken in light trap three and one-half miles west of El Mirage, Maricopa County, one mile south and one and one-fourth miles northwest of nearest 1958 infestation. On July 30, one female trapped in Harquahala Valley, Maricopa County, 8 miles east of Yuma County and four and one-fourth miles south of 1958 infestation. (PPC).

BEE T ARMYWORM (Laphygma exigua) - ARIZONA - Continues a problem in some Maricopa and Pinal County fields. In some fields where larvae not controlled earlier, populations becoming heavy and further treatments are needed. (Ariz. Coop. Sur.). CALIFORNIA - Light in cotton in Reedley area of Fresno County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Light infestations on cotton in Coffee County and heavy in Crisp County. (Robertson, Johnson). ALABAMA - Causing moderate to heavy defoliation of cotton in several central and southeastern counties. Heaviest damage reported in Geneva and Autauga Counties. (Ruffin). OKLAHOMA - One field in Anadarko area showed some ragging of leaves. Controls applied. (VanCleave, Latham). CALIFORNIA - Moths active in many fields in Imperial County. (Cal. Coop. Rpt.).

COTTON SQUARE BORER (Strymon melinus) - OKLAHOMA - Counts ranged 1-6 percent damage to squares in 4 cotton fields checked in Marshall and Johnston Counties. (Vinson).

CUTWORMS - ALABAMA - Extremely heavy infestations of Agrotis ypsilon and Peridroma margaritosa observed and reported from Lowndes and Montgomery Counties. They were causing no apparent damage. (Grimes).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Moths active in many fields in Imperial County. (Cal. Coop. Rpt.).

A LEAF ROLLER (Platynota stultana) - ARIZONA - Medium populations occurring in some Pinal County fields, requiring controls in some cases. Light infestations in Maricopa County. (Ariz. Coop. Sur.).

SPIDER MITES - GEORGIA - Infestations light to heavy, with most fields having moderate infestations. (Johnson). TENNESSEE - Rains helped slow down infestations during past 2 weeks in western area. Damage confined to spots. Controls still needed in many fields. (Locke). ARKANSAS - Infestations slightly suppressed by rains; however, they are building up again. (Ark. Ins. Rpt.). MISSOURI - Of 956 fields scouted, 522 infested. (Kyd, Thomas, Munson). CALIFORNIA - Tetranychus atlanticus and T. telarius causing serious damage to untreated cotton in Shafter-Wasco area and T. pacificus is damaging cotton, with heavy populations in Five Points area of Kern County. (T. F. Leigh).

COTTON APHID (Aphis gossypii) - GEORGIA - Infestations ranged light to heavy, with most fields having moderate to heavy infestations. (Johnson). ALABAMA - Continues to increase throughout State. Heaviest infestations in central and southern areas. (Grimes). TEXAS - Continues to cause damage to young plants in fields which suffered earlier hail damage on high plains. (Gaines).

STINK BUGS - NEW MEXICO - Averaged from 4 to 50 per 100 sweeps in cotton in Luna County. (N. M. Coop. Rpt.). CALIFORNIA - More numerous in cotton as flax and alfalfa harvested in Imperial County. (G. D. Peterson). ARIZONA - Euschistus servus continued to increase in southwest and central areas. Some damage occurred to small bolls as well as squares. Populations remaining light in southeast counties. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Light to heavy in cotton fields in Dona Ana, Luna and Hidalgo Counties. Counts in Luna County averaged 3-24 per 100 sweeps. (N. M. Coop. Rpt.). ARIZONA - Continue the number one insect problem in cotton in State. Percent punctured squares averaged between 40 and 50 percent. Most punctured squares flare and drop. (Ariz. Coop. Sur.). CALIFORNIA - Adults migrating from harvested alfalfa on to cotton; continues to be a problem in Imperial County. (G. D. Peterson). In Tulare County, abnormally low counts beginning to build up. (A. G. George). In Shafter area of Kern County, adults present in generally low numbers. (T. F. Leigh). In Fresno County, populations requiring some control. (L. A. Ruud).

FLEAHOPPERS - TEXAS - Decreased considerably in activity in high plains area, with isolated sections in northwest, north central and northwest areas reporting damage. (Gaines). NEW MEXICO - Generally light, with an occasional cotton field heavily infested. Counts in Luna County averaged 2-20 per 100 sweeps. (N. M. Coop. Rpt.).

WHITEFLIES - CALIFORNIA - Building up in cotton fields, with rather high rate of crumple leaf occurring in planted cotton in Imperial County. Heavy honeydew in stub cotton is damaging lint. (G. D. Peterson).

SPECIAL ADDITIONAL NOTE

A RICE DELPHACID (Sogatia orizicola) - LOUISIANA - This vector of hoja blanca disease of rice found in 3 commercial rice fields, 85, 45 and 5 acres respectively, in St. Tammany Parish. Two infested fields 8 miles southwest of Covington and the other field on U. S. Highway 190, 7 miles west of Covington. Populations heavy in largest field, difficult to find in other fields. All 3 fields infested with hoja blanca in various degrees of severity. Spray treatments to infested fields to begin on August 7 and intensified surveys are being conducted in adjacent areas. Specimens of S. orizicola determined by W. T. Spink and J. P. Kramer, and hoja blanca disease determined by J. C. Atkins. (La. Dept. of Agric., PPC).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

JACK-PINE BUDWORM (Choristoneura pinus) - WISCONSIN - Some areas in Douglas County showing moderate defoliation. Oviposition about complete and most egg masses have hatched. Some egg parasitism present. (Wis. Coop. Sur.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - COLORADO - Probably this species, has mined 30 percent of Pinus ponderosa needles on front slopes and foothills in the Colorado Springs area, El Paso County. (Colo. Ins. Sur., July 27). INDIANA - Larvae entering buds at La Porte, July 24. (Schuder).

BAGWORM (Thyridopteryx ephemeraeformis) - NEW JERSEY - Abundant in many areas of State. (Ins. Dis. Newsl.). OKLAHOMA - Heavy on some evergreens at Hobart, with some trees being killed. (Hudson). Pupation beginning throughout State. (Howell).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - NORTH CAROLINA - Infesting pines in Wake and Harnett Counties. (Jones, Keller, Farrier).

JEFFREY PINE BEETLE (Dendroctonus jeffreyi) - CALIFORNIA - Causing complete kill of mature Jeffrey pine trees in several thousand acres of timber in Snow Lake area of Plumas National Forest. Damage associated with continued dry seasons; past two year's damage increasing. (T. H. Harris).

PINE GALL WEEVIL (Podapion gallicola) - PENNSYLVANIA - Common on Virginia pine in Perry County, July 10. Det. R. E. Warner. (Drooz).

WHITE-PINE WEEVIL (Pissodes strobi) - PENNSYLVANIA - Infestation high on small to 10-foot tall white pines in the Union-Laurelton-Mifflin area of Poe Paddy Park, July 19. (Balsbaugh). WISCONSIN - Some damage continues to be reported in west central counties. (Wis. Coop. Sur.).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - PENNSYLVANIA - Heavy on Colorado blue spruce in Christmas tree plantations and nurseries in Lancaster and York Counties. (Negley, July 15).

EASTERN SPRUCE GALL APHID (Chermes abietis) - PENNSYLVANIA - Heavy on Colorado blue spruce in Christmas tree plantations and in nurseries in Lancaster and York Counties. (Negley, July 15).

A MEALYBUG (Spilococcus juniperi) - KANSAS - Has caused extensive number of dead areas in ornamental junipers in Barton County. (Thompson). Infesting junipers in Hodgeman County. (Gates).

LARCH SAWFLY (Pristiphora erichsonii) - WISCONSIN - Pupation almost complete in Polk and Burnett Counties. Defoliation does not appear as complete in many northwestern counties as in past 2 years. Defoliation is very noticeable in several west central counties. (Wis. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Previously reported populations (CEIR 9(29):655) continue to defoliate cottonwood trees in widely scattered southwest localities, with some trees near farm homes up to 30 percent defoliated. (VanCleave, Latham).

LOCUST TWIG BORER (Ecdytolopha insiticiana) - ALABAMA - Numerous in twigs of black locusts in Lee County. (Guyton).

MIMOSA WEBWORM (Homadaula albizziae) - NEW JERSEY - Injury heavy to honeylocust and mimosa in some areas of State. (Ins. Dis. Newsl.). PENNSYLVANIA - Moderate to heavy on honeylocust in areas of Dauphin, Mifflin, Cumberland and Union Counties. (Sleesman, Balsbaugh, Jeffery, July 18).

YELLOW-NECKED CATERPILLAR (Datana ministra) - ILLINOIS - Slight defoliation of oak and hawthorn appearing in eastern, central and western sections of State. (Ill. Ins. Rpt.).

CALIFORNIA TORTOISE-SHELL (Nymphalis californica) - CALIFORNIA - Medium infestations of larvae, probably this species, defoliating ceanothus in Mt. Shasta area, Siskiyou County. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - INDIANA - Heavy on Chinese elms in Lafayette. Browning nearly all trees. (Schuder). IDAHO - Conspicuous defoliation of elms occurring across southern part of State. (Barr). OKLAHOMA - Averaged 15 adults and 10 larvae per 100 leaves on some elms checked in Marlow. (Pennington).

ELM CALLIGRAPH (Calligrapha scalaris) - OKLAHOMA - Adults averaged 15 per 100 leaves on some American elms checked in Chickasha. (Pennington).

LOCUST LEAF MINER (Chalepus dorsalis) - ALABAMA - Damage to black locusts in Lee County very severe. Very few adults observed. (Guyton).

ALDER FLEA BEETLE (Altica ambiens) - CALIFORNIA - Caused heavy damage to poplar trees in Quincy, Plumas County. (Cal. Coop. Rpt., June Summ.).

A GOLDSMITH BEETLE (Cotalpa lanigera) - SOUTH DAKOTA - The scarabaeid reported in CEIR 9(26) : 585 as causing considerable damage to Salix spp. and Populus spp. in Minnehaha County (Mast), confirmed as this species by O. L. Cartwright (PPC).

SCALE INSECTS - PENNSYLVANIA - Lecanium corni common on American beech and L. quercifex causing twig kill of white oaks in local areas of Pike County. Both det. by H. Morrison. (Drooz). Pulvinaria innumerabilis abundant on maple in Indiana County, with some damage evident. (Pepper). SOUTH DAKOTA - P. innumerabilis infesting elms in Flandreau area, Moody County. (Mast). KANSAS - Cryptaspidiotus shastae damaging cedar trees in Finney County. (DePew). CALIFORNIA - L. cerasorum heavy on Ulmus sp. in Auburn, Placer County. Gossyparia spuria heavy on Chinese elms in Watsonville, Santa Cruz County, and heavy in Oroville, Butte County. (Cal. Coop. Rpt.).

LACE BUGS (Stephanitis spp.) - CONNECTICUT - S. globulifera, S. pyrioides and S. rhododendri heavily infesting foliage of azalea, andromeda and rhododendron, respectively. Det. J. C. Schread. (Johnson).

A SPITTLEBUG (Tomaspis bicincta) - DELAWARE - Adults abundant on holly in New Castle County. (Burbutis, Mason).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - IDAHO - Undetermined species unusually abundant and extremely annoying in Aberdeen area. (Bishop). Aedes spp. highly bothersome during evening hours along marshy borders of Mud Lake, south of Montpelier. Slightly annoying in wetter areas north of Ashton. (Foote). UTAH - Undetermined species moderately troublesome in Green River area and in Green River-Elgin area of southern Emery and northern Grand Counties. (Knowlton).

A MUSCID (Musca autumnalis) - OHIO - Continues most abundant and annoying fly species on cattle in State. Farmers report a marked decrease in milk production. (C. R. Neiswander). INDIANA - Adults averaged 30-50 per animal on beef and dairy animals in Grant County. (Dobson). ILLINOIS - Observed clustered about the nose and eyes of 7 out of 11 cattle herds scattered throughout the central, western and northwestern sections of State. Appeared very annoying in herd of dairy cattle in Whiteside County where 20 or more flies were observed on one cow. (Ill. Ins. Rpt.).

HORN FLY (*Siphona irritans*) - NORTH DAKOTA - Moderate to severe and attacking range cattle in several areas through southwestern part of State. (N. D. Ins. Rpt.). KANSAS - Counts ranged 50-150 per head on 2 herds observed in southeast and east central parts of State. (Peters). OKLAHOMA - Counts ranged 200-300 per animal on 37 cows, 600-70 on a bull and 50-100 per calf on 30 checked in Latimer County (Washum); 400 per animal on 5 two-year-old heifers checked in Marshall County (Vinson); and 300 per animal on 5 yearling calves checked in Caddo County (VanCleave, Latham). UTAH - Moderately numerous throughout Emery and Carbon Counties and numerous on cattle in scattered areas over State. (Knowlton).

STABLE FLY (*Stomoxys calcitrans*) - DELAWARE - Adults common and annoying throughout the State. (Burbutis, Mason). INDIANA - Very few present on cattle treated in early July in Grant County. (Dobson).

SCREW-WORM (*Callitroga hominivorax*) - FLORIDA - During period July 20-25, a total of 41,625,800 sterile flies were released over an area of 64,200 square miles. Since February 19, 1959, only one case of screw-worm has been reported. (Fla. Coop. Sur.).

TABANIDS - OHIO - Unspecified species unusually abundant on cattle at Wooster and in other eastern areas. (C. R. Neiswander). INDIANA - Tabanus sulcifrons and T. atratus averaged 10 per calf and 7 in the air over each animal in Grant County. T. sulcifrons present at rate of 25 to one of T. atratus. Milk production is down 20 percent in this area. (Dobson). LOUISIANA - Tabanus sp. averaged 5.7 per 15-minute trapping period in Calcasieu, St. Landry, Caddo and Tensas Parishes. (Spink). OKLAHOMA - Unspecified species averaged 6 per animal on 35 head of 2-year-old heifers checked in Marshall County. (Vinson). IDAHO - Chrysops spp. populations declined sharply in Aberdeen area, but are abundant near Lava Hot Springs area south of Pocatello. (Bishop). Lightly bothersome around Swan and Henrys Lakes in Fremont County. (Foote).

NORTHERN FOWL MITE (*Ornithonyssus sylviarum*) - CALIFORNIA - Many complaints of this species invading homes and biting occupants. Severely annoying residents in Camarillo, Ventura County; Reedley, Fresno County; and in San Diego County. (B. Keh).

BLOODSUCKING CONENOSE (*Triatoma sanguisuga*) - TEXAS - Causing concern to residents in Montague County. (Tex. Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - COLORADO - Hippodamia spp. averaged 300-500 per 100 sweeps in Mesa County. (Colo. Ins. Sur., July 27). IDAHO - Undetermined species averaged 1-2 per 10 sweeps in alfalfa fields in vicinity of Gooding and 0-1 per 10 sweeps in alfalfa near Arco. (Foote). Ranged as high as 24 per sweep in second-cutting alfalfa in Twin Falls County. (Manis, Barr). OKLAHOMA - Hippodamia convergens ranged 1-3 per sweep in southwestern area alfalfa fields checked; up to 8 per 100 heads in milo fields, 1.5 per plant in cotton fields and 3 per sweep in an alfalfa field checked in Tillman County; and light to medium populations were present in cotton fields checked in Marshall and Johnston Counties. (VanCleave et al.).

A TIGER BEETLE (*Cicindela repanda*) - COLORADO - Numerous in the Fort Collins area, Larimer County. (Colo. Ins. Sur., July 27).

NABIDS (*Nabis* spp.) - IDAHO - Populations generally low (1-3 per 10 sweeps) in alfalfa in southeastern counties. (Foote). OKLAHOMA - Counts ranged up to one per sweep in alfalfa fields checked in southwestern area of State. (VanCleave, Latham).

LACEWINGS (Chrysopa spp.) - IDAHO - Heavy flights occurring in Moscow area. (Barr).
OKLAHOMA - Ranged to 0.5 per sweep in alfalfa fields and were common in cotton fields checked in southwestern area. (VanCleave, Latham). Averaged up to one per plant in some cotton fields checked in Tillman County. (Hatfield).

PREDACIOUS MITES (Typhlodromus spp.) - IDAHO - Populations increasing generally in alfalfa and red clover fields in Canyon County. Frequently 2 adults, 6 larvae and 10 eggs are present on individual leaves. (Waters).

MISCELLANEOUS INSECTS

LARDER BEETLE (Dermestes lardarius) - NEBRASKA - Large numbers of larvae noted burrowing into open grain of wood used in frame of metal building housing mink in Cuming County. (Roselle).

BLISTER BEETLES (Epicauta spp.) - WYOMING - Appearing in increasing numbers in Johnson County grasshopper-infested fields, particularly south of Buffalo. (Stanford).

A JUNE BEETLE (Polyphylla sp.) - IDAHO - Unusually heavy flights occurred in the Arena Valley area of Canyon County. (Barr, Manis).

SEED-CORN MAGGOT (Hylemya cilicrura) - OREGON - Reported to be heavily attacked by a fungus disease in Salem area. (Larson).

EUROPEAN EARWIG (Forficula auricularia) - CALIFORNIA - Caused considerable damage in home gardens and some commercial crops, and was a nuisance around yards. Infestations were greater than previous years in Yuba County, light to heavy on ornamentals in Lassen County, caused medium damage to gardens in Plumas County, light on artichoke plantings in Santa Cruz County and light generally in Tuolumne County. (Cal. Coop. Rpt., June Summ.).

A BAGWORM (Apterona crenulella) - CALIFORNIA - Medium in Paradise, Butte County. Is an extension northward from Nevada City where it was first discovered in 1940. (Cal. Coop. Rpt., June Summ.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ALABAMA						
Auburn 7/27,31	1	2	44	1	3	177
Fairhope 7/28			7	1	2	37
ARKANSAS						
Fayetteville 7/23-29	13	17				80
Hope 7/23-29	5	11		4		17
Kelso 7/23-29	5					13
*Morrilton 7/23-29	18	9	51			21
ILLINOIS						
Urbana 7/24-30	84	73		37	9	18
INDIANA (Counties)						
Lawrence 7/21,22,24,27-29	50	5		1	7	29
Tippecanoe 7/24-30	382	58		6	3	6
KANSAS						
Garden City 7/23-26,28	18	34		11	8	2
Hays 7/25-26	20	3		9		4
Manhattan 7/25-31	15	16		1		2
Wathena 7/23-24,27-28	18	54		10	5	6
LOUISIANA						
Baton Rouge 7/24-30		3	35			63
MARYLAND						
Fairland 7/24-30	5	6			1	6
Upper Marlboro 7/21-27						7
MISSISSIPPI						
*Stoneville 7/24-30	43	5	30			7
						179
						9
MISSOURI						
Columbia 7/27-8/1	35	64			15	2
Sikeston 7/25-31	4	1		3		152
NEBRASKA						
Concord 7/15-20	29	25		20		1
Kearney 7/21-24	46	10		145	1	
Lincoln 7/19-27	122	234		36		13
North Platte 7/21-27	125	24	4	119		12
						1
NORTH CAROLINA						
Clayton 7/30					2	5
Faison 7/30		2			1	7
						39
						60
						11
OREGON						
Salem 7/18-28		11				
SOUTH CAROLINA						
Charleston 7/20-26			21			9
						8
						1
SOUTH DAKOTA						
Brookings 7/30	8	5				

*Two traps - Morrilton; 3 traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
TEXAS						
Brownsville 7/18-24		9	150		2	67
Waco 7/25-31	16	2		42	28	1662
WISCONSIN						
Antigo 7/20-26	3	1		3		
Arlington 7/21-27	151	143		77	1	1
Beaver Dam 7/21-27	216					4
Fox Lake 7/21-27	152					2
Janesville 7/21-27	211				1	
Johnsburg 7/21-27	23	9		16		
La Crosse 7/20-27	63	49		7		2
Middleton 7/21-27	78	37		21		
Platteville 7/21-27	314	87		14		5
Ripon 7/21-27	59					2
River Falls 7/21-25	14	2		1		
Rosendale 7/21-27	144					3
Stevens Point 7/21-27	2			1		
*Theresa 7/21-27	185					

ADDITIONAL COLLECTIONS - COLORADO - Light trap collections of Loxostege sticticalis in the following counties, numbers and dates: Rocky Ford, Otero County, July 9-17, 141; Center, Saguache County, June 28-July 16, 1985; Longmont, Boulder County, July 13-18, 294; Greeley, Weld County, July 15-21, 178. (Colo. Ins. Sur.).

*Three traps - Theresa

ADDITIONAL NOTES

NEVADA - PEA APHID (Macrosiphum pisi) infestations declining in Orovada and Kings River Valley, Humboldt County. (Gallaway). PINK BOLLWORM (Pectinophora gossypiella) light trap surveys negative through July 26 in Clark and Nye Counties. (Bechtel, Zoller). An undetermined LEAFHOPPER moderate to heavy on privet in Yerington, Lyon County. (Batchelder). Aedes dorsalis, A. melanion and A. nigromaculis broods emerging every 5 to 7 days in Churchill County. (Chapman).

NEW YORK - TWO-SPOTTED SPIDER MITE (Tetranychus telarius) increasing slowly and ORIENTAL FRUIT MOTH (Grapholitha molesta) more numerous this week in Orleans County. EUROPEAN RED MITE (Panonychus ulmi) very serious in Monroe County. CODLING MOTH (Carpocapsa pomonella) quite a problem in some Wayne County orchards. APHIDS still serious on all crops in Suffolk County and building up heavily in Niagara County. LEAFHOPPERS building up in Monroe and Niagara Counties, and "yellows" very serious in muck lettuce where leafhoppers have been prevalent. GRASSHOPPERS becoming extremely heavy in a few areas of Niagara County. MITES causing serious and extensive bronzing on elm, linden, oak and many other plants. A SAWFLY (Macremphytus sp.), which defoliates dogwood, has caused concern due to the habit of full grown larvae boring into wood to pupate. They migrate from plants and tunnel into soft wood such as shingles, red-wood lawn furniture and punky timbers. HOUSE FLY (Musca domestica) very abundant in barns and on cattle and M. autumnalis has been causing great annoyance by congregating on the muzzle and around eyes of livestock. (N. Y. Wkly. Rpt.).

INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

A larva of a WEEVIL (Listroderes sp.) (this genus contains a number of serious pests) in marigold cut flowers in baggage from Japan at Seattle, February 5. A larva of a WIREWORM (Agriotes sp., prob. lineatus (L.)) (a major wireworm pest in some European localities, also occurs in Canada) in mail containing soil on a shamrock plant from Ireland, at Chicago, March 23. Also larvae of MEDITERRANEAN FRUIT FLY (Ceratitis capitata) in oranges in baggage from Costa Rica (this is the second interception from Costa Rica), April 12 at San Pedro. Larvae of KHAPRA BEETLE (Trogoderma granarium) in titanium oxide residue (apparently mixed with peanut residue) in a ship's hold at both Cleveland and Detroit, May 2 and 4, respectively.

Larvae of PEACH FRUIT MOTH (Carposina niponensis Wlsm.) (an important apple and pear fruit borer in the Orient) in apple in airplane stores from Japan at Honolulu, October 12, 1958. A larva of an OLETHREUTID (Rhyacionia sp., presumably duplana (Hbn.)) (an economic form on pine in Europe and Japan) on a pine plant in baggage destined for California, at Honolulu, November 7, 1958. A larva of a GELECHIID (Gnorimoschema ocellatella (Boyd)) (a borer of beets in the Mediterranean region) in ship's stores from Egypt at Philadelphia, April 24. Two interceptions of larvae and a pupa of a WEEVIL (Cylas sp., prob. puncticollis Boh.) in sweetpotato carried as monkey food in cargo from Ghana and Sierra Leone, at Baltimore, March 20 and April 20. Larvae of an EUROPEAN WIREWORM (Agriotes sp., near mancus (Say)) in soil in baggage from Poland at New York on June 2, 1958. (Plant Quarantine Division).

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS continue a problem in South Dakota; in areas of Wisconsin counts of 30-40 per square yard recorded. SOUTHWESTERN CORN BORER continues heavy on sorghum in central and southwestern Arizona. (p. 745). FALL ARMYWORM infestations were common in Maryland; in Riley County, Kansas, counts were 8 per plant on late corn. Adults of CORN ROOTWORMS (Diabrotica spp.) damaging crops in several States. (p. 746). CORN LEAF APHID infestations continue heavy in corn and sorghum in several states, building up in others. (p. 746, 747).

POTATO LEAFHOPPER heavy on untreated peanuts in Nansemond County, Virginia. (p. 748). RED-NECKED PEANUTWORM increasing on peanuts in southeastern Alabama and moderate to heavy in Georgia. (p. 749).

FALL WEBWORM heaviest in years in orchards around Forest Grove, Oregon. (p. 750).

GREEN PEACH APHID heavy on potatoes in New York, difficult to control. (P. 751).

TOBACCO FLEA BEETLE adults abundant on tobacco in southern Maryland and moderately heavy in some fields in Pittsylvania County, Virginia. (p. 752). BOLL WEEVIL infestations in cotton increasing generally; migrations underway. (p. 753). APHIDS and SPIDER MITES increasing in cotton in some areas. (p. 755).

Status of LARCH CASEBEARER infestation in Idaho. Activity of BARK BEETLES increasing in several states. Heavy infestation of Dendroctonus monticolae reported in Idaho. (p. 756). LARCH SAWFLY caused severe defoliation of larch in areas of Wisconsin. (p. 757).

SALT-MARSH MOSQUITO extremely abundant and troublesome on Eastern Shore of Maryland and controls at full capacity along coast of North Carolina. (p. 758). FLEAS annoying homeowners in several states. (p. 759).

INSECT DETECTION: Anastrepha nigrifascia collected for first time since 1936 in Florida. (p. 750). Mimosa webworm reported for first time in Duval County, Florida. (p. 757). Musca autumnalis identified for first time from Pennsylvania. (p. 759).

CORRECTIONS (p. 760)

ADDITIONAL NOTES (p. 762).

Status of some IMPORTANT INSECTS in the United States. (p. 763).

INSECTS not known to occur in the United States. (p. 765).

Reports in this issue are for the week ending August 7, unless otherwise designated.

WEATHER OF THE WEEK ENDING AUGUST 10

At the beginning of the week most of the eastern and central portions of the country were covered by warm, humid air from the Gulf of Mexico. However, a cool, dry air mass from Canada moved into the northern Great Plains on Thursday, bringing relief progressively to the central and eastern States by Monday, with the exception of Florida and the southern Atlantic coast. Temperatures early in the week over the Great Plains reached well above 100°, with 110° at Coldwater and Medicine Lodge, Kansas, 109° at Buffalo, Oklahoma, and 105° at Beulah, North Dakota, but after the cold front passed minimum temperatures in the mid-50's covered the northern Great Plains and the western Great Lakes, where Duluth, Minnesota, recorded 43° on Sunday. Temperatures over central and eastern sections of the country averaged slightly above to slightly below normal, except for the Northeast, where cloudiness and precipitation associated with the passage of two weak low pressure centers held temperatures well below normal. Eastern Pennsylvania, northern New Jersey, southern New York and western Connecticut experienced temperatures 6° to 8° below normal. The California coast was considerably warmer than usual, with readings from San Francisco southward 6° to 8° above normal. Temperatures were also well above seasonal over interior California, central Nevada and in southeastern New Mexico and west Texas. In contrast, frequent showers and cloudiness in Arizona, southern Utah and Colorado held temperatures below normal. Below normal temperatures also prevailed along the Oregon-Washington border and in central Idaho.

Frequent scattered showers occurred over much of the southern Plateau and the eastern two-thirds of the Nation. The most widespread shower activity of the current season in the Southwest brought some relief to dry lands. Over 2 inches of rain fell at Flagstaff and Tucson, Arizona, and in portions of east central and southwestern Colorado; some areas of southeastern Utah had over 1/2 inch. Locally excessive rains along the Missouri-Iowa border on the 5th and 6th, and in Washington, D. C., and Maryland on the 8th made the biggest weather news this week. Heavy rains and flooding occurred in southern Iowa on Thursday when 11.30 inches fell at Lineville, and 9.42 inches at Fort Madison. Over the weekend heavy rains fell in the Middle Atlantic States and southern New England, with torrential falls in Virginia, Maryland, and the District of Columbia on Saturday causing considerable flooding of buildings and roads. Three to 5 inches were measured generally, and Royal Oak, Maryland, reported over 7 inches of rain in less than 6 hours. Moderate to heavy showers also occurred in the eastern Dakotas. Cavalier, North Dakota, had 2.20 inches. In South Dakota, the rains, although not heavy, were the greatest in 2 months. Hailstones 3 inches in diameter at Eau Claire, Wisconsin, and 3/4 inch in diameter at Duluth, Minnesota, fell on the 11th. From the western Dakotas to the Pacific coast and down through Nevada and California there was little or no beneficial rainfall, and extremely dry conditions continue in most of these areas. Heavy irrigation was necessary in many sections of the West, and shortages of irrigation water were reducing hay yields in western Nevada. Forest and range fire danger is high over many areas of the Far West. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - OREGON - Adults of *Melanoplus bivittatus*, *M. bilituratus* and *Oedaleonotus enigma* low in John Day area of Grant County during week ending July 25. Highest counts 1 or 2 per square yard. (Stewart). NEW MEXICO - Grasshoppers infesting over 1,500 acres of crop and rangeland in Taos County. Damage to alfalfa near Ruidoso, Lincoln County, considerable. About 103,000 acres treated under voluntary cropland control programs in Curry County. Total of 99,739 acres treated under cooperative rangeland program in Colfax County. Adult survey now in progress. (N. M. Coop. Rpt.). COLORADO - Grasshopper populations localized. In scattered areas of Douglas, Larimer, Archuleta, Costilla and Alamosa Counties, populations along with drought causing damage. (Colo. Ins. Sur., Aug. 3). KANSAS - Counts averaged less than 1 per square yard in east central and southeast counties. Dominant species, *M. femur-rubrum*. (Peters). NEBRASKA - Populations of *Melanoplus* spp. in southeastern and south central counties generally well below economic levels, with only isolated local areas having numbers sufficient to cause noticeable crop damage. (Roselle, Webb). SOUTH DAKOTA - Grasshoppers continue to be a problem in most parts of State. Most species in eastern half of State now adults and adult survey is underway. (Mast). MINNESOTA - Grasshopper infestations of economic importance in some west central and northwestern districts are very scattered and localized. Some fields in Swift, Traverse and Polk Counties have counts of 20-40 per square yard. *M. femur-rubrum* dominant species most cases, with *M. bivittatus* second. (Minn. Ins. Rpt.). WISCONSIN - *M. femur-rubrum*, fourth and fifth instars, appear to be highest (30-40 per square yard) in eastern Portage and western Waupaca Counties. Counts as high as 40 per square yard found in Waushara, Marquette and southwestern Marinette Counties, but these are not numerous. Shawano and Oconto Counties have some economic numbers, but counts lower. Damage is obvious in fields with high counts. It appears that in at least some southern and western counties counts will be fairly high, but hatching in these areas has been late. (Wis. Coop. Sur.). IOWA - Grasshopper nymphs numerous enough in some areas to cause damage to new legume seedlings. (Iowa Ins. Inf., Aug. 1). INDIANA - *Melanoplus* spp. nymphs less than 7 per square yard in central and west central counties. (Matthew). Grasshoppers unusually abundant at Culver, primarily in sorghum. (Wilson). MARYLAND - Light to moderate injury, particularly from *M. differentialis*, noted to field corn on Eastern Shore. (U. Md., Ent. Dept.).

MORMON CRICKET (*Anabrus simplex*) - OREGON - Adults low in John Day area of Grant County during week ending July 25. Highest counts 1 or 2 per square yard. (Stewart).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - MARYLAND - Infestations in sweet corn ears at lowest point of season. (U. Md., Ent. Dept.). DELAWARE - Young second-brood larvae present in New Castle and Kent Counties and very common in Sussex County in field corn. (Burbutis, Mason). OHIO - Emergence of summer generation moths about at peak. Eggs for second-generation larvae fairly abundant. (Guthrie). ILLINOIS - Egg masses vary from 0-80 per 100 plants in northern area. (Ill. Ins. Rpt.). MINNESOTA - Second-generation moths emerging and some egg laying has begun. Egg mass counts extremely low. (Minn. Ins. Rpt.). NORTH DAKOTA - Survey in southeastern counties showed an average of 11 percent of plants infested. (N. D. Ins. Rpt.). NEBRASKA - Few second-brood egg masses detected; development slow. (Roselle). KANSAS - Second-brood larvae, first and second instars, infesting corn in Riley County. (Burkhardt).

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) - ARIZONA - Continues very heavy in sorghum in central and southeastern areas. Populations diminishing in Arlington area in west Maricopa County. Not found west of Gila Bend in State. (Ariz. Coop. Sur.).

CORN EARWORM (Heliothis zea) - MINNESOTA - Populations appear to be higher than in 1958. Many fields in southern area already infested; heaviest in sweet corn. (Minn. Ins. Rpt., July 31). ILLINOIS - Scarce in early and mid-season field corn in northern half of State. Egg laying begun in silking corn. (Ill. Ins. Rpt.) OKLAHOMA - Infestation 1-9 percent in sorghum seed heads and averaged less than 0.3 per sweep in alfalfa in northeast area. (VanCleave, Campbell). TEXAS - Damaging peanuts in Comanche and Eastland Counties. Infestations scattered at present. (Texas Coop. Rpt.). NEW MEXICO - Causing considerable damage to corn and sorghum in Quay, Curry, Roosevelt and Lea Counties. (N. M. Coop. Rpt.). UTAH - Eggs scarce on corn silks and on tomato leaves in northern and central areas. Infestations in sweet corn average below 1 percent. (Dorst, Knowlton). ARIZONA - Medium budworm infestations in young sorghum in Yuma County. (Ariz. Coop. Sur.).

FALL ARMYWORM (Laphygma frugiperda) - GEORGIA - Moderate infestations on grain sorghum in Spalding County. (Tippins). MARYLAND - Infestations common and increasing on late corn in all sections. (U. Md., Ent. Dept.). KANSAS - Late-planted corn just tasseling has 30 percent of plants infested with up to 8 per plant in Riley County. Mostly second and third instars, but few fifth instars present. (Burkhardt).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Heavy damage to late-planted sorghum in Brazos and Burleson Counties. (Randolph).

NITIDULIDS - DELAWARE - Carpophilus lugubris larvae and adults remain abundant in ears of field corn in Sussex County. Larvae increased in ears of corn in Kent County. (Burbutis, Mason). ILLINOIS - Glischrochilus quadrisignatus adults 0-50 per 100 ear tips or silks in field corn in northern area. (Ill. Ins. Rpt.). WASHINGTON - Undetermined species infesting sweet corn, sometimes 10 larvae per ear, in Yakima Valley. (Landis).

A WEEVIL (Anacentrinus deplanatus) - TEXAS - Pupating in roots of sorghum in McClellan County. (Randolph).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - NEBRASKA - Present in considerable numbers in most corn fields in Cuming County. (Webb). ILLINOIS - Adults 30-620 per 100 ear tips or silks in northern area. (Ill. Ins. Rpt.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - NEBRASKA - Generally present in corn fields in south central area; counts averaged close to 1 per 5 plants most fields. (Webb). COLORADO - Adults appearing in damaging numbers in corn in Boulder County. Damage to roots by larvae extensive in fields planted successive years. (Colo. Ins. Sur., Aug. 3).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NEBRASKA - Moderate to severe damage observed in sorghum in Lancaster County. (Roselle). SOUTH DAKOTA - In southeast area, adults averaged 3 per 10 sweeps in alfalfa. Present in corn field in Union County. (Mast). ILLINOIS - Adults 0-20 per 100 ear tips or silks of corn in northern area. Adults 10-30 per 100 sweeps in soybeans in eastern area. (Ill. Ins. Rpt.). VIRGINIA - Damage generally light, but moderate in occasional peanut field in southern part of Nansemond County. (Morris et al.). DELAWARE - Adults present on clover and alfalfa statewide and on soybeans in Sussex County. (Burbutis, Mason).

CORN LEAF APHID (Rhopalosiphum maidis) - DELAWARE - Colonies becoming heavy in Sussex County and present in New Castle and Kent Counties on field corn. (Burbutis, Mason). VIRGINIA - Becoming abundant on corn and sorghum in several parts of State. (Rowell, Grayson, Boush). OHIO - Abundant throughout northwest quarter of State. Infestations usually involve 20-40 percent of plants although occasional fields may have as high as 75 percent of plants infested. Most recent observations indicate that populations started to decrease. (C. R. Neiswander).

MICHIGAN - Numerous in scattered fields at Owosso, Jackson and Charlotte. (Hutson). INDIANA - Continues extremely high in whorls and on tassels of corn most areas throughout northern two-thirds of State. (Matthew). ILLINOIS - Light, 0-100 percent of corn plants infested in northern half of State. Parasites and predators common in early corn. (Ill. Ins. Rpt.). WISCONSIN - Populations appear to be declining many southern corn fields. (Wis. Coop. Sur.). MINNESOTA - High numbers present in corn. (Minn. Ins. Rpt., July 31). NORTH DAKOTA - Moderate to high populations in tasseling corn in eastern area. Apparently more abundant on corn than in previous years. (N. D. Ins. Rpt.). SOUTH DAKOTA - Numerous on corn in southeast area. No damage evident. (Mast). OKLAHOMA - Common, but light, in most corn and sorghum fields checked in northeastern area. (VanCleave, Campbell). NEW MEXICO - Light to heavy on corn and sorghums throughout southern half of State. (N. M. Coop. Rpt.). UTAH - Damage to late barley continues in scattered localities. (Knowlton). IDAHO - Abundant in several fields west of Ashton. (Bishop).

ENGLISH GRAIN APHID (Macrosiphum granarium) - WYOMING - Remains a pest in some late fields of cereals in northern area. Only few cases of serious damage reported. (Davison).

HARLEQUIN BUG (Murgantia histrionica) - ARIZONA - Heavy in some fields of sorghum in Graham County. (Ariz. Coop. Sur.).

CHINCH BUG (Blissus leucopterus) - OKLAHOMA - Light most corn and sorghum fields in northeastern area. Heaviest counts averaged 5 adults per plant. Mating common throughout area and young nymphs found in few fields. (VanCleave, Campbell).

SPIDER MITES (Tetranychus spp.) - NEBRASKA - Damaging lower leaves of irrigated corn in Buffalo and Dawson Counties. (Roselle). OREGON - Heavier than normal on red clover and alfalfa in Ontario-Nyssa area, especially abundant as of August 3. (Epley).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Damage to late-planted sorghums in Burleson and Brazos Counties ranged 40-100 percent. (Randolph).

THRIPS - VIRGINIA - Anaphothrips obscurus, Frankliniella tenuicornis, Limothrips cerealium and Plesiothrips sp., probably perplexus, heavily damaged corn in Steeles Tavern area of Rockbridge-Augusta County on June 22 and A. obscurus, F. tenuicornis and F. fusca heavily damaged corn in Caroline County on June 12. Det. by K. O'Neill. (Eager, Rowell). DELAWARE - Adults and nymphs of Sericothrips variabilis present on soybeans and alfalfa throughout State. Adults present on clover in Sussex County. (Burbutis, Mason).

A SOD WEBWORM (Crambus bonifatellus) - CALIFORNIA - Medium infestations in lawns in Marysville, Yuba County, and Sacramento, Sacramento County. (Cal. Coop. Rpt., July 31).

A CATERPILLAR (Acrolophus popeanellus) - MARYLAND - Injury to pasture grass noted in Somerset County. (U. Md., Ent. Dept.).

A FIELD CRICKET (Acheta sp.) - NORTH DAKOTA - High populations present in northern Cass, northeastern Barnes and southern Traill Counties. Feeding injury to flax bolls is evident some fields. Some controls applied few fields. (N. D. Ins. Rpt.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - NEW MEXICO - Adults very abundant in alfalfa in Chaves County; larvae averaged 8-26 per 100 sweeps. (N. M. Coop. Rpt.). ARIZONA - Heavy in alfalfa at Theba in southwest Maricopa County and in Yuma County, particularly in Tacna, Roll and Wellton area. Larval counts at Theba averaged 10 per 10 sweeps, while heavier infested areas of Yuma County averaged 20 per 10 sweeps. Adults still extremely heavy around fields. (Ariz. Coop. Sur.). DELAWARE - Larvae present on alfalfa in New Castle and Sussex Counties and on soybeans in Kent County. (Burbutis, Mason).

GARDEN WEBWORM (Loxostege similalis) - ARIZONA - Medium infestations most alfalfa fields in central and southwestern areas. (Ariz. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEBRASKA - Small numbers appearing in alfalfa in southeastern area. Becoming more generally distributed in south central counties, but numbers remain less than 6 per 10 sweeps. (Roselle, Webb). KANSAS - Counts in east central and southeastern areas averaged less than 1 per sweep. (Peters). OKLAHOMA - Light populations in many alfalfa fields in north-eastern area. Heaviest counts, 4 per sweep. (VanCleave, Campbell). Counts 20 per sweep in alfalfa field in Hennessey area. (Owens). COLORADO - Populations well distributed through Arkansas Valley and the western slope counties of Mesa, Delta, Montrose and Garfield Counties. To date, none found in northeastern area. No serious damage being reported in areas infested. (Colo. Ins. Sur., Aug. 3). NEW MEXICO - Moderately heavy in alfalfa in Hondo Valley, Chaves County, and in several fields in Dona Ana, Eddy and Quay Counties. Generally light other areas in southeast. (N. M. Coop. Rpt.). ARIZONA - Continued to decrease, now low statewide. (Ariz. Coop. Sur.). NEVADA - Averaged 2 per sweep in Moapa Valley, Clark County. (Parker).

PEA APHID (Macrosiphum pisi) - WISCONSIN - Buildup in blossomed alfalfa has been phenomenal for time of year. (Wis. Coop. Sur.). MINNESOTA - Populations continue high in all districts. Predator counts increased greatly during week. (Minn. Ins. Rpt.). SOUTH DAKOTA - Counts averaged 15 per sweep on alfalfa in southeast area. (Mast). NEBRASKA - Gradually increasing some alfalfa fields; counts 5-500 per 10 sweeps in eastern and central areas. (Roselle, Webb). KANSAS - Counts ranged from less than 1 to about 10 per sweep in east central and southeastern areas. (Peters). WYOMING - Counts per 100 sweeps in seed alfalfa in Riverton area averaged 810, 110 and 170. Populations in northwestern area hay alfalfa ranged 700-1200 per 100 sweeps. No damage observed. (Davison). UTAH - Serious infestations in alfalfa throughout Wayne County. Showers interfered with controls. (Knowlton). NEW MEXICO - Generally light in alfalfa in Lincoln, De Baca, Chaves and Eddy Counties. Several heavy infestations reported in alfalfa in Rio Arriba County. (N. M. Coop. Rpt.).

PLANT BUGS (Adelphocoris spp.) - NEBRASKA - A. lineolatus increasing slowly in alfalfa in eastern and central areas. Counts 2-22 per 10 sweeps. (Roselle, Webb). SOUTH DAKOTA - A. lineolatus averaged 10 and A. rapidus 5 per 10 sweeps on alfalfa in southeastern area. (Mast).

LYGUS BUGS (Lygus spp.) - WYOMING - Counts in seed alfalfa in Riverton area were 17, 21 and 7. Percent damage ranged from 2 plus to 10 plus. (Davison).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Averaged 15-50 per 100 sweeps in alfalfa in Dexter-Hagerman area, Chaves County. (N. M. Coop. Rpt.).

POTATO LEAFHOPPER (Empoasca fabae) - VIRGINIA - Remains heavy on untreated peanuts in Nansemond County; heavier than past 3 years. Also heavy on some soybeans in Nansemond County. (Morris et al.). MARYLAND - Averaged 2-4 per sweep on alfalfa in central area. Injury to some fields noticeable. (U. Md., Ent. Dept.). ILLINOIS - Adults vary 130-400 per 100 sweeps on soybeans in eastern area. (Ill. Ins. Rpt.). WISCONSIN - Populations abundant in alfalfa, but variable between fields. Migration appears great and general, and will probably affect regrowth after third and late second cuttings in untreated fields. (Wis. Coop. Sur.).

COWPEA CURCULIO (Chalcodermus aeneus) - OKLAHOMA - Counts 0.5-3 per linear foot of row in 5 fields of cowpeas checked in Lacey area. Damage light to heavy. (Owens).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Heavy in field peas in Spalding County. (Dupree).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Infestations increasing in peanuts in most sections of southeast. (Carter). Moderate infestation on soybeans reported in Baldwin County (Bouler, Marable) and increasing in Mobile County (Seibels). LOUISIANA - Adults observed in St. Landry and Tensas Parishes; no larvae found. (Spink).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Counts 10-30 per 100 sweeps in soybeans in eastern area. (Ill. Ins. Rpt.). MARYLAND - Larvae range 3-15 per 10 linear feet of row in soybeans in Worcester County. (U. Md., Ent. Dept.). DELAWARE - Larvae more numerous on soybeans in New Castle County. (Burbutis, Mason).

RED-NECKED PEANUTWORM (Stegasta basqueella) - GEORGIA - Moderate to heavy infestations on peanuts in 11 counties. (Johnson). ALABAMA - Infestations continue to increase in Geneva, Houston, Henry and Coffee Counties. (Carter). OKLAHOMA - Counts averaged 40 larvae per 10 feet of row in peanut field (plants 10 inches high) in Love County. (Vinson).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults common on soybeans in all counties, fairly common on clover and present on alfalfa in New Castle County. (Burbutis, Mason).

BEAN LEAF BEETLE (Cerotoma trifurcata) - LOUISIANA - Averaged 4 per 100 sweeps in 7 soybean fields in St. Landry and West Baton Rouge Parishes. (Spink).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Averaged 10.7 per 100 sweeps in 7 soybean fields in St. Landry and West Baton Rouge Parishes. (Spink).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - WEST VIRGINIA - Severe in some apple orchards in eastern panhandle. (W. Va. Ins. Sur., Aug. 7). OHIO - First second-brood entries on handpiled fruit, July 28. Peak of first-brood larvae taken under bands on July 18. Moths still emerging in large numbers August 5. (Cutright). NEW YORK - Heavy moth flight in eastern area. (N. Y. Wkly. Rpt.).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Populations very high as adults continue to emerge. Populations possibly greater than in 1958. (Minn. Ins. Rpt., July 31). MASSACHUSETTS - Found in orchards now and are ready to lay eggs. (Crop Pest Cont. Mess.). NEW YORK - Adult emergence dropped to very low level in eastern area. (N. Y. Wkly. Rpt.).

LEAF ROLLERS - WEST VIRGINIA - Populations below usual level in apple orchards in eastern panhandle. (W. Va. Ins. Sur., Aug. 7). MASSACHUSETTS - Second-brood Argyrotaenia velutinana almost completely hatched. (Crop Pest Cont. Mess.).

ORCHARD MITES - WASHINGTON - Tetranychus telarius and Panonychus ulmi causing light to heavy damage in scattered stone fruit orchards near Wenatchee. (Anthon). NEW MEXICO - Building up rapidly in several apple orchards in De Baca, Otero and Lincoln Counties. (N. M. Coop. Rpt.). MICHIGAN - P. ulmi numerous in some orchards at Paw Paw, Benton Harbor, Coloma, Sodus, Niles, Sparta, Grand Rapids and Belding. (Hutson). NEW YORK - T. telarius still very slowly building up in Orleans and Niagara Counties. P. ulmi decreasing in Niagara County. (N. Y. Wkly. Rpt.). WEST VIRGINIA - Heavy in some apple orchards in eastern panhandle. (W. Va. Ins. Sur., Aug. 7).

APPLE SEED CHALCID (Torymus druparum) - PENNSYLVANIA - Seeds infested in several crab apple trees in Allegheny County. (Udine).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Defoliating fruit trees in High Rolls-Mountain Park area, Otero County. (N. M. Coop. Rpt.). OREGON - Larvae on apple, pear, walnut and cherry trees. Heaviest in years, with estimated 10-12 webs per tree around Forest Grove. (Prescott).

PEAR LEAF BLISTER MITE (Eriophyes pyri) - PENNSYLVANIA - Fair infestation of pear trees in Indiana County. (Udine).

PEAR PSYLLA (Psylla pyricola) - RHODE ISLAND - Heavy on pear in home plantings in Providence and Woonsocket. (Hansen).

PEACH TWIG BORER (Anarsia lineatella) - NEW MEXICO - Larvae abundant in fruit of peach trees in Dona Ana County. (N. M. Coop. Rpt.).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata) - OREGON - Beginning to migrate into peach orchards, as peaches ripen, from surrounding vegetation, especially pigweed. (Jones).

YELLOW-NECKED CATERPILLAR (Datana ministra) - IDAHO - Probably this species, defoliating cherry trees in Parma. All larval instars above second present. (Scott).

WHITE GRUBS - IDAHO - Possibly Polyphylla spp., caused death of 30 of 480 young prune trees planted during spring near Homedale. Roots were girdled just below the graft. (Scott).

AN ERIOPHYID (Vasates fockeui) - WASHINGTON - Attacking prunes and cherries, with moderate to heavy damage to cherries in Wenatchee area and moderate damage to prunes in lower Yakima Valley. (Anthon).

WALNUT CATERPILLAR (Datana integerrima) - ILLINOIS - Observed as far north as Yorkville. Most larvae have pupated and left walnut trees. (Ill. Ins. Rpt.). TEXAS - Light to medium on pecan trees in Fisher County. Full-grown larvae defoliating trees. (Gaines).

FULLER ROSE BEETLE (Pantomorus godmani) - NORTH CAROLINA - Adults feeding on pecan trees in Sampson County. (Scott, Farrier).

Citrus Insect Situation, Lake Alfred, Florida, July 31, 1959 - PURPLE SCALE (Lepidosaphes beckii) activity continued in very low range and will remain low, although hatching will continue during August. Infestations will remain far below average during next two months. FLORIDA RED SCALE (Chrysomphalus aonidum) activity dropped sharply. Expected to drop farther and approach average level during August. CITRUS RED MITE (Panonychus citri) decreasing activity of July will tend to stabilize at low level during August. CITRUS RUST MITE (Phyllocoptura oleivora) reached summer activity peak in mid-July and generally will decline through August. BLACK SCALE (Saissetia oleae) activity dropped sharply and will continue downward to low level by September. (Simanton, Thompson, Johnson).

A FRUIT FLY (Anastrepha nigrifascia) - FLORIDA - Collected at Key West, Monroe County, in a McPhail trap May 1, 1959. Det. by R. H. Foote. This is first record of this species since 1936. (Fla. Coop. Sur.).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Second-brood adults active at Paw Paw. (Hutson).

GRAPE FLEA BEETLE (Altica chalybea) - ALABAMA - Larvae heavy on leaves of muscadine grape in Monroe County. (Lemons).

A LEAFHOPPER (Erythroneura elegantula) - NEVADA - Heavy and damaging grape plants in Reno, Washoe County. (Lauderdale).

TRUCK CROP INSECTS

LEAFHOPPERS (Empoasca spp.) - MICHIGAN - Numerous on potatoes and beans over the southern part of Lower Peninsula. (Hutson). IDAHO - Empoasca filamenta causing leaf spotting in potato-seed fields in southeastern area. (Bishop).

Potato Aphids in Maine - Aphid populations in southern and central Aroostook County are variable, ranging from very small to moderately large. They are very small in fields where effective controls applied within past three weeks. Macrosiphum solanifolii generally predominates, with spotted, very light to moderate numbers of Aphis abbreviata, Myzus persicae and M. solani in most fields. Predators and parasites of these aphids generally present in most fields and more abundant and effective than usual. (Shands et al.).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Psyllid yellows symptoms in potatoes in Costilla and Weld Counties. (Colo. Ins. Sur.). WYOMING - Average 2.2 per 100 sweeps in potatoes in the Cody-Powell area. (Davison).

GREEN PEACH APHID (Myzus persicae) - NEW YORK - Heavy populations on potato plants, mostly this species, difficult to control with standard recommendations. (N. Y. Wkly. Rpt.). DELAWARE - Fairly heavy on young potatoes in Kent County. Remains abundant on peppers in Sussex County. (Burbutis, Mason). MARYLAND - Light to moderate, but increasing, on peppers in Worcester County. (U. Md., Ent. Dept.). MICHIGAN - Numerous on peppers at Sodus, Barada and Eau Claire. (Hutson). COLORADO - Increasing in all fields in Weld County. (Colo. Ins. Sur.) IDAHO - Appearing in potato-seed fields in Teton County and in a few fields in Butte and Custer Counties. In Caribou and Fremont Counties, populations have increased. (Bishop).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MICHIGAN - Second-brood adults laying eggs at Alba, Standish and Lake City. (Hutson). WYOMING - Averaged 1-5 adults and larvae per 100 sweeps in Powell-Cody area. (Davison). IDAHO - Severe injury occurred in several potato-seed fields in Fremont County. Infestations generally light in Custer County. (Bishop).

FLEA BEETLES (undetermined) - MINNESOTA - Numerous on potatoes in northwest district. (Minn. Ins. Rpt.). WYOMING - Several species present on beans in small numbers in northwest area. Averaged 4-12 per 100 sweeps. (Davison).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Eggs and small larvae numerous on large broccoli planting in New Castle County and larvae numerous on tomatoes and potatoes in New Castle and Kent Counties. (Burbutis, Mason).

MARGINED BLISTER BEETLE (Epicauta pestifera) - NORTH CAROLINA - Feeding locally on tomato vines in large numbers in Graham County. (Wood, Farrier).

BEEF LEAFHOPPER (Circulifer tenellus) - COLORADO - Symptoms of western yellow blight in tomatoes and curly top virus of sugar beets, transmitted by this pest, widespread in Arkansas Valley. Western yellow blight 2-3 percent in tomatoes on western slope. Traces of curly top in sugar beets being observed. (Colo. Ins. Sur.).

HORNWORMS (Protoparce spp.) - GEORGIA - Heavy on pimiento pepper in Henry County. Up to 15 larvae on some plants. (Roberts). MARYLAND - Eggs increasing on peppers in Worcester County. (U. Md., Ent. Dept.). PENNSYLVANIA - P. quinque maculata on some commercial tomato plots in Indiana County. (Udine).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEW JERSEY - Untreated peppers infested in Burlington County. (Ins. Dis. News1.). MICHIGAN - Infesting peppers at Sodus, Barada and Eau Claire. (Hutson).

POTATO STALK BORER (Trichobaris trinotata) - INDIANA - Damaging eggplant in home gardens in Benton County. (Deay)

SPIDER MITES - IDAHO - Tetranychus spp. appearing on beans in Twin Falls area; some fields show extensive and severe injury. (Gibson). OREGON - Tetranychus sp. light to moderate on hops in Ontario-Nyssa area. (Eppley).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Damage to snap and lima beans in home gardens has been severe in all sections. (U. Md., Ent. Dept.).

MICHIGAN - Larvae in last instar at Grand Rapids, Ionia, Belding and Stanton. (Hutson). DELAWARE - Adults and larvae numerous in New Castle and Kent Counties, on lima beans. (Burbutis, Mason).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults damaging beans throughout State. Feeding injury to lima beans noticeable. (Burbutis, Mason).

HARLEQUIN BUG (Murgantia histrionica) - ARIZONA - Heavy in many gardens in Cochise, Graham and Greenlee Counties. (Ariz. Coop. Sur.). NEW MEXICO - Light infestations damaging cabbage and cauliflower in gardens in Grant County. (N. M. Coop. Rpt.). SOUTH DAKOTA - Attacking garden vegetables in Faulk County. (Mast). IOWA - Damaging many crucifers including cabbage, broccoli and horseradish. (Iowa Ins. Inf., Aug. 1.).

SIX-SPOTTED LEAFHOPPER (Macrostelus fascifrons) - MICHIGAN - Heavy at Sodus, Grand Rapids, Stockbridge and Lake City and south to the Indiana border. (Hutson).

MELON APHID (Aphis gossypii) - DELAWARE - Colonies becoming heavy on cantaloupe and watermelon in Sussex County. (Burbutis, Mason).

POTATO APHID (Macrosiphum solanifolii) - DELAWARE - Building up on pumpkin squash in Sussex County. (Burbutis, Mason). COLORADO - Increasing in all fields in Weld County. (Colo. Ins. Sur.).

SQUASH BUGS (Anasa spp.) - DELAWARE - A. armigera fairly common on cantaloupe in Sussex County. (Burbutis, Mason). INDIANA - Infestations of A. tristis beginning to show in squash fields in Tippecanoe County area. (Gould).

SWEETPOTATO WHITEFLY (Bemisia tabaci) - ALABAMA - A survey of 64 fields totaling fourteen acres in Mobile County were negative. (Seibels).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OREGON - Not found in Washington or Columbia Counties as of July 21, on strawberries. (Hanna, Larson).

A GRAPE COLASPIS (Colaspis sp.) - NORTH CAROLINA - Larvae killing strawberry plants in Wake County. (Jones, Farrier).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults abundant and at highest point this season on tobacco in southern area. (U. Md., Ent. Dept.). VIRGINIA - Moderately heavy in some tobacco fields in Pittsylvania County. (Dominick).

HORNWORMS (Protoparce spp.) - MARYLAND - Damage to tobacco generally light to date, although second-brood eggs are increasing. (U. Md., Ent. Dept.). VIRGINIA - Generally light on tobacco in Pittsylvania County. (Dominick). NORTH CAROLINA - Very slight on tobacco in Granville County. (Chamberlin).

TOBACCO BUDWORMS (Heliothis spp.) - MARYLAND - H. virescens moderate to heavy on mature tobacco in several locations in St. Marys County. (U. Md., Ent. Dept.). NORTH CAROLINA - Few on tobacco in Granville County. (Chamberlin).

POTATO APHID (Macrosiphum solanifolii) - WISCONSIN - Moderate in some southern area tobacco fields. (Wis. Coop. Sur.).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Moderate to heavy on tobacco in southern area. (U. Md., Ent. Dept.). VIRGINIA - Damaging tobacco in some Pittsylvania County fields. (Dominick).

GRASSHOPPERS - INDIANA - Causing leaf damage in localized areas of southeastern counties. (Matthew).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - VIRGINIA - Percent punctured squares rapidly increasing in southeastern area. Counts 4, 7 and 12 percent in 3 Nansemond County fields; 30, 17 and 6 percent in 3 Southampton County fields; and 12 and 6 percent in 2 Sussex County fields. (Morris). NORTH CAROLINA - Infestations greatly increased during week. (Cott. News Lett.). SOUTH CAROLINA - Present in greatest numbers of season. In areas where migration has begun, weevils puncturing maturing bolls and squares. (Cott. Lett., Aug. 4). Infestation counts generally higher in Florence area as large numbers of adults emerged and entered fields and plants declined in square count. Weevils seem to be moving generally, threatening small bolls. (Fye et al.). GEORGIA - Square counts made in 27 of 42 cotton fields in middle and southern areas. Percent punctured squares ranged 2-85; averaging 53 percent. (Johnson). ALABAMA - Infestations increasing in northern area. Counts ranged 4-24 percent in treated fields and up to 60 percent in untreated fields. Infestations in central and southern areas continue to increase in fields not treated or where control programs were abandoned. In some sections of central and southern areas, bolls mature enough to discontinue controls. (Carter et. al.). TENNESSEE - Second-generation emergence caused percent of punctured squares to double over previous week in western area. Square counts averaged 27 percent. Some local migration taking place as older fields beginning to "cut out." Scattered showers continue to make conditions ideal for further build up in infested fields. (Locke).

MISSISSIPPI - Emergence in some fields in delta counties caused increases in infestations, but general infestation remains low. (Merkl et al.). LOUISIANA - Percent infestation ranged 15-36 and 25-40 in Catahoula Parish and 10-20 and 20-30 in Concordia Parish. Average percent infestation was 23 in Tensas Parish, 8 in Morehouse Parish, 17 in Franklin Parish, 9 in Ouachita Parish, 13 in Rapides Parish and 16 in Grant Parish. (Spink). Average percent square infestation was 14 in Madison Parish. Nearly all fields receiving treatments. (Smith et al.). ARKANSAS - Second and third-generation weevil emergence is general. Infestations are increasing. Percent of fields infested 86.5 compared with 79.3 previous week. (Ark. Ins. Rpt.). OKLAHOMA - Percent damaged squares averaged 25 and 30 in 2 cotton fields in Cotton County; 4 in field in Tillman County; 0-3 in fields checked in Beckham, Washita and Kiowa Counties; 0-15 in fields checked in Grady and McClain Counties; 4-32 in fields checked in Love, Johnston and Atoka Counties; 10-70 in fields checked in McCurtain County; and 1-9 in Wagoner County. (VanCleave et al.). TEXAS - Infestation continued to cause trouble in south central, east, central, northeast, north central and west cross-timbers areas. (Gaines). Percent punctured squares averaged 58.3 in treated fields and 88.9 in untreated fields in McLennan and Falls Counties. Squares scarce in many fields. Infestations increasing in late-fruited fields, especially those receiving no treatment. (Parencia et al.).

BOLLWORMS (Heliothis spp., et al.). - NORTH CAROLINA - Low infestations reported in few fields. Third brood of H. zea can be expected during next 3 weeks. (Cott. News Lett.). SOUTH CAROLINA - Activity increased. (Cott. Lett., Aug. 4). Infestations spotty and seriously affecting some fields in Florence area. (Fye et al.). VIRGINIA - Egg laying beginning in cotton in southeastern counties. A potential for heavy damage may be developing. (Morris). GEORGIA - Counts made in 42 fields in middle and southern areas. Egg counts ranged 0-18 per 100

terminals, averaging 4 per 100 terminals. Larvae ranged 0-15 per 100 terminals, averaging 4 per 100 terminals. (Johnson). ALABAMA - Infestations generally about same as previous week; however, increased infestations observed in Lowndes, Coffee and Henry Counties, where counts reached 12 percent in some fields. Eggs numerous on cotton in northern area. (Carter et al.). TENNESSEE - Increasing slightly in western area. Small larvae, probably third generation, found in fields. Some controls being applied. Predators numerous in all fields. (Locke). MISSISSIPPI - Moth catches low. Egg deposition extremely light in delta counties. (Merkl et al.). LOUISIANA - In Tensas Parish, infestations averaged 2 percent in 59 fields and ranged 0-2 larvae and 0-15 eggs per 100 terminals in 213 fields. Percent infestation was 2 in Franklin, Ouachita and Rapides Parishes; 4 percent in Grant Parish; and 3.2 percent in Morehouse Parish. (Spink). Square infestation averaged 3 percent in Madison Parish and terminals averaged 2.07 eggs and 2.08 larvae per 100 examined. (Smith et al.). ARKANSAS - Moths continue to emerge and egg deposition is heavy. Percent infested fields was 68.1 compared with 37.8 the previous week. (Ark. Ins. Rpt.). OKLAHOMA - Counts per 100 squares averaged 30 and 35 in 2 cotton fields in Cotton County; 5 in field in Tillman County; 0-6 in 5 fields in Beckham, Washita and Kiowa Counties; 2-16 in fields in Grady and McClain Counties; 2-28 in 8 fields in Love, Johnston and Atoka Counties; 10 in 3 of 4 fields in McCurtain County; and 1-4 in fields in Wagoner County. (VanCleave et al.). TEXAS - Infestations seemed to have leveled off somewhat with a decrease in moth activity in older fields. (Gaines). In McLennan and Falls Counties, infestation averaged 9.9 eggs and 5.0 larvae per 100 terminals. Square injury averaged 3 percent and boll injury 4.9 percent. (Parencia et al.). NEW MEXICO - Populations appear to be fluctuating considerably, with most areas reporting light to heavy infestations. (N. M. Coop. Rpt.). ARIZONA - Increasing in Yuma Valley of Yuma County. Some fields averaged 5-6 per 100 terminals. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Causing considerable concern to some cotton growers in Wagoner County. Most larvae in early instars and are causing little damage at present. Moths coming to lights throughout north-eastern area. (VanCleave, Campbell). TEXAS - Infestations generally light. (Gaines). NEW MEXICO - Generally light in cotton, with occasional heavy infestations in most areas. Majority of larvae in cotton fields in Lea County diseased. (N. M. Coop. Rpt.). ARIZONA - Increasing in some cotton fields in central area. Increase is especially noticeable in Gila Bend to Buckeye area, where complex of loopers and Laphygma exigua exists. (Ariz. Coop. Sur.).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Two larvae found in cotton south of Artesia, Eddy County. In bloom inspection of about 225 acres of cotton in Dona Ana County during first part of July, 66 larvae found in 43,539 blooms checked. (N. M. Coop. Rpt.). ARIZONA - One moth trapped August 3 at Cotton Research Center, Tempe, Maricopa County, 3 and three-fourths miles northeast and 3 and three-fourths miles north of 1958 infestation. (PPC). NEVADA - Light trap surveys negative through August 6 in Clark and Nye Counties. (Parker).

SALT-MARSH CATERPILLAR (Estigmene acrea) - NEW MEXICO - About 75-100 larvae found in small area of cotton field near Roswell, Chaves County. (N. M. Coop. Rpt.).

BEE TARMY WORM (Laphygma exigua) - ARIZONA - Populations continue medium to heavy some fields in Scottsdale and Buckeye areas of Maricopa County. Controls successful most cases; virus disease now reducing populations some fields. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiiella) - ARIZONA - Heavy some fields in Yuma and Parker areas of Yuma County. At Poston, near Parker, some fields average 25 larvae per 10 sweeps. (Ariz. Coop. Sur.).

APHIDS - GEORGIA - Infestations of Aphis gossypii light to moderate, with most fields having a moderate infestation. (Johnson). ALABAMA - A. gossypii heavy in Barbour and Madison Counties; light to moderate in localized areas in central and northern parts of State. (Grimes). TENNESSEE - Aphids heavy in some western area fields where treatments for bollworms and boll weevil have been applied. (Locke). ARKANSAS - Aphid infestations continue to increase. (Ark. Ins. Rpt.). OKLAHOMA - A. gossypii medium to heavy in 2 fields in Love County and light in fields checked in Wagoner County. (VanCleave, Campbell, Vinson). TEXAS - Aphids continue a problem on high plains, with infestations mostly spotty. (Gaines). NEW MEXICO - A. gossypii appears to be building up rapidly in Quay, Roosevelt, Eddy, Chaves and Dona Ana Counties. Many growers beginning to treat this pest along with bollworm. (N. M. Coop. Rpt.).

SPIDER MITES - GEORGIA - Infestations light to moderate, with most fields having moderate infestation. (Johnson). ALABAMA - Activity increasing in northern area. Moderate to heavy infestations in Madison, Lawrence and Limestone Counties. Infestations not confined to edges of fields where controls were initiated. (Camerday). TENNESSEE - Causing severe damage in spots within fields in western area. Spots getting larger and complete defoliation and boll drop is resulting. Mites being found in fields that have never been infested before. (Locke). ARKANSAS - Infestations continue to increase. (Ark. Ins. Rpt.).

FLEAHOPPERS - TEXAS - Infestations continued to be of concern in northwest area, while some heavy populations were observed. (Gaines).

STINK BUGS - NEW MEXICO - Generally light most areas, with occasional heavy populations found in cotton adjacent to barley and alfalfa fields. (N. M. Coop. Rpt.). ARIZONA - Medium infestations of Euschistus servus in central and southwestern areas, with considerable damage occurring to small bolls, particularly in Yuma County. Counts per 100 sweeps average 4 in Yuma County and 2-3 in central area of State. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Generally light most areas, with occasional heavy populations in cotton adjacent to barley and alfalfa. (N. M. Coop. Rpt.). ARIZONA - Continue heavy in cotton statewide. In some older fields in Yuma County where fruiting is greatly reduced, 90 percent of remaining squares in tops of plants punctured. In Maricopa County, counts average 20 per 100 sweeps, with an average of 40 percent punctured squares. (Ariz. Coop. Sur.). NEVADA - Averaged 2 per sweep in some fields in Pahrump Valley, Nye County. (Parker).

A FIELD CRICKET (Acheta sp.) - ARIZONA - Very heavy in spots and along edges of few fields in Yuma County; considerable foliage damage in these areas. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - WISCONSIN - Residual populations in east central area were heavily parasitized and adult numbers observed were extremely low compared to counts in previous years. (Wis. Coop. Sur.).

SPRUCE BUDWORM (Choristoneura fumiferana) - MINNESOTA - Egg mass survey in spruce-balsam area in northern part of State in progress. Preliminary observations of aerial defoliation survey do not indicate much increase in area of defoliation, but intensity of defoliation appears to have increased. (Minn. Ins. Rpt.).

ZIMMERMAN PINE MOTH (Diorystria zimmermani) - MICHIGAN - In pupal stage at Lansing, Lake City, Grand Haven and Stanton. (Hutson).

LARCH CASEBEARER (Coleophora laricella) - IDAHO - Infestation at St. Maries, Benewah County, first reported in 1957, and first-known western U. S. infestation, continues with heavy summer populations. Specimens taken this summer as far south as Bovill, Latah County, and as far north as Bonners Ferry, Boundary County. No visible damage to larch stands at these 2 locations. (Tunnoch).

BARK BEETLES - IDAHO - Epidemic infestations of Dendroctonus monticolae reported in vicinity of Sheep Mountain in Clearwater National Forest. Windthrown, mature western white pines heavily attacked by Ips vancouveri in same area. (Tunnoch).

FLORIDA - Ips spp. quite active north of Keystone Heights Airport, Clay County, but appears confined to relatively small timber of pulpwood size. Activity has increased in Escambia, Santa Rosa, Okaloosa, Walton, Holmes and Washington Counties, but populations are still extremely low. Dendroctonus terebrans becoming active in some low areas where an excess of moisture prevails. (Fla. Coop. Sur.).

ALABAMA - Reports indicate an increase in D. terebrans activity in most sections of State. Fires or logging operations have made many areas vulnerable to attack. (Grimes). An increase in D. frontalis activity reported in an infested area of approximately 10 trees in Fayette County. (Whipple). Activity also increased northeast corner of Hale County and southeast corner of Tuscaloosa County. (Mobley). NORTH CAROLINA - D. terebrans infestations noted in Mecklenburg and Harnett Counties (Keller); 35 trees infested in New Hanover County (Erwin) and 10 trees in Lenoir County (Lamb). Injury by Ips spp. general in State but especially in areas which had spring burns. (Green). An unidentified species of bark beetle present in large numbers in Lenoir County. (Keller). ARKANSAS - Infestations of Ips spp. have increased in north central, west central and southern counties. Usually on single trees or small, scattered groups of 2-4 trees were involved. Much the same situation exists for D. terbrans. (Ark. For. Pest Rpt., July).

WHITE-PINE WEEVIL (Pissodes strobi) - CONNECTICUT - Damaging leaders of Norway and Colorado spruce and white pines in ornamental plantings and reported infesting some white pine stands generally. (Johnson). VIRGINIA - Killed leaders on several white pines in a planting at Claytor Lake, Pulaski County. Adults beginning to emerge. (Morris, Raffensperger). NORTH CAROLINA - Injury to white pine minor in Buncombe County (Shaw) and severe to a plantation in Burke County (Maxwell). WISCONSIN - Severe damage occurred in northwest area jack pine stands and some red pine plantings. Adult emergence well advanced in west central counties. Adult development somewhat slower in more eastern central counties. Pupation just beginning in extreme east central counties. (Wis. Coop. Sur.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - MICHIGAN - Larvae are fully fed at Mesick, Wexford County. (Hutson). ARKANSAS - Scattered infestations continue to appear throughout the State. Damage appears negligible. (Ark. For. Pest Rpt., July). MARYLAND - Larvae caused moderate damage to Austrian pines at Braddock Heights, Frederick County. (U. Md., Ent. Dept.). ALABAMA - Limited amount of activity observed in Lee and Baldwin Counties. (Grimes, Morgan).

A SAWFLY (Neodiprion exitans) - FLORIDA - No epidemic population seems to exist in loblolly pines in areas heavily infested in 1958 in Taylor, Dixie and Jefferson Counties. (Fla. Coop. Sur.).

LARCH SAWFLY (Pristiphora erichsonii) - IDAHO - Western larch forests partially defoliated in the north fork of Clearwater River drainage in Clearwater National Forest. (Tunnock). WISCONSIN - Defoliation severe in parts of Ashland, Price and eastern Sawyer Counties, where many larch stands have been defoliated for the third consecutive year. Also severe defoliation in most other northern and central stands. (Wis. Coop. Sur.).

A PINE RESIN MIDGE (Retinodiplosis sp.) - IDAHO - Infesting natural reproduction and plantations of ponderosa pine on portions of Couer d'Alene National Forest. (Tunnock). WASHINGTON - Infestations in ponderosa pine plantations in Colville National Forest. (Tunnock).

BAGWORM (Thyridopteryx ephemeraeformis) - INDIANA - First pupae observed August 6 in Lafayette area, Tippecanoe County. (Schuder). KANSAS - Spotty but heavy on infested juniper trees in Franklin County. Larvae are very large and are still feeding. Infested shrubs nearly killed. (Thompson). NORTH CAROLINA - Present in large numbers in Lenoir County. (Keller).

CATALPA SPHYNX (Ceratonia catalpae) - OKLAHOMA - Larvae, probably this species, heavy and defoliating some young catalpa trees in east central area of State. (Rogers, Washum).

FALL WEBWORM (Hyphantria cunea) - DELAWARE - Remained abundant on cherry, black walnut and crab apple along roadsides in Sussex County. Larvae present on black walnut in New Castle County. (Burbutis, Mason). MARYLAND - Injury to quince noted at Dickerson, Montgomery County. (U. Md., Ent. Dept.). ILLINOIS - Occasional nests observed in central and eastern areas. (Ill. Ins. Rpt.). MINNESOTA - Feeding by fourth instar noted on birch near Eveleth, St. Louis County. (Minn. Ins. Rpt.).

MIMOSA WEBWORM (Homadaula albizziae) - FLORIDA - Larvae collected on mimosa at Jacksonville, Duval County, May 1, 1959. This is the first report of this species from this particular county. (Fla. Coop. Sur.). VIRGINIA - Medium on mimosa trees throughout Campbell County and in Lynchburg. (Elliott). NEW JERSEY - Quite serious in some areas of the State. (Ins. Dis. Newsl.).

A NYMPHALID (Asterocampa celtis) - KANSAS - Heavy on hackberry in Sherman County. Second generation pupating; few small third-generation larvae present. (Thompson).

PUSS CATERPILLAR (Megalopyge opercularis) - TEXAS - Causing some defoliation and annoying residents in Travis and Tarrant Counties. (Texas Coop. Rpt.).

YELLOW-NECKED CATERPILLAR (Datana ministra) - DELAWARE - Abundant on pin oaks in eastern New Castle County. (Burbutis, Mason). ILLINOIS - Quite common in central and eastern areas of State. Larvae one-half inch to full grown. (Ill. Ins. Rpt.). IOWA - Has skeletonized leaves of some ornamental plants. (Iowa Ins. Inf.).

CERAMBYCIDS - NEW MEXICO - Larvae of three undetermined species severely damaging poplar trees at Carlsbad, Eddy County. (N. M. Coop. Rpt.).

ELM CALLIGRAPH (Calligrapha scalaris) - SOUTH DAKOTA - Feeding on Chinese and American elms in the Mitchell area of Davison County. (Mast).

ELM LEAF BEETLE (Galerucella xanthomelaena) - INDIANA - Continued abundant in Lafayette area of Tippecanoe County. (Gould, Matthew). ILLINOIS - Damage to Chinese elms common throughout southern half of State. (Ill. Ins. Rpt.). IDAHO - Causing considerable damage to elms in Twin Falls. Very large number of adults taken in light trap at Filer, Twin Falls County, August 1. (Gibson). VIRGINIA - Feeding heavily on foliage of elms in Goochland County (Rowell, Truett) and in Colonial Heights, Chesterfield County (Morris, Gruenhagen).

CHRYSMELIDS - WISCONSIN - Several species have become epidemic on herbaceous and woody plants in east central area. (Wis. Coop. Sur.).

LOCUST LEAF MINER (Chalepus dorsalis) - INDIANA - Caused moderate to heavy defoliation of locust trees in upland areas of southeast counties. (Montgomery).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Medium on several hosts throughout Prince William County. This is a reoccurrence after a few years of practically no infestation. (Cox).

SYCAMORE LACE BUG (Corythucha ciliata) - KANSAS - Ranged up to 50 per leaf on sycamores in Shawnee, Riley, Barton, Sherman and Norton Counties. Causing a bleaching-out of leaves. Will probably cause premature defoliation. (Thompson).

APHIDS - IDAHO - Large numbers present on wide variety of trees and shrubs in Twin Falls area. Honeydew problem acute on maples and elms. (Gibson). Another undetermined species is believed to be associated with serious crown deterioration of young Pinus monticola throughout northern part of State. An unspecified species found in terminal shoots of western white pine in plantations near Bovill, Latah County. Affected trees show terminal deformity caused by adventitious budding. (Tunnoch). VIRGINIA - Heavy on crapemyrtle trees in Brunswick, Patrick and Rockbridge Counties. (Rowell, Morris, Judy).

SCALE INSECTS - PENNSYLVANIA - Phenacoccus sp., possibly serratus, common on American beech trees in Pike County. Det. H. Morrison. Matsucoccus gallicolus flagging tips of pitch pines in Cumberland County. (Drooz). IDAHO - Phenacoccus pinifoliae infestations numerous on evergreens in Twin Falls. Lepidosaphes ulmi infesting blue ash trees in same area. Some infestations very severe and some trees have failed to develop leaves or have dropped leaves shortly after their appearance. (Gibson). OKLAHOMA - Unaspis euonymi medium to heavy on Euonymus sp. in scattered areas of Tulsa County. (Price).

SPIDER MITES - MINNESOTA - Tetranychus telarius building up as result of recent high temperatures. (Minn. Ins. Rpt.). NORTH DAKOTA - Undetermined species heavy on juniper, perennials and shrubs in many sections of the State. (N. D. Ins. Rpt.). MARYLAND - Unspecified species injuring azaleas at Rohresville, Washington County. T. telarius infesting sweetpeas and marigold at Riverdale, Prince Georges County, and Oligonychus boudreauxi heavy on baldcypress at Fruitland, Wicomico County. (U. Md., Ent. Dept.). NEW MEXICO - Unspecified species heavy on American elms at Mesilla Park, Dona Ana County. (N. M. Coop. Rpt.).

WALKINGSTICK (Diapheromera femorata) - MINNESOTA - Moderate populations near Princeton, Mille Lacs County, and Pillager, Cass County. No populations of note found in 1959 in vicinity of Nisswa and Gull Lake, Crow Wing County, which had infestations prior to 1951. (Minn. Ins. Rpt.).

A WEB-SPINNING SAWFLY (Neurotoma fasciata) - ILLINOIS - Common on wild cherry in the central part of the State. (Ill. Ins. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MARYLAND - Aedes sollicitans extremely abundant and troublesome on Eastern Shore. Heaviest numbers in recent years. (U. Md., Ent. Dept.). NORTH CAROLINA - Control measures being used to full capacity along the coast for A. sollicitans. (Ashton). WISCONSIN - Populations of unspecified species are likely to increase about mid-August due to recent rains. (Wis. Coop. Sur.). MINNESOTA - Aedes vexans comprised 71.5 percent of light trap collections during period July 26-August 1, and 70 percent of 105 biting collections during same period. Of 198 larval collections, Culex tarsalis occurred in 88 and C. territans in 91. No Aedes sp. larvae were found. First-instar Aedes spp. were common, however, after rains on August 6. (Minn. Ins. Rpt.). UTAH - Unspecified species troublesome at Logan, Amalgam and Mendon, Cache County. (Knowlton).

A MUSCID (Musca autumnalis) - PENNSYLVANIA - Causing some concern to cattle growers in Greene and Washington Counties. (Gesell). Also annoying ponies in McKean County. So bad on a white horse in this area that it had to be kept in a barn. (Adams). Det. C. W. Sabrosky. This is the first report of this species from the State. (PPC). OHIO - Continues extremely annoying to cattle, horses and sheep throughout most of State. (C. R. Neiswander). INDIANA - Infestations continued moderate to heavy on cattle and horses through central counties. (Matthew). ILLINOIS - Flies, believed to be this species, observed on several herds of cattle in northern, eastern and southwestern areas of State. (Ill. Ins. Rpt.).

SCREW-WORMS (Callitroga spp.) - NEW MEXICO - Light to heavy on herds in Grant County. (N. M. Coop. Rpt.).

HORN FLY (Siphona irritans) - TEXAS - Heavy, widespread infestations attacking cattle in Duval County. (Texas Coop. Rpt.). OKLAHOMA - Populations appeared to be increasing in northeastern area of State, with counts of 200-500 per head on steers and cows checked in pastures and on rangeland in the area. (VanCleave, Campbell). Counts variable in other areas of State checked. (Vinson, Washum, Mount, Henderson). NEW MEXICO - Light to moderate on range cattle in Grant County. (N. M. Coop. Rpt.).

TABANIDS - UTAH - Annoying cattle and horses at Riverton, Salt Lake County. (Knowlton). OHIO - Abundant on cattle and horses at Wooster and other eastern areas. (C. R. Neiswander). OKLAHOMA - Counts ranged 0-3 per head on 20 yearling cattle checked in Atoka County (Vinson) and averaged 3 per animal on 60 head of cattle in Wilburton area (Washum). KANSAS - Caught at rate of 8 per 15 minutes in Pottawatomie County. Tabanus sulcifrons dominant species, with few T. atratus also caught in same area. T. sulcifrons collected in moderate numbers in Riley County. (Knapp).

FLEAS - RHODE ISLAND - Numerous complaints received from all areas of the State concerning Ctenocephalides spp. (Hansen). NEW JERSEY - Continue to be a problem in homes and lawns where pets are present. (Ins. Dis. Newsl.). MARYLAND - Troublesome in a home at Towson, Baltimore County. (U. Md., Ent. Dept.). VIRGINIA - Heavy in a home in Montgomery County (Amos) and a home in Brunswick County (Basham). IOWA - Becoming numerous in basements. (Iowa Ins. Inf.). OKLAHOMA - Pulex irritans and Ctenocephalides felis populations moderate to heavy in many yards and homes throughout central and eastern areas of the State. (Howell, Price).

CHIGGERS - IOWA - Very troublesome in some lawns and abundant in some fencerows. (Iowa Ins. Inf.).

TICKS - OKLAHOMA - Amblyomma americanum averaged 6 per animal on 40 cows checked in Atoka County (Vinson) and 4 per head on 60 cattle checked in Wilburton area (Washum). TEXAS - Rhipicephalus sanguineus heavy on dogs in College Station area, Brazos County. (Hawkins).

STORED-PRODUCT INSECTS

Stored-grain Insects in Nebraska - In surface samples of shelled corn in Butler County, Trogoderma glabrum was moderate, Tenebroides mauritanicus was light and adults and larvae of Plodia interpunctella occurred in light to moderate numbers. (Kantack).

BENEFICIAL INSECTS

LADY BEETLES - ILLINOIS - Eggs, larvae, pupae and adults of unspecified species common to abundant in northern area corn fields infested with aphids. (Ill. Ins. Rpt.). OKLAHOMA - Populations light to medium in several crops in various areas

of the State. (VanCleave et al.). NEBRASKA - Ranged 1-24 per 10 sweeps in southeastern and south central area alfalfa fields with levels generally coincident with those of pea aphid population. (Roselle, Webb). SOUTH DAKOTA - Counts of Hippodamia spp. in alfalfa are increasing in southeast area of State, with 4-13 adults and larvae per 10 sweeps. (Mast).

NABIDS (Nabis spp.) - SOUTH DAKOTA - Averaged 8 per sweep on alfalfa in southeast area of State. (Mast). NEBRASKA - Counts ranged 4-10 per 10 sweeps in alfalfa in eastern part of State. (Roselle). OKLAHOMA - Counts ranged up to one per sweep in alfalfa fields checked in northeastern area. (VanCleave, Campbell).

LACEWINGS (Chrysopa spp.) - NEBRASKA - Counts generally low in alfalfa in southeastern area, ranging 1-4 per 10 sweeps. (Roselle). OKLAHOMA - Common in a few of the cotton fields checked in south central area. (Vinson). Eggs common in cotton fields surveyed in Cotton and Tillman Counties. (Hatfield).

SYRPHIDS - MARYLAND - Larvae of unspecified species extremely abundant on sweet corn coming into silk in sections of Queen Annes County, July 31. (U. Md., Ent. Dept.).

ALKALI BEE (Nomia melanderi) - IDAHO - Rapid reduction in numbers at nesting sites in southwestern alfalfa seed growing areas of State may be partially due to improper and/or incorrectly applied insecticides. (Waters).

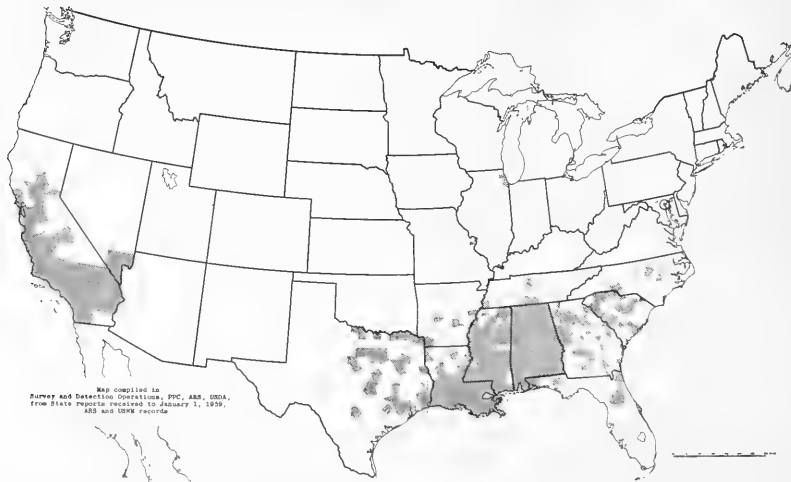
A GRASSHOPPER MITE (Eutrombidium trigonum) - KANSAS - Has been observed infesting grasshoppers in scattered areas over the State. Counts range 0-6 per grasshopper. (Peters).

CORRECTIONS

CEIR 9(32) : 730 - SPIDER MITE (Eotetranychus yumensis) should read YUMA SPIDER MITE (Eotetranychus yumensis).

ARGENTINE ANT map below replaces map issued in CEIR 9(25) : 561.

DISTRIBUTION OF ARGENTINE ANT (IRIDOMYRMEX HUMILIS)



LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ALABAMA						
Auburn 8/4			15			74 1
ARKANSAS						
Fayetteville 7/30-8/5	9	21				114
Hope 7/30-8/5	4	14		4		26
Kelso 7/30-8/5	4					20
*Morrilton 7/30-8/5	21	15	21			42
FLORIDA						
Gainesville 7/30,8/5		12			4	8
Quincy 7/20,27,8/3		3			12	139 5
GEORGIA (County)						
Clarke 7/17-31	1				15	24
ILLINOIS						
Urbana 7/31-8/6	32	126		14	27 spp.	51 1
INDIANA (Counties)						
Lawrence 7/29-8/1	20	1		1	17 18	
Tippecanoe 7/31-8/5	172	65		7	1 3	32
KANSAS						
Garden City 7/29	5	5		4	2	2
Manhattan 8/1-3,5-6	5	13	1	1	3	5
LOUISIANA						
Baton Rouge 7/31-8/6	15	7	347			89
Curtis 7/28					5	43
Franklin 7/27			12			3
MAINE						
Orono 7/26-8/1	3					
*Presque Isle 7/26-8/1	1					
MISSISSIPPI						
*Stoneville 7/31-8/6	122	14	1		44	373 9
NEBRASKA						
Kearney 7/24-31	174	7		163	8	1 15
Lincoln 7/28-8/4	145	398		33	1	29
North Platte 7/28-8/3	70	36	1	59	16	3 1
Scotts Bluff 7/24-30	54	52		114		2
NORTH CAROLINA						
Clayton 8/7	4	8			3	40 5
Faison 8/6	33	38			7	206 21
SOUTH CAROLINA						
Charleston 7/27-8/9	32	10	27	2	2	325 3
Clemson 7/25-8/7	85	43		10	10 18	197
TENNESSEE (County)						
Blount 7/28-8/3	11	12		2	1 6	11
TEXAS						
Waco 8/1-7	28	1		53		3119 33

(Continued on page 762)

*Two traps - Morrilton; 2 traps - Presque Isle;
4 traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
VIRGINIA (County)						
Pittsylvania 7/26-8/1					361	135
WISCONSIN						
Antigo 7/28-8/3	5	13		26		
*Arlington 7/28-8/3	146	148		172	1	7
Beaver Dam 7/28-8/3	84					2
Fox Lake 7/28-8/3	66					1
Janesville 7/28-8/3	158					3
Johnsburg 7/28-8/3	67	36		5		
La Crosse 7/28-8/4	103	84		6		8
Middleton 7/28-8/4	47	24		11		
Platteville 7/28-8/4	150	102		19		5
Ripon 7/28-8/3	40					9
River Falls 7/26-8/1	12	1				
Rosendale 7/28-8/3	127					8
Stevens Point 7/28-8/3	2	6		1		
*Theresa 7/28-8/3	263				3	3
Waterford 7/28-8/3	15					

*Two traps - Arlington; 3 traps - Theresa

STATUS OF SOME IMPORTANT INSECTS IN THE UNITED STATES

TUBER FLEA BEETLE (Epitrix tuberis Gentner)

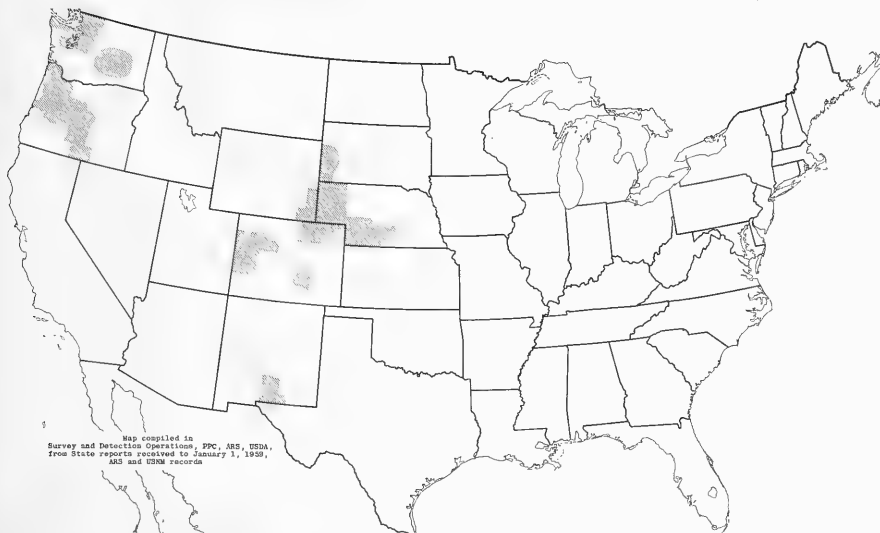
Economic Importance: Tuber flea beetle is one of the most important pests of potatoes in several Western States. In Nebraska, it causes downgrading and culling. Frequently larval damage is accompanied by severe scab infection. Damage gives the potato a pimply appearance because of the burrows. Tunnels and their entrances become raised and filled with a corky material. E. tuberis was long confused with potato flea beetle (E. cucumeris), but L. G. Gentner studied the problem and described E. tuberis as a new species in 1944. Tuber flea beetle larvae cause serious damage to potato tubers, while potato flea beetle damages the foliage principally; however, it does cause some tuber injury.

Distribution: United States and Canada. The eastern limit of this species in the United States is probably western Nebraska. (See map).

Hosts: Adults will attack a wide variety of wild and cultivated hosts. Larval damage seems to be generally limited to solanaceous plants, though minor damage has been reported on other hosts.

Life History and Habits: Adults overwinter along field margins, fence rows and old potato fields. They begin to emerge from the soil about mid-May and continue to appear until late June or early July. Peak emergence is just before mid-June. Soon after emergence, they move into early potato fields. Eggs are laid in the soil at a depth of one-half to 2 inches, around the bases of the host plants, from late May until the last of July. Newly hatched larvae wander actively in

DISTRIBUTION OF TUBER FLEA BEETLE (*EPITRIX TUBERIS*)



search of food. About July 1, first-generation adults begin emerging and reach peak populations in early fields during the last of July or early August. As the early crop is harvested, they migrate to late plantings and lay eggs for the second generation. The first second-generation adults appear about August 10 and reach peak abundance in late August and mid-September. In Nebraska there is evidence of a partial third generation in some years.

Description: EGG is elliptical, pearly white, surface pitted and averages 0.5 mm. long by 0.2 mm. wide. LARVA when first hatched is delicate and threadlike, white and about 1.0 mm. long. Mature larva is about 4 mm. long, delicate and white except for the head and thoracic shield which are light brown. The head capsule is small and margined with black. There are three pairs of short thoracic legs and the tenth abdominal segment is retractile with a locomotor organ. PUPA is about 1.75 mm. long and 0.75 mm. wide. ADULT is about 1.75 mm. long, elytra punctured, but punctures not seen without optical aid. The beetle is black and covered with short hairs which give a dull appearance. Antennae and legs are brownish. Hind legs are thickened for jumping. E. tuberis may be distinguished from E. cucumeris by its densely punctate pronotum, less prominent, more widely separated eyes, subparallel elytral margins and somewhat subdepressed disc of the elytra. E. tuberis is distinguished from E. similaris by more widely placed eyes, less prominent, more convex pronotum and less rounded elytral margins. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 9(33) : 8-14-59



Adult of Epitrix tuberis

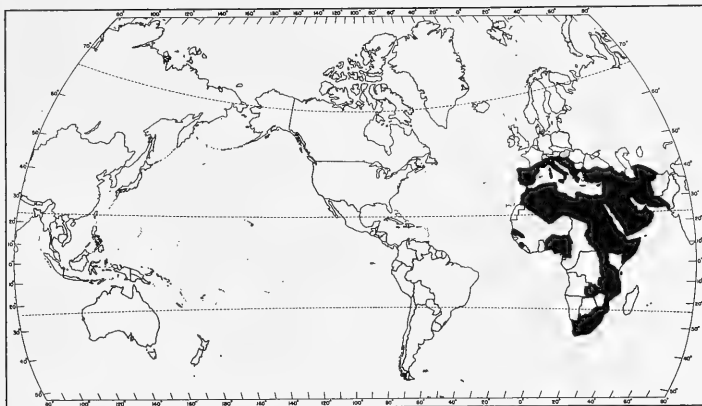
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

TWELVE-SPOTTED MELON BEETLE (Epilachna chrysomelina (F.))

Economic Importance: This coccinellid is rated second only to an armyworm (Prodenia litura) as a major pest of cucurbits in Egypt. Control measures are necessary in some years to save the crops, especially watermelon which is the favorite host. Considerable damage to melons also occurs in Algeria and other North Africa areas. In Israel and Jordan, serious losses occur on the plains but infestations are not serious in the hill regions where temperature seems to be a limiting factor. Heavy damage in untreated melon plantings was reported in 1957-58 from Iran. Infestations are seldom serious in consecutive years in South Africa and populations do not build up to damaging levels in France. Plant damage results from the feeding of larvae and adults on foliage, stems and fruits

Distribution: Widespread in Africa, Southern Europe, Middle and Near East.

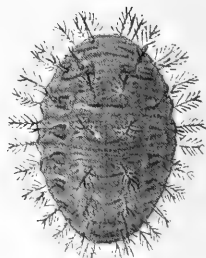
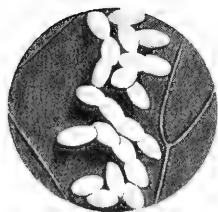
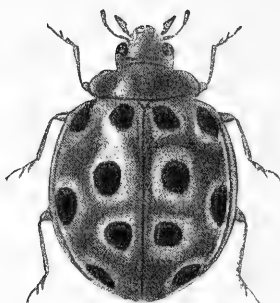
Hosts: Principally a pest of cucurbits including watermelon, muskmelon, cucumber, pumpkin and other cultivated and wild species. Also reported from cotton, sesame, lettuce and potato.



General Distribution of Epilachna chrysomelina

Life History and Habits: In Israel, adults emerge from hibernation in May. Eggs are laid in clusters of 50 or less on the lower surface of the leaves. Hatching occurs in 3 to 5 days and the larvae begin feeding almost immediately, making rows of transparent spots on the leaves. After 3 to 5 molts, pupation takes place on the plants or other nearby objects. There are 5 generations annually. Adult activity ceases at the beginning of the rainy season. Feeding continues through the winter on wild cucurbits in Egypt, however. During the crop season, both adults and larvae feed on fruits, leaves and other tender parts of hosts. The leaf tissue is consumed, leaving only the veins, much as with Mexican bean beetle. Injured leaves dry and plant mortality occurs in heavy infestations. Large holes are eaten in the fruits and young stems are gnawed. The adults fly actively and the larvae may migrate from plant to plant.

Description: ADULT - 8.6 by 5.8 mm., tawny or brownish-yellow, but color may vary. Each elytron has six black spots which vary in size. Integument covered with fine hairs. Antenna with 11 segments, first largest and nearly semi-circular in anterior part. Prothroax smooth, broad and convex; anterior portion with two large symmetrical projections which extend forward on each side of the broad head. Mesothorax light-brown to reddish-brown. Metathorax dark, first sternites with darker stripes running to the sides. EGG - Pale yellow, elongate oval, 1.45 by 0.5 mm. LARVA (newly hatched) - Light-yellow, back covered with tender spines. Full-grown larva broad, dark-yellow, nearly fusiform, branched spines strongly sclerotized; 6.4 by 4.2 mm. PUPA - Yellow to dark-yellow. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9 (33): 8-14-59.



Eggs, Adult and Larva of Epilachna chrysomelina

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
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COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insects Conditions

First-generation EUROPEAN CORN BORER population lowest in many years in Minnesota and it appears that the second generation will be quite low in all districts. (p. 769). SOUTHWESTERN CORN BORER damaging corn in parts of Kansas and heavy in areas of Arizona. CORN EARWORM caused considerable damage to corn in sections of Kansas; is heavy in field corn in southern New Mexico counties and in coastal valleys of San Diego County, California. FALL ARMYWORM severe on corn in Pittsylvania County and caused heavy damage in a Fairfax County field in Virginia. Also damaged corn in Adams County, Pennsylvania. Serious outbreak of NORTHERN CORN ROOTWORM involves 5,000-10,000 acres in Humphreys County, Tennessee. (p. 770).

WESTERN CORN ROOTWORM damaging a field of corn in Yellowstone County, Montana, is first record for the State. CORN LEAF APHID heavy on corn in areas of San Diego County, California. (p. 771). GARDEN WEBWORM heavy in some alfalfa fields in central and southwestern Arizona. LYGUS BUGS very heavy in Arizona and abundant in Dona Ana County, New Mexico, in alfalfa. (p. 772). GREEN CLOVERWORM damaging soybeans in north central Missouri; populations could increase rapidly in east central Illinois during next one or two weeks. (p. 773).

CODLING MOTH buildup heavier than normal in Sacramento County, California. (p. 774).

POTATO LEAFHOPPER may be a problem on late lettuce in New Jersey. (p. 776).

SPIDER MITES damaging cotton in several states. (p. 780, 781). BARK BEETLES damaging pines in several states. Serious outbreaks of PINE ENGRAVER may occur throughout New York if dry weather continues. SPRUCE BUDWORM heavy in areas of Montana and Maine. (p. 782). RED-HEADED PINE SAWFLY expected to be most serious in several years in New York. (p. 783).

Musca autumnalis continues to be a problem on livestock in several states. (p. 784, 786). First report of year for SCREW-WORM in Louisiana. (p. 785). A BROWN SPIDER (Loxosceles reclusa) collected in a home in Garden City, Kansas, and large numbers present in a home in Phelps County, Missouri. (p. 785).

CORRECTIONS. (p. 786).

ADDITIONAL NOTES. (p. 786).

SUMMARY OF INSECT CONDITIONS - 1958 - CALIFORNIA. (p. 789).

WEATHER BUREAU 30-DAY OUTLOOK

MID-AUGUST TO MID-SEPTEMBER 1959

The Weather Bureau's 30-day outlook for the period from mid-August to mid-September calls for temperatures to average below seasonal normals in the western half of the country, except for near to above normal along the Pacific Coast. In the eastern half of the Nation temperatures are expected to average near normal along the Gulf Coast and in the upper Mississippi Valley but above normal in the remainder of the area, with greatest departures in the Northeast. Precipitation is predicted to exceed normal in the north central portion of the country from the Great Lakes to the Rockies. Subnormal amounts are anticipated over the Far Southwest and also in a broad band from Texas through the southern Appalachians to New England. In unspecified areas near normal rainfall is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING AUGUST 17

Rainfall this week was generally widely scattered, except for an extensive belt of more than 1 inch extending along the Gulf and south Atlantic coasts and for locally heavy thundershowers, especially in the Midwest. Precipitation occurred during the middle of the week along a slow-moving cold front extending from the Great Lakes through the central Great Plains, but rainfall amounts varied considerably. In general, falls of 1/2 to 1 inch prevailed. Leedey, Oklahoma, reported 5.34 inches for the week. On Friday night and Saturday morning nearly 6 inches fell in the Wichita, Kansas, area, causing a rapid rise in streams and rivers. Heavy rains then moved into southern Illinois on Sunday. By Monday morning, in Illinois, Benton reported 7.42 inches and Carbondale, 5.14 inches. Widespread local flooding and crop damage was reported. Lighter showers also occurred in surrounding Missouri, northern Illinois, Kentucky and Indiana over the weekend. Generally dry conditions continued on the West Coast and over the northern Rocky Mountain States. Scattered light showers fell along coastal Washington and Oregon, the Idaho-Washington border, the Yellowstone Valley of Montana, and in the southern Sierras and California desert regions, but elsewhere there were no beneficial rains. However, the southern Plateau and central Rocky Mountain States received some good showers. Locally heavy rains fell in southern Nevada and central and southeastern New Mexico, and light to moderate showers covered most of Utah, Arizona, and the mountains of Wyoming and Colorado. A tornado was reported on the 17th at Wellton, near Yuma, Arizona. Range conditions and soil-moisture supplies were greatly improved in these areas. Scattered showers also supplied some relief in North Dakota and southern South Dakota. Elsewhere, practically no rainfall occurred in central Texas, eastern Oklahoma, western Arkansas and over much of the Appalachians and middle Atlantic coast. Thundershowers over the weekend distributed moisture rather evenly over the Great Lakes region and New England.

Temperatures for the week averaged above normal over most of California and Nevada, and were well above normal along the central coast of California. Above-normal temperatures also prevailed in southeastern New Mexico, western Texas, and in a band from the central Great Plains into the central Mississippi Valley, southern Great Lakes region, the Appalachians and the Central and Northern Atlantic States. After midweek a high-pressure area centered off the East Coast was pumping hot, humid air from the South into the Great Lakes and the Northeast, bringing well-above-normal temperatures, with maxima in the 90's. The warmest week of the season was reported from New England. Cooler air covering the

(Weather continued on page 778)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - MONTANA - Infestations of unspecified species are greatly reduced from those of 1958. Controls were applied to a total of 50,000 to 60,000 acres on the Northern Cheyenne and Crow Indian Reservations in Rosebud and Big Horn Counties, in eastern Cascade and in Chouteau Counties and other small spots around the State. (Roemhild, July 1-Aug. 1). UTAH - Damaging crops locally at Paragonah, Iron County, with Melanoplus bilituratus and M. packardii dominant. M. bivittatus and Camnula pellucida dominant species in alfalfa fields at Panguitch, with some M. packardii present. Unspecified species locally abundant at Ogden, Orem, Holladay and Syracuse. Controls applied to 75,400 acres on the Manti-Lasal National Forest during period August 1-8. M. bruneri was dominant species, with M. borealis, M. alpinus and Camnula pellucida also damaging. Range species light in areas of Beaver Canyon and around Kent Lake in Beaver County. (Knowlton). WISCONSIN - Numbers of M. femur-rubrum lower in southern counties than in central or light soil counties and development is generally less advanced. Nymphs in third and fourth instars, except in light soils near Brodhead and Palmyra-Eagle area, where they are more numerous and in fourth and fifth instars. Counts in these areas up to 20-25 per square yard, but elsewhere high counts were 6 per square yard. (Wis. Coop. Sur.). MINNESOTA - Populations generally quite low, with economic infestations very scattered and localized. Most economic infestations present in west central and northwestern counties, where populations in some legume fields run as high as 40 per square yard. M. femur-rubrum remains dominant species. (Minn. Ins. Rpt.). INDIANA - Melanoplus spp. light to moderate along roadsides and field margins in localized areas throughout the State. Leaf feeding on corn and soybeans readily observed in areas where rainfall has been light. (Matthew). NEBRASKA - Crop species of Melanoplus spp. very light in southeastern counties. (Roselle). KANSAS - Adult counts of unspecified species in western two-thirds of State were generally noneconomic to light, with only a few scattered areas having moderate counts. (Fitchett, Bell). Counts of Melanoplus femur-rubrum, M. bivittatus, M. differentialis, M. bilituratus, Hesperotettix speciosus and Aeoloplides turnbulli were generally less than one per square yard. Moderate numbers of Brachystola magna were observed in several areas in the south central and southwest sections of the State, feeding on other grasshoppers killed by cars on highways. (Peters). OKLAHOMA - Counts ranged 5-10 per square yard on a roadside in the Cordell area, Washita County (Hudson), averaged 10 per square yard in 2 Garfield County alfalfa fields (Owens) and ranged 3-10 per square yard along roadsides in the Boise City area, Cimarron County, with Melanoplus sp. dominant (Howell). NEW MEXICO - Unspecified species causing damage to crops near Lovington, Lea County. (N. M. Coop. Rpt.). MARYLAND - Caused light to moderate injury on soybeans in Worcester County. (U. Md., Ent. Dept.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - WISCONSIN - Adult numbers depositing second-generation eggs increased markedly in southern area. (Wis. Coop. Sur.). MINNESOTA - Pupation is 25, 20 and 22 percent and adult emergence is 12, 20 and 2 percent in the southwest, south central and west central districts, respectively. First-generation population lowest in many years, with only few southwestern counties maintaining relatively high numbers. It appears that the second generation will be quite low in all districts. (Minn. Ins. Rpt.). SOUTH DAKOTA - Some adult emergence has occurred in the southeast area. (Mast). NEBRASKA - Emergence of second-brood adults nearly 90 percent; flights light at light trap stations. Eggs observed in only one field of late corn in northeast part of State. (Roselle). ILLINOIS - Pupation of first-generation larvae north of Highway 6 nearing completion, and emergence is advanced. Egg laying has increased but total counts are still relatively low. Moth flight has been steadily increasing. (Ill. Ins. Rpt.). IOWA - Second-generation emergence complete at Ankeny with 92 percent of first-generation borers pupating. Egg mass accumulation on late corn in same area has reached 21.7 per 100 plants; most eggs have hatched. (Iowa Ins. Inf., Aug. 8). NEW JERSEY - Building up on sweet corn. (Ins. Dis. Newsl.) NEW YORK - Pupae and occasional first-brood larvae still found in early

variety corn stalks left standing in field in Hudson Valley. (N. Y. Wkly. Rpt., Aug. 10). DELAWARE - All larval stages and pupae numerous to abundant in field corn over the State. (Burbutis, Mason). MARYLAND - Light to moderate to date, but infestations by second-generation larvae increasing in late corn in all sections. (U. Md., Ent. Dept.).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - KANSAS - Damaging corn in south central and southwestern parts of State. Up to 70 percent of plants with deadheart; however, most fields show only a trace of deadheart. (Peters). ARIZONA - Continues heavy in sorghum in central and southeastern counties. (Ariz. Coop. Sur.).

CORN EARWORM (Heliothis zea) - MASSACHUSETTS - Some full grown larvae found in corn during past 10 days. Moth emergence and egg laying from this early brood can be expected about mid-August. (Crop Pest Cont. Mess., Aug. 11). NEW YORK - Only 2 moths caught in light traps in Hudson Valley, July 21-30, compared with one in 1958 and 33 in 1955, during same period. Egg laying on corn silks should increase from mid-August on, but heavy rate not expected before Aug. 20-25. (N. Y. Wkly. Rpt., Aug. 10). NEW JERSEY - Building up on sweet corn. (Ins. Dis. Newsl.). DELAWARE - Larvae common in ears of field corn throughout State and remain more abundant in southern area. (Burbutis, Mason). MISSOURI - Building up in heads of grain sorghum in southwest; infestations present only in varieties with tight heads. Counts ranged 45-110 per 100 heads. (Kyd, Thomas, Munson). OKLAHOMA - Averaged 0.1 per stalk in a Choctaw County grain sorghum field, 1.8 per linear foot in a Bryan County soybean field and up to 4 per head in a grain sorghum field in the Atoka area. Counts ranged 0.3-1 per sweep in south central and central area alfalfa fields checked, 2 per 100 heads in a grain sorghum field and 11 per 100 terminals in a peanut field in Marshall County. Infestation of heads ranged 2-20 percent in 3 grain sorghum fields checked in Caddo and Greer Counties and counts averaged 0.5 per linear foot in a milo field in Garfield County. (VanCleave et al.). KANSAS - Caused considerable damage to corn in south central and southwest sections of State; almost 100 percent of ears infested in a Harvey County field. Controls being applied to irrigated corn in Seward County. (Peters). UTAH - Damage continues to be light in northern part of the State. (Knowlton). NEW MEXICO - Heavy in field corn in southern counties. Larvae feeding in ears and whorls of younger plants. (N. M. Coop. Rpt.). CALIFORNIA - Heavy in corn in the San Pasqual, Sorrento and Osuna Valleys and coastal valleys north of Rancho Santa Fe, San Diego County. (Cal. Coop. Rpt.).

FALL ARMYWORM (Laphygma frugiperda) - COLORADO - Larvae ranged 0-3 per 10 ears of corn in Otero and Pueblo Counties. (Colo. Ins. Sur., Aug. 10). NEW YORK - First appearance of season in Hudson Valley area, July 30. Early-instar larvae found in one percent of midwhorl stage corn in New Paltz, Aug. 7. (N. Y. Wkly. Rpt.). VIRGINIA - Severe on corn, Sudagrass and pearl millet in Penhook area of Pittsylvania County (Hylton) and heavily damaged buds and whorls of 34 out of every 50 ensilage corn plants in a 5-10 acre field in Fairfax County (Morris, Beard). PENNSYLVANIA - Caused considerable damage to corn in Adams County. (Udine, Aug. 8). MARYLAND - Increasing in late corn in all sections, but infestations about normal. (U. Md., Ent. Dept.). ALABAMA - Larvae heavy in grain sorghum in Lauderdale County. (Grimes).

SORGHUM WEBWORM (Celama sorghiella) - OKLAHOMA - Counts ranged 6-15 per head in a grain sorghum field surveyed in the Atoka area. (Vinson).

NITIDULIDS - UTAH - Infesting 50-70 percent of sweet corn ears in Cedar City area of Iron County. (Knowlton).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - TENNESSEE - Serious outbreak present in corn in Humphreys County. Larvae have caused some corn to fall and large numbers of adults are destroying silks. Infestations involve 5,000-10,000 acres. (Mullett).

WESTERN CORN ROOTWORM (*Diabrotica virgifera*) - MONTANA - Causing damage to a corn field near Billings, Yellowstone County, Aug. 5, with up to 100 adults per plant. This field has been in corn for 8 years. This is the first record of this species in the State. (Roemhild).

SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) - DELAWARE - Adults present on clover and alfalfa in New Castle and Kent Counties, common in one small Sussex County alfalfa field and present on soybeans in all counties. (Burbutis, Mason). SOUTH DAKOTA - Averaged 3 per 10 sweeps in alfalfa in southeast area. (Mast). NEBRASKA - Damage to milo and sorghum moderate to locally severe in Lancaster County. (Weekman, Roselle). OKLAHOMA - Averaged 0.25 per sweep in a Choctaw County alfalfa field (Goin), ranged 0.1-2 per sweep in alfalfa fields surveyed in south central and central areas (VanCleave et al) and averaged 1 per linear foot in a Bryan County soybean field (Vinson).

CORN LEAF APHID (*Rhopalosiphum maidis*) - SOUTH DAKOTA - Present in most corn fields in southeast area, but no damage was evident. (Mast). MONTANA - Populations ranged from a few to 300 per plant in most barley fields in western, southern and central areas of the State during July. Barley yellow dwarf disease was common in infested fields in south central area. Not much damage apparent at end of July. Some control practiced, with fair results. (Roemhild). NEBRASKA - Infestations heavy in tassels of many corn fields in eastern and central counties. (Webb). OKLAHOMA - Averaged 2 and 4 per stalk in 2 southeastern area grain sorghum fields checked (Goin) and 50 per linear foot in a milo field in Garfield County (Owens). WISCONSIN - Populations in southern and northwestern counties have been drastically reduced by parasites, predators and possibly disease. Heavy rains have also been effective. However, large numbers are present in many fields and aphids are distributed over the entire corn plant. (Wis. Coop. Sur.). OHIO - Infestation in northwestern quarter of State appears to be declining slowly. (C. R. Neiswander). ARIZONA - Light to medium in some southeast and central area sorghum fields. (Ariz. Coop. Sur.). CALIFORNIA - Heavy on corn in Sorrento, Osuna and coastal valleys north of Rancho Santa Fe and light in early corn in the San Pasqual Valley, San Diego County. (Cal. Coop. Rpt.). MARYLAND - Generally light to moderate on tassels of sweet and field corn in all sections. (U. Md., Ent. Dept.).

FALSE CHINCH BUG (*Nyzus ericae*) - SOUTH DAKOTA - Counts high in Yankton, Bon Homme, Hutchinson and Davison Counties. (Mast).

BROWN STINK BUG (*Euschistus servus*) - ARIZONA - Populations increasing in heading grain sorghum in Cochise County. (Ariz. Coop. Sur.).

SPIDER MITES - COLORADO - Heavy populations of unspecified species developing in corn in eastern area. (Colo. Ins. Sur., Aug. 10). NEBRASKA - Infestations of *Oligonychus* sp. moderate in a few corn fields in Buffalo and Dawson Counties. (Roselle). WYOMING - Number of corn leaves infested by *Tetranychus telarius*, per 20 leaves inspected, was 17 in Henry area, 18 in Huntley area, 4 in Worland area and zero in the Powell-Cody and Torrington areas. Damage was less than one percent in the Henry and Huntley areas and zero in other areas. (Davison). UTAH - Undetermined species caused damage in some Salt Lake County corn; also damaging in Richfield-Redmond area of Sevier County and at Escalante, Garfield County. (Knowlton, Guymon). Some corn fields in Syracuse-Hooper area of Davis and Weber Counties severely damaged by *Tetranychus* spp. Common on field margins in these counties and in Salt Lake and Utah Counties. (Knowlton).

HESSIAN FLY (*Phytophaga destructor*) - COLORADO - No damage found in survey in Weld, Morgan and Adams Counties. (Colo. Ins. Sur., Aug. 10).

EUROPEAN EARWIG (*Forficula auricularia*) - OREGON - Heavier than normal on many hosts in Baker, Wallowa and Grant Counties, week of August 10. Especially noted damaging corn plants. (Goeden).

WEBWORMS (*Loxostege* spp.) - ARIZONA - *L. similalis* heavy in some central and southwestern area alfalfa fields. In some fields, 90 percent of plants show feeding damage and terminals webbed. (Ariz. Coop. Sur.). OKLAHOMA - Counts ranged 0.3-1 per sweep in alfalfa fields checked in south central and central areas. (VanCleave et al.).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - COLORADO - Taken in Boulder County week ending August 10. (Colo. Ins. Sur.). KANSAS - Counts ranged 10-450 per sweep in south central and southwest sections of the State, with highest numbers in the Arkansas River Valley of Pawnee County. Honeydew present on alfalfa in this area. (Peters). ARIZONA - Infestations in alfalfa very light or absent, statewide. (Ariz. Coop. Sur.). NEBRASKA - Infestations continue in small numbers in southern tier of counties. Not yet observed in alfalfa surveyed along Platte River in central area. (Webb). VIRGINIA - Light on alfalfa in central and northern counties, but increasing. Averaged 3 per sweep in 3 Rappahannock County fields and one in 2 Albemarle County fields. Counts averaged 4 per 100 sweeps in one field in each of Frederick and Fauquier Counties. None were found in 3 fields in each of Loudoun and Fairfax Counties. (Morris). MISSOURI - Counts ranged 0-1.5 per sweep in alfalfa in northwest area and 0-5 in western area. (Kyd, Thomas, Munson). OKLAHOMA - Counts ranged 2-15 per sweep in south central area alfalfa fields checked and 0.3-40 in the central area. In one field in northwestern Logan County, counts averaged 100 per sweep with honeydew heavy on plants. (VanCleave et al.). Averaged 25 and 50 per sweep in 2 alfalfa fields checked in Garfield County. (Owens). None noted in an alfalfa field checked in Choctaw County. (Goins).

PEA APHID (*Macrosiphum pisi*) - IDAHO - Abundant on 15 acres of second-crop alfalfa in Elmore County, causing stunted leaves and retarding plant growth. (Edwards). Severe in an alfalfa seed field in Bingham County. (Bishop). Controls still being applied to alfalfa fields in Twin Falls area. (Portman). WISCONSIN - Numbers now lower in southern and northwestern counties. (Wis. Coop. Sur.). DELAWARE - Slight buildup on clover and alfalfa throughout State; more noticeable in Sussex County, but still not abundant. (Burbutis, Mason). WYOMING - Population generally low; apparently affected by hot weather. (Davison). UTAH - Numbers moderate in Sevier, Garfield and Iron Counties, with moderate damage in occasional Sevier County fields. Also damaging in Milford flats area of Beaver County. Serious in alfalfa throughout Wayne County and causing some damage in Utah, Salt Lake and Weber Counties. (Knowlton).

LYGUS BUGS (*Lygus* spp.) - ARIZONA - Very heavy in alfalfa statewide, averaging 40-100 per 10 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Adults and nymphs very abundant in alfalfa fields in Dona Ana County. (N. M. Coop. Rpt.). OKLAHOMA - Very light in alfalfa fields surveyed in south central and central areas. (VanCleave et al.).

PLANT BUGS (*Adelphocoris* spp.) - SOUTH DAKOTA - *A. lineolatus* populations continue moderate to high on southeast area of State and *A. rapidus* averaged 5 per 10 sweeps in alfalfa in same area. (Mast).

POTATO LEAFHOPPER (*Empoasca fabae*) - MARYLAND - Moderate on soybeans in all sections. (U. Md., Ent. Dept.). VIRGINIA - Increasing in alfalfa fields over the State and may become heavy enough to justify controls in some fields. Averages per sweep in alfalfa were 3 in 3 fields in each of Rappahannock and Fairfax Counties, 2 in 3 fields in Loudoun County; one in a Frederick County field, 5 in a field in Fauquier County and one in 2 Albemarle County fields. Highest number per any single sweep was 12. (Morris). WISCONSIN - Populations are higher in southern counties than in northwestern counties. Considerable variation exists between fields in all counties. (Wis. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissitilus festinus) - LOUISIANA - Counts ranged 6-16 per 100 sweeps in 4 soybean fields in St. Mary, St. Landry, West Baton Rouge and East Baton Rouge Parishes. (Spink). ARIZONA - Populations continue heavy (20-50 per 10 sweeps) in alfalfa, statewide. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 2 adults per sweep in Dona Ana County alfalfa fields. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 4 per sweep in a Choctaw County alfalfa field (Goin) and 0.2-3 per sweep in alfalfa fields surveyed in south central and central areas (VanCleave et al.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - LOUISIANA - No larvae found in 7 soybean fields examined in East Baton Rouge, West Baton Rouge, St. Landry, St. Martin and St. Mary Parishes. Adults have been taken in light traps at Baton Rouge. (Spink).

GREEN CLOVERWORM (Plathypena scabra) - MISSOURI - Damage to soybeans evident in tops of plants in north central area. Counts ranged 0-5 per foot of row. (Kyd, Thomas, Munson). OKLAHOMA - Counts ranged 0.1-1.2 per sweep in most alfalfa fields surveyed in south central and central areas, with none found in a few fields. (VanCleave et al.). DELAWARE - Larvae common on clover, alfalfa and soybeans throughout State. (Burbutis, Mason). ILLINOIS - Present in many soybean fields, being especially numerous in the east central section. Most larvae are small and some are newly hatched, indicating populations could increase rapidly during next one or two weeks. (Ill. Ins. Rpt.). MARYLAND - Larvae light to moderate on soybeans in central and southern sections. (U. Md., Ent. Dept.).

ALFALFA WEEVIL (Hypera postica) - MONTANA - Caused severe damage in some newly infested areas, especially in Cascade County. (Roemhild, July 1-Aug. 1). VIRGINIA - Larval averages per 5 sweeps in alfalfa were one and two in 2 of 3 Rappahannock County fields, 3 and 2 in 2 of 3 fields in Loudoun County, 2 in a Frederick County field and one in a Fauquier County field. Two adults were seen in a field in Fauquier County and one in a Loudoun County field. No larvae or adults were observed in fields surveyed in Fairfax or Albemarle Counties. (Morris). DELAWARE - Adults and larvae in alfalfa in New Castle County and adults present in Kent County alfalfa. (Burbutis, Mason). OREGON - Counts averaged 3-4 larvae per sweep and 3-4 adults per 10 sweeps in alfalfa fields in Wallowa County, week of August 10. (Goeden). UTAH - Larvae and adults averaged 3-10 per 25 sweeps in Panguitch area alfalfa fields. (Knowlton).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - IDAHO - Adults abundant in spots in Canyon County red clover fields. (Bechtolt).

CLOVER SEED CURCULIO (Sitona hispidula) - IDAHO - Adults abundant in scattered areas within red clover fields in Canyon County. (Bechtolt).

CLOVER SEED CHALCID (Bruchophagus gibbus) - IDAHO - Averaged one per sweep in red clover seed fields in the Arena Valley area. (Waters).

BEAN LEAF BEETLE (Cerotoma trifurcata) - LOUISIANA - Counts ranged 4-13 and averaged 6 per 100 sweeps in 4 fields of soybeans in St. Mary, St. Landry, East Baton Rouge and West Baton Rouge Parishes. (Spink). MISSOURI - Counts ranged 0-8 per foot of row in soybeans in north central area and 0-5 per foot of row in southwest area of State. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 0.6 per linear foot in a soybean field checked in Bryan County. (Vinson). MARYLAND - Moderate numbers of adults noted on soybeans surveyed in all sections. (U. Md., Ent. Dept.).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Averaged 32 per 100 sweeps in 4 fields of soybeans in St. Mary, St. Landry, West Baton Rouge and East Baton Rouge Parishes. (Spink).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - Infestations ranged 5-29 percent in untreated sugarcane examined and 0-5 percent in treated fields in Iberia, St. Martin and St. Mary Parishes. (Spink).

A RICE DELPHACID (Sogatia orizicola) - FLORIDA - Sweepings in 7 locations of wild hosts for this vector of hoja blanca disease in Bay, Hillsborough, Manatee and Sarasota Counties were negative. Three properties previously infested in the vicinity of Belle Glade, Palm Beach County, did not show any symptoms of the disease. (Fla. Coop. Sur.). LOUISIANA - Surveys continue throughout State. No further infestations have been found since those reported in CEIR 9(32):735. (Spink).

WHITE-FRINGED BEETLES (Graphognathus spp.) - FLORIDA - A total of 204 sites in 12 counties were surveyed, with no new counties found infested. Extensions of infestations were found in Calhoun, Jackson, Santa Rosa and Washington Counties. (Fla. Coop. Sur.).

SUNFLOWER MOTH (Homoeosoma electellum) - CALIFORNIA - Medium in cultivated sunflowers in Fresno, Fresno County. (Cal. Coop. Rpt.).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - CALIFORNIA - Heavy in 4,300 acres of pears in the Delta-American River area of Sacramento County. Buildup heavier than for many years, being heavier than normal in every orchard. (Cal. Coop. Rpt.). WYOMING - Has caused 5-20 percent damage to unsprayed apple trees throughout State. (Davison). UTAH - Infestations in home apple and pear orchards in Weber, Salt Lake and Utah Counties ranged 80-98 percent wormy fruit. (Knowlton).

APPLE APHID (Aphis pomi) - NEW MEXICO - Heavy and damaging apple foliage in orchards near Mesilla Park, Dona Ana County. (N. M. Coop. Rpt.).

A CHAFER (Macroductylus uniformis) - ARIZONA - Heavy in tops of apple trees in Graham County orchards earlier. No adults present on trees now, but some weeds in area are still heavily infested. (Ariz. Coop. Sur.).

SPIDER MITES - MINNESOTA - Heavy on fruit trees in the southeast area. (Minn. Ins. Rpt.). UTAH - Seriously discoloring apple and damaging pear foliage commonly in Iron, Garfield, Juab, Tooele and Millard County orchards. Less frequently, plum and cherry foliage shows moderately severe injury. Severe in home orchards in Box Elder, Weber, Davis, Salt Lake and Utah Counties. (Knowlton).

LONG-TAILED MEALYBUG (Pseudococcus adonidum) - CALIFORNIA - Light to heavy on quince in Gonzales, Monterey County. (Cal. Coop. Rpt.).

A LEAF MINER (Lithocolletis sp.) - OREGON - Causing very little damage, as compared with previous years, on pear foliage in Jackson County. (Gentner).

PEAR-SLUG (Caliroa cerasi) - UTAH - Light to moderate generally in Box Elder, Weber, Davis, Salt Lake and Utah County apple, pear, cherry and prune orchards. (Knowlton)

AN OLETHREUTID - OREGON - Eighty to 90 percent infestation of larvae on unsprayed peaches in Pleasant Hill area south of Eugene. (Eppley).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Infesting poorly treated peach orchards in the Medford area; approximately 50 percent loss of peaches from these particular orchards. (Gentner). More severe than normal in the Roseburg area. (Jones).

WESTERN SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata*) - OREGON - Not as severe as in 1958 on ripening peaches in the Corvallis area. (Jones).

PLUM GOUGER (*Anthonomus scutellaris*) - NEW MEXICO - Probably this species, heavy in plums in Rio Arriba and Taos Counties. Adults now emerging. (N. M. Coop. Rpt.).

SPITTLEBUGS (undetermined) - VIRGINIA - Generally infesting most pecan trees on the Eastern Shore. (Hofmaster).

A WEEVIL (*Conotrachelus* sp.) - MISSISSIPPI - Causing severe losses to pecan growers throughout pecan-growing areas of State. Damage especially noticeable due to poor crop reported over the pecan belt. (Hutchins).

HICKORY SHUCKWORM (*Laspeyresia caryana*) - ALABAMA - Nearly full grown larvae collected in Lee County for first time this year. (Guyton).

CALIFORNIA RED SCALE (*Aonidiella aurantii*) - CALIFORNIA - Heavy on lemon and light on orange in Gonzales, Monterey County. (Cal. Coop. Rpt.).

A MEALYBUG (*Pseudococcus malacearum*) - CALIFORNIA - Heavy on fig trees in Gonzales, Monterey County. (Cal. Coop. Rpt.).

AN ARCTIID (*Halisidota argentata*) - OREGON - Adults taken in black light trap in abundance near Bridge, Coos County, July 31. (Eppley).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - IDAHO - Adults abundant in several fields in Fremont County, with late instar larvae present but no eggs found. (Bishop). Adults of second generation appearing in some Jerome County potato fields; no eggs found. (Portman). DELAWARE - Adults and larvae fairly common on potatoes and tomatoes throughout State. (Burbutis, Mason).

A LEAFHOPPER (*Empoasca filamenta*) - IDAHO - Extremely abundant in many potato fields in Bingham and Power Counties. (Bishop). UTAH - Causing moderate damage to some potato patches in the Syracuse-Clinton area of Davis County. (Knowlton).

POTATO APHID (*Macrosiphum solanifolii*) - IOWA - Abundant in the Mason City-Clear Lake area on potato foliage. (Iowa. Ins. Inf., Aug. 8). DELAWARE - Building up to heavy infestations on tomatoes in Kent County. (Burbutis, Mason). MASSACHUSETTS - Very abundant and continually establishing new colonies on vine crops, tomatoes, peppers and cole crops. (Crop Pest Cont. Mess.).

Potato Aphids in Maine - Very small to large numbers in the Presque Isle area. Small numbers predominating in experimental plantings and in one nearby untreated commercial planting. *Macrosiphum solanifolii* generally predominates, but *Myzus persicae*, *Aphis abbreviata* and *M. solani* also are present. No reports of large aphid populations or of unsatisfactory control in commercial plantings in northeastern area. Fall migration of *A. abbreviata* began August 13. Fungus diseases of the aphids on potatoes increased in abundance and importance. Predators and parasites continue to be of considerable importance in holding down aphid numbers. (Shands).

POTATO FLEA BEETLE (*Epitrix cucumeris*) - MAINE - Generally very small numbers on potato foliage in the Presque Isle area. No reports of appreciable numbers in commercial plantings elsewhere in northeastern area. (Shands).

POTATO TUBERWORM (*Gnorimoschema operculella*) - CALIFORNIA - Heavy on potatoes in Patterson, Stanislaus County, (Cal. Coop. Rpt., Aug. 7).

WESTERN POTATO FLEA BEETLE (Epitrix subcrinita) - IDAHO - Larvae severely damaging tubers of a 10-acre potato field near Parma. (Scott).

EUROPEAN CORN BORER (Pyrausta nubilalis) - VIRGINIA - Third-brood adults have emerged and are laying eggs on peppers in eastern area. (Hofmaster). MARYLAND - Increasing in peppers on the Eastern Shore. At highest levels this season. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Colonies building up on potatoes in Kent County, and very abundant on peppers in Sussex County. (Burbutis, Mason). VIRGINIA - Fairly general on peppers in eastern area. (Hofmaster). MARYLAND - Moderate to date, but increasing on peppers on Eastern Shore. (U. Md., Ent. Dept.).

PEPPER WEEVIL (Anthonomus eugeni) - CALIFORNIA - Infestations developing in pepper plantings in southern Orange County. (Campbell).

TOMATO FRUITWORM (Heliothis zea) - NEW MEXICO - Generally light with occasional heavy infestation in tomato fields in Dona Ana, Luna and Lea Counties. (N. M. Coop.Rpt.).

HORNWORMS (Protoparce spp.) - NEW MEXICO - Generally light with occasional heavy infestation in tomato fields in Dona Ana, Luna and Lea Counties. Also damaging chili in northern Dona Ana County. (N. M. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - WISCONSIN - Heavy in some cabbage fields in Outagamie County, August 6. Larvae ranged from newly hatched to mature. (Wis. Coop. Sur.). DELAWARE - Numerous on broccoli and potatoes in New Castle County. Present on pumpkin squash, broccoli and cabbage in Kent County and on tomatoes, pumpkin squash and pepper in Sussex County. (Burbutis, Mason). VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area. However, is not as numerous as at this time in 1958. (Hofmaster). MARYLAND - Abundant on untreated cabbage in most sections. (U. Md., Ent. Dept.).

CUTWORMS - VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area. (Hofmaster). GEORGIA - Heavy on Troup County pepper. (Johnson).

FLEA BEETLES - VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area; unusually heavy. (Hofmaster). PENNSYLVANIA - Very abundant on cabbage in Blair County. (Udine). MARYLAND - Phyllotreta spp. destructive to untreated crucifers in most sections. (U. Md., Ent. Dept.). UTAH - Causing moderate damage to some potato patches in the Syracuse-Clinton area of Davis County. (Knowlton).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Populations fairly large this year and may be problem with late lettuce. (Ins. Dis. Newsl.). WISCONSIN - Counts ranged up to 4 per linear foot of row in lima beans in Trempealeau County. (Wis. Coop. Sur.). DELAWARE - Adults and nymphs abundant on one large planting of potatoes in New Castle County, causing severe "hopperburn". Present on potatoes in Kent and Sussex Counties. (Burbutis, Mason). MARYLAND - Abundant on snap and lima beans in home gardens over State. (U. Md., Ent. Dept.).

SPIDER MITES (Tetranychus spp.) - IDAHO - Common in beans, corn and potatoes in southern and southeastern areas. Populations much higher than usual, with many fields requiring control. (Gibson, Portman). CALIFORNIA - T. telarius heavy on squash plants in Jackson, Amador County. (Cal. Coop. Rpt.). MINNESOTA - Undetermined species damaging strawberry fruit in the Grand Rapids area. (Minn. Ins. Rpt.).

DIAMONDBACK MOTH (Plutella maculipennis) - VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area. (Hofmaster).

CABBAGE APHID (Brevicoryne brassicae) - DELAWARE - Colonies building up on broccoli in Kent County. (Burbutis, Mason). MARYLAND - Moderate to heavy on cabbage, broccoli and other crucifers in sections of Prince Georges and Montgomery Counties. (U. Md., Ent. Dept.). MASSACHUSETTS - Very abundant and continually establishing new colonies on vine crops, tomatoes, peppers and cole crops. (Crop Pest Cont. Mess.).

IMPORTED CABBAGEWORM (Pieris rapae) - WISCONSIN - Larvae averaged 3 per mint plant and adults numerous and laying eggs in Kenosha County, week ending July 24. Heavy in some cabbage fields in Outagamie County, August 6. Larvae ranged from newly hatched to mature. (Wis. Coop. Sur.).

MELON APHID (Aphis gossypii) - MASSACHUSETTS - Very abundant and continually establishing new colonies on vine crops, tomatoes, peppers and cole crops. (Crop Pest Cont. Mess.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ARIZONA - Heavy on pinto beans in Greenlee County. (Ariz. Coop. Sur.). MARYLAND - Severe on snap and lima beans in home gardens. (U. Md., Ent. Dept.). UTAH - Damage common in home gardens throughout Salt Lake and Logan areas. (Knowlton).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Has damaged lima beans in western Orange County, feeding on foliage and pods. As high as 25 percent of pods per foot of row damaged in some fields. (Campbell).

LEAF MINERS - DELAWARE - Mines fairly common in leaves of lima beans in New Castle County, very common in pumpkin squash in Kent and Sussex Counties with up to 17 mines per leaf. Common in young snap beans in Sussex County. (Burbutis, Mason). VIRGINIA - Probably Liriomyza sp., abundant on young cucumbers and snap beans in eastern area. (Hofmaster).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - CALIFORNIA - Bean plants being infested and heavy infestations in corn in Arlington and Riverside, Riverside County, and in bean fields in San Bernardino County. Infestations medium in cornstalks at Lakeside, San Diego County. (Cal. Coop. Rpt.). VIRGINIA - Damage rather severe to snap and lima beans in localized eastern areas of State. (Hofmaster).

PALE-STRIPED FLEA BEETLE (Systema blanda) - DELAWARE - Adults common on pumpkin squash in Kent County and on lima beans in Kent and Sussex Counties. (Burbutis, Mason).

SQUASH BUG (Anasa tristis) - MARYLAND - All stages abundant on squash at various localities in Prince Georges County. (U. Md., Ent. Dept.).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - LOUISIANA - Larvae heavily damaging sweetpotatoes in St. Landry Parish. Approximately 80 percent of roots are injured in some fields. (Spink).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Larvae heavily damaging sweetpotatoes in St. Landry Parish. Approximately 80 percent of roots are injured in some fields. (Spink).

BEET WEBWORM (Loxostege sticticalis) - MONTANA - Most beet fields in Billings area treated. Scattered infestations in other beet-growing areas. (Roemhild).

ARMYWORM (Pseudaletia unipuncta) - DELAWARE - Adult flight heavy in northern New Castle County. (Burbutis, Mason).

STRAWBERRY ROOT APHID (Aphis forbesi) - NORTH CAROLINA - Infesting strawberries locally in Ashe County. (Gardner, Olive).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults at highest numbers of season, averaging 6-11 per plant on late tobacco in St. Marys County. (U. Md., Ent. Dept.). VIRGINIA - Infestations in most tobacco fields in Pittsylvania County have decreased during the past week. (Dominick). NORTH CAROLINA - Few in tobacco in Granville County. (Chamberlin).

HORNWORMS (Protoparce spp.) - MARYLAND - Second-brood moth flights heaviest of season at Upper Marlboro. (U. Md., Ent. Dept.). VIRGINIA - Generally light on tobacco in Pittsylvania County. (Dominick). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

TOBACCO BUDWORMS (Heliothis spp.) NORTH CAROLINA - Scarce on tobacco in Granville County. (Chamberlin).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Continues to infest tobacco at economic levels. More numerous and heavier than in 1958. (U. Md., Ent. Dept.). VIRGINIA - Decreased on tobacco in Pittsylvania County during past week. (Dominick). NORTH CAROLINA - Scarce on tobacco in Granville County. (Chamberlin).

(Weather continued from page 768)

northern Rocky Mountains, northern Great Plains and northern Great Lakes produced weekly temperature departures well below normal in those sections. Butte, Montana, recorded 29° on the 8th and International Falls, Minnesota, 42° on the 13th. General showers and cloudiness over the central and southern plateau, the southern Great Plains, and the Southeast also kept temperatures below normal over those areas. (Summary supplied by U. S. Weather Bureau).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - SOUTH CAROLINA - Continues to increase as hatch continues in the Florence area. Plants virtually denuded of squares and young bolls being attacked. (Fye et al.). Increasing in every cotton growing county reporting. (Cot. Let.). LOUISIANA - Morehouse Parish: infestations ranged 0-64 percent and averaged 17 percent in 280 fields. Tensas Parish: ranged 1-32 percent and averaged 10 percent in 62 fields, and ranged 3-95 percent and averaged 19 percent in 217. Franklin Parish: ranged 1-85 percent and averaged 19 percent in 79 fields. Ouachita Parish: ranged 0-29 percent and averaged 9 percent in 73 fields. Concordia Parish: ranged 10-20 percent in 2200 acres and 20-30 in 800 acres. Catahoula Parish: in 350, 400 and 250 acres infestations ranged 10-20, 20-30 and 30-40 percent respectively. (Spink). Madison Parish: square infestation ranged 2-98 percent and averaged 22 percent in 146 fields and ranged 1-82 percent and averaged 16 percent in 148 fields. (Smith et al.). ARKANSAS - Second and third-generation emergence is general. Counts in southwest area range 5-95 percent. (Ark. Ins. Rpt.). MISSOURI - Of 992 fields surveyed, 25 were infested, with 2.5 percent of squares punctured. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 26 percent in 3 fields in Muskogee County; averaged 72 percent in 4 fields in Pushmataha, McCurtain and Choctaw Counties; averaged 33 percent in south central area fields and 16 percent in central area fields; averaged 9 percent in 6 fields in Jefferson, Tillman, Jackson and Harmon Counties; and ranged 1-2 percent in 3 of 9 fields in Greer, Washita and Caddo Counties. (VanCleave et al.). TENNESSEE - Some weevils have begun to migrate at this time in the western area, leaving fields that are cutting out and moving to fields that are not maturing as fast. Counts down this week. Averaged 24 percent this week; were 27 percent last week and 21 percent this time in 1958. No infestations found in northern area. (Locke). TEXAS - Infestations spotted throughout State with some heavy populations noted in the north central and central areas. (Gaines). Squares too scarce in many fields in the McLennan and Falls County area for records to be made. However, adults present in sufficient numbers for immature boll protection. (Parencia et al.). MISSISSIPPI - Infestations continue low in general for the delta area. Mostly spotty but some fields of older cotton showed sharp rise due to decrease in squaring. (Merkl et al.). ALABAMA - Increasing throughout State. Ranged 2-50 percent in the northern area. (Ledbetter, Turner, Thompson, Canaday, Carter). GEORGIA - Square counts made in 18 of 38 fields in middle and southern area ranged 20-85, averaging 64 percent punctured squares. (Johnson).

BOLLWORMS (*Heliothis* spp., et al.) - CALIFORNIA - Light on cotton in Blythe, Riverside County. (Cal. Coop. Rpt., Aug. 7). Evident in many fields in low numbers in the San Joaquin Valley. (Beards). Heavy hatch continues with some counts of 50-70 per 100 terminals, with some fields requiring treatment at 8-10 day intervals in Imperial County. (Peterson). SOUTH CAROLINA - Some fields being seriously injured in the Florence area. Moth flight increasing. Rank growth of cotton and current weather ideal for further damage. (Fye et al.). Activity continues strong in most counties reporting. Infestations seem spotty. (Cot. Let.). LOUISIANA - Concordia Parish: in 3000 acres infestations ranged 2-7 percent. Catahoula Parish: in 1000 acres ranged 2-7 percent. Morehouse Parish: in 280 fields ranged 0-14 percent and averaged 3 percent. Tensas Parish: in 62 fields ranged 0-4 percent and averaged 1 percent, and in 217 fields ranged 0-5 percent. Larval infestations ranged 0-6 per 100 terminals. Franklin Parish: in 79 fields ranged 1-14 percent and averaged 3 percent. Ouachita Parish: in 73 fields ranged 0-5 percent and averaged 1 percent. (Spink). Madison Parish: in 146 fields, 95 were infested averaging 2 percent and ranged 0-9 percent. Eggs and small worms generally light but building up in some fields. (Smith et al.). ARKANSAS - Fourth-generation moths beginning to emerge. Building up in fields where improper treatments being applied. (Ark. Ins. Rpt.). NEW MEXICO - Generally light with spotty heavy infestations in Lea, Eddy, Dona Ana and Luna Counties. (N. M. Coop. Rpt.). MISSOURI - Of 992 fields surveyed, 931 were infested. Egg counts ranged 0-19 per 100 terminals and larvae ranged 0-32 per 100 terminals. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 4 percent in 3 fields in Muskogee County; 5 percent in 4 fields in Pushmataha, McCurtain and Choctaw Counties; 8 percent in

south central area and 7 percent in central area; 5 percent in 6 fields in Jefferson, Tillman, Jackson and Harmon Counties; and 4 percent in 9 fields in Greer, Washita and Caddo Counties. (VanCleave et al.). TENNESSEE - Increasing slightly in the western area. (Locke). TEXAS - Infestations spotted throughout State. (Gaines). Square and boll injury light in McLennan and Falls Counties. (Parencia et al.). MISSISSIPPI - Moth catches in light traps reached highest point of season during the week in the delta area. Egg deposition increasing toward end of week. (Merkl et al.). ALABAMA - Only 33 of 117 fields surveyed were infested. Average percent infestation was 2.57, and the highest infestations were in Macon, Pickens, Henry and Coffee Counties. (Grimes). GEORGIA - Egg counts made in 38 fields in middle and southern areas ranged 0-14 per 100 terminals, averaging 2. Larval counts ranged 0-12 per 100 terminals, averaging 7. (Johnson).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Generally low populations in all cotton-growing areas of State. (Cal. Coop. Rpt.). NEW MEXICO - Generally light on cotton in southern counties. (N. M. Coop. Rpt.). ARIZONA - Continuing to build up in some fields in central area. (Ariz. Coop. Sur.). OKLAHOMA - Moderate in Yuba area cotton and averaged 4 per plant in a cotton field in the Hollis area. (VanCleave et al.). TEXAS - Mostly light throughout State. (Gaines). GEORGIA - Light to moderate in all fields surveyed. (Johnson).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Have not developed into any outstanding numbers. (Gaines).

BEE T ARMYWORM (Laphygma exigua) - ARIZONA - Continues to be a problem in some areas of Maricopa and Pinal Counties. Larval counts again increasing. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - CALIFORNIA - Continues heavy in cotton throughout Imperial County. (Peterson). ARIZONA - Light along the edges of some fields in Maricopa County. Some fields continue heavily infested in Yuma County. Problem more widespread following a severe rain and wind storm in that area. (Ariz. Coop. Sur.).

APHIDS - CALIFORNIA - Causing considerable honeydew in cottonfields in Tulare County. (George). In the Kearney Park area, Fresno County, rank cotton severely infested with honeydew deposits. (Ruud, Jr. Ext. Ser.). SOUTH CAROLINA - Only a few fields reporting high infestations. (Cot. Let.). ARKANSAS - Building up in some fields. Infestations present but not heavy in southwest area. (Ark. Ins. Rpt.). OKLAHOMA - Aphis gossypii light to medium in scattered fields throughout southern half of State. (Goin, Vinson, Hatfield, Hudson). TENNESSEE - Decreasing slightly but present in most fields. Infestations far heavier in cotton fields treated for boll weevil. (Locke). TEXAS - Light to medium in two fields in McLennan and Falls Counties. (Parencia et al.). GEORGIA - A. gossypii light to moderate with most fields having light infestations. (Johnson).

SPIDER MITES - CALIFORNIA - Continue to cause severe damage where uncontrolled. (Leigh, Beards). Predator control of mites better in Tulare County than in previous years. (George). Becoming problem in local areas near Calipatria-Niland in Imperial County where fields have received repeated applications of insecticides. (Peterson, Jr. Ext. Ser.). SOUTH CAROLINA - Still problem in drier areas. (Cot. Let.). ARKANSAS - Present in many fields but apparently not building up too rapidly. (Ark. Ins. Sur.). MISSOURI - Of 992 fields surveyed, 496 were infested. (Kyd, Thomas, Munson). TENNESSEE - Found in 76 percent of fields inspected this week. Some infestations causing severe spot damage. Heaviest infestations in the northwestern part of cotton-growing area. (Locke). TEXAS - Light in several fields in the McLennan and Falls Counties area. (Parencia et al.). MISSISSIPPI - Damaging infestations appearing in some fields of the delta area and control measures needed. Light infestations are general in most fields. (Merkl et al.).

ALABAMA - Continue to damage cotton throughout the Tennessee Valley of northern area. Extremely heavy infestations observed in Madison, Lawrence, Limestone, Colbert and Lauderdale Counties. Moderate to heavy in the Sand Mountain area. (Grimes). GEORGIA - Light to moderate with most fields having moderate infestation. (Johnson).

FLEAHOPPERS - TEXAS - Spotted infestations continued to cause some damage on the south plains. (Gaines).

STINK BUGS - NEW MEXICO - Medium to heavy in cotton fields where no control measures used in Lea, Eddy and Dona Ana Counties. (N. M. Coop. Rpt.). ARIZONA - Euschistus servus medium to heavy in some cotton statewide. Particularly heavy, along with Chlorochroa sayi and C. ligata in some Graham County fields. (Ariz. Coop. Sur.). GEORGIA - E. servus moderate in one field in Wayne County. (Johnson).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Abundant and increasing in many fields in Kern and west Fresno Counties. (Leigh). Nymph counts generally increasing with highest counts on rank cotton in Imperial Valley, Imperial County. (Peterson). NEW MEXICO - Nymphs very abundant in cotton squares of many fields in Dona Ana County. Both nymphs and adults have caused considerable damage where necessary control measures not used. (N. M. Coop. Rpt.). ARIZONA - Populations and damage continuing heavy in cotton statewide. (Ariz. Coop. Sur.). TENNESSEE - Moderate in Henderson County this week, most fields surveyed infested. (Locke).

COTTON LEAFWORM (Alabama argillacea) - ALABAMA - Moderate in Escambia County. First report of activity for the year in this State. (Grimes).

GRASSHOPPERS - OKLAHOMA - Counts ranged 2-7 per square yard in the margins of two cotton fields in Washita County, and averaged 20 per square yard in a field in the Enid area. (Hudson, Owens).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Still increasing with egg counts high in many fields and treatment required in Imperial County. (Peterson).

POTATO LEAFHOPPER (Empoasca fabae) - CALIFORNIA - Causing some "hopper burn" on cotton leaves in the foothill area south and east of Porterville, Tulare County. Building up recently. (George).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES - CALIFORNIA - Dendroctonus brevicomis and Ips confusus causing top kill and tree kill in group of ponderosa pines locally in El Dorado and Amador Counties. Dryness and hot weather contributed to damage. (Maguire). Infestation at the 4,000 foot level in Trinity County increasing, usually spreading upwards rather than laterally. (Fehly). I. confusus and I. latidens causing top and complete kill of single trees in a 1,200 acre stand in Indian Canyon area of Cleveland National Forest. (Pierce). D. monticolae apparently building up in small pushed-over sugar pines in 1958 logging operations. Many single trees in a 3,000 acre stand in Mokelumne Hill area of Calaveras County dying. (Bryan). Dendroctonus spp. causing complete kill of one or two mature ponderosa and Jeffrey pines per acre in a 60,000 acre stand in the Hat Creek district. Lightning associated with the damage. (Hopper). MONTANA - D. monticolae infesting western white pine and D. pseudotsugae attacking Douglas-firs. Both pines and Douglas-fir were blown down in November 1958, along Hungry Horse Reservoir. D. monticolae infesting 6-8 trees in several acres of 100-year old lodgepole pine in Soap Creek drainage, Beaverhead National Forest. (Tunnock, July Rpt.). NORTH CAROLINA - D. terebrans attacking pine locally in Wake County. (Scott, Farrier).

WHITE-PINE WEEVIL (Pissodes strobi) - NEW YORK - Heavy throughout State and heavier than last year, with medium infestations on Scotch pine in Tompkins and Tioga Counties. PENNSYLVANIA - In Forest County attacking moderate numbers of Austrian pine, lightly attacking white and Scotch pines. NEW HAMPSHIRE - More abundant than in recent years. (Northeast. For. Pest Rpt., Aug. 10).

PINE ENGRAVER (Ips pini) - NEW YORK - Scattered outbreaks in Saratoga County plantations of red pine and heavy buildup in girdled trees. It is believed that serious outbreaks may occur throughout State if dry weather continues. (Northeast. For. Pest Rpt., Aug. 10).

PINE ROOT COLLAR WEEVIL (Hylobius radicis) - NEW YORK - Heavy infestation on about 18 acres of pines in Warren and Saratoga Counties; also killing pines in Lewis County. (Northeast. For. Pest Rpt., Aug. 10).

ALDER FLEABETLE (Altica ambiens) - IDAHO - Larvae abundant on alder between Viola and Coeur d'Alene. Caused extreme defoliation. (Foote, Barr).

SPRUCE BUDWORM (Choristoneura fumiferana) - MONTANA - Heavy defoliation of Douglas-fir in areas along Gallatin River, Gallatin National Forest. Moths emerging during July. (Roemhild). MAINE - Noticeable defoliation on 250,000 acres extending from Hedgehog Mountain south to Ashland and from Portage west to Ferguson and Carr Ponds. This area is immediately west of the 1958 control region. Much of injury classed as medium to heavy. Egg mass survey in progress. (Northeast. For. Pest Rpt., Aug. 10).

TENT CATERPILLARS (Malacosoma spp.) - MONTANA - Generally down this year. Present July 1-20 in central area on caragana, lilac and other ornamentals. (Roemhild).

OAK SKELETONIZER (Bucculatrix ainsliella) - PENNSYLVANIA - Heavy feeding on oaks in Bradford County. (Drooz).

MAPLE LEAF CUTTER (Paraclemensia acerifoliella) - NEW YORK - Again appeared in State between Boonville and Carthage and populations expected to be as high or higher than a year ago. (Northeast. For. Pest Rpt., Aug. 10).

LARCH SAWFLY (Pristiphora erichsonii) - PENNSYLVANIA - Defoliated Japanese larch plantings near Emporium, Waterville and Renovo. Trees were stripped. At the Renovo site this was the sixth year of observed defoliation but cores indicated about 10 years of damage. (Northeast. For. Pest Rpt., Aug. 10).

PINE SAWFLIES (Neodiprion spp.) - NEW YORK - N. sertifer in outbreak numbers locally in Niagara County. N. lecontei expected to be most serious in several years this season, where medium to heavy damage to red pine is reported over the State. (Northeast. For. Pest Rpt., Aug. 10).

ASH PLANT BUG (Neoborus amoenus) - MONTANA - Common on green ash in July, central area. (Roemhild).

PINE SPITTLEBUG (Aphrophora parallela) - NEW YORK - Southern tier of counties with medium to heavy infestations on pine; Saranac area also infested. (Northeast. For. Pest Rpt., Aug. 10).

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) - Caused considerable blotching and leaf shedding of white oak in MASSACHUSETTS. Damage quite noticeable throughout CONNECTICUT, RHODE ISLAND and Orange County, NEW YORK. (Northeast. For. Pest Rpt., Aug. 10).

TUPELO LEAF MINER (Antispila nysaeifoliella) - TENNESSEE - Light infestation on black gum in Henry County. (Bennett).

EASTERN SPRUCE GALL APHID (Chermes abietis) - NORTH CAROLINA - Infesting red spruce in Graham County. (Plt. Dis. Clinic, Farrier).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - MONTANA - Heavy feeding on Douglas-fir saplings on east shore of St. Mary Lake, Glacier National Park. (Tunnock, July 1-Aug. 1). IDAHO - Abundant on Engelmann spruce at Tensed. (Foote, Barr).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - As of August 13, the total number of Dutch elm disease cases was 3,101 for the season. Four new municipalities in 4 counties reported. Second emergence of beetles continuing and eggs hatching. (Wis. Coop. Sur.). OKLAHOMA - Heavy on some American elms at Carney, Lincoln County. (Stiles).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Heavy defoliation on elms at Purcell. Populations mostly in pupal stage but adults emerging and ovipositing. (VanCleave, Stiles, Phelps). Heavy on elms at Kingfisher with counts averaging 4 larvae per leaf. (Owens). Infesting some elms at Elk City. (Burke).

ELM LEAF APHID (Myzocallis ulmifolii) - CALIFORNIA - Heavy on street elms in Roseville, Placer County. (Cal. Coop. Rpt.).

LOCUST BORER (Megacyllene robiniae) - NEW YORK - Common and causing many complaints. (N. Y. Wkly. Rpt., Aug. 10).

FALL WEBWORM (Hyphantria cunea) - DELAWARE - Present throughout State with heaviest concentration in Sussex County on black walnut, cherry, oak, apple and crab apple. (Burbatis, Mason). NEW MEXICO - Continues to be problem on shade trees throughout most of State. (N. M. Coop. Rpt.). ALABAMA - Moderate to heavy infestations on persimmons throughout northern area. (Grimes).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Very heavy on evergreens at Elk City. Limited number on elms and roses in same area. (Meharg). ALABAMA - Heavy infestation on arborvitae and pine in Monroe County. (Lemmons).

LEAFHOPPERS - OKLAHOMA - Heavy (1000 per 100 leaves) on some shade trees at McAlester. (Meharg). WYOMING - Damaged many shade trees throughout State. (Davison).

MIMOSA WEBWORM (Homadaula albizziae) - SOUTH CAROLINA - On mimosa in Spartanburg County. More numerous this year than in 1958. (Nettles et al., Aug. 5).

SYCAMORE LACEBUG (Corythucha ciliata) - NEW YORK - Becoming noticeable on sycamores in Suffolk County along village streets. (N. Y. Wkly. Rpt., Aug. 10).

WALKINGSTICK (Diaperomera femorata) - MINNESOTA - Heavily feeding on hazel brush near Nevis. (Minn. Ins. Rpt.).

APHIDS - MONTANA - Many species much more abundant than usual this year. Predators controlled most of infestations during July. (Roemhild). IDAHO - Undetermined species abundant on grand fir at Tensed and on lodgepole pine near Athol. (Foote, Barr).

VIRGINIA-CREEPER LEAFHOPPER (Erythroneura ziczac) - MONTANA - Common on Virginia creeper in eastern area during July. (Roemhild).

UGLY-NEST CATERPILLAR (Archips cerasivorana) - MONTANA - Feeding on caragana in north central area and on ornamentals in western area in July. (Roemhild).

LILAC LEAF MINER (Gracilaria syringella) - MONTANA - Very abundant east of the Rockies in July. (Roemhild).

SPIDER MITES - MONTANA - Infestations generally lower than usual at this time of year. Some infestation on evergreens and other ornamentals. (Roemhild, July 1-Aug. 1). MARYLAND - Injuring maples, spruce, plum, rose and other ornamentals at various localities in the State. (U. Md., Ent. Dept.).

SADDLEBACK CATERPILLAR (Sibine stimulea) - RHODE ISLAND - Causing local concern in East Greenwich area feeding on oak. (Hansen).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - RHODE ISLAND - Various species becoming more numerous and annoying in Narragansett and South Kingstown area. (Hansen). MINNESOTA - Of the 355 larval collections, 122 were Aedes, mainly A. vexans and A. trivittatus, and 177 were Culex, mainly C. tarsalis. A. vexans comprised 69.1 percent of the light trap collections. Observations made during period August 2-8. (Minn. Ins. Rpt.).

NEBRASKA - C. tarsalis larvae numerous in irrigation waste water in central area. (Rapp). CALIFORNIA - Populations of unspecified species have increased in the area from mid-Stanislaus County to Shasta County with numerous complaints from home owners. Highest instances for all species occurred in Colusa and Tehama Counties. C. tarsalis incidence generally very low over State. (Vector Control).

UTAH - Undetermined species extremely numerous at Genola, and annoying at Provo, Springville and Goshen, in Utah County. C. tarsalis populations have been increasing recently. (Knowlton).

A MUSCID (Musca autumnalis) - NEW JERSEY - Intense attacks by a fly, probably this species, on heads of dairy cattle were noted at 2 locations in Hunterdon County. (Ins. Dis. News1.). PENNSYLVANIA - Fairly heavy on cattle in western area and light to moderate in northeastern section. Det. C. W. Sabrosky. (Gesell).

DELAWARE - Of flies collected from Hereford steers at Newark, some were suspected to be this species. (Burbutis, Mason). OHIO - Continues to cause annoyance to cattle throughout State. (C. R. Neiswander). ILLINOIS - Positive determinations have been made from Lee, Will, Grundy, Ford, Champaign, Jasper and Henderson Counties. (Ill. Ins. Rpt.).

HOUSE FLY (Musca domestica) - ARIZONA - Heavy populations a problem to poultrymen in Graham County. Control with sprays unsuccessful. (Ariz. Coop. Sur.).

OKLAHOMA - Counts averaged 7.5 per animal on 21 untreated cows at Stillwater. (Mount, Henderson).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Populations increasing in eastern area. (Roselle). OKLAHOMA - Counts averaged 3.8 per animal on 21 cows at Stillwater. (Mount, Henderson).

HORN FLY (Siphona irritans) - NEBRASKA - Populations averaged 350 per animal on 34 cows in Red Willow County. (Webb). OKLAHOMA - Counts averaged 150 per animal on calves, 300 per animal on cows and 1000 found on one bull in a herd of 55 beef cattle in the Lebanon area. (VanCleave, Stiles, Vinson). Counts averaged 25 per animal on 21 untreated cows at Stillwater. (Mount, Henderson). UTAH - Moderately severe on Sevier and Garfield County cattle. (Knowlton).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - First report in State this year. Infestation detected at Delta Station at Tallulah on a hog in transit from outside the State. (Spink).

TABANIDS - KANSAS - Both Tabanus sulcifrons and T. atratus heavy on cattle in Marion County. Collected 16 in 15 minutes on walnut tree leaves and in car in Pottawatomie County. (Peters). OKLAHOMA - Counts of unspecified species averaged 2 per animal on 55 head of beef cattle in Lebanon area. (VanCleave, Stiles, Vinson). MONTANA - Chrysops spp. common and annoying July 1-20 in mountain area in central and southern sections of State. (Roemhild).

BROWN DOG TICK (Rhipicephalus sanguineus) - ARIZONA - A problem on dogs and around homes in Phoenix area of Maricopa County. (Ariz. Coop. Sur.).

A BROWN SPIDER (Loxosceles reclusa) - KANSAS - Collected from a home in Garden City, Finney County. This is the first known report from southwestern Kansas. (DePew). MISSOURI - Over 100 of these spiders found in a single room in Phelps County. (Kyd, Thomas, Munson).

BENEFICIAL INSECTS

LADY BEETLES - KANSAS - Hippodamia convergens counts ranged from less than one to 17 per sweep in alfalfa. Heaviest population was in a field heavily infested with spotted alfalfa aphid in Pawnee County. (Peters). OKLAHOMA - Counts of H. convergens variable in several crops over the State. (VanCleave et al.). SOUTH DAKOTA - Moderate to heavy populations of Hippodamia spp. present in most alfalfa fields in southeast area. (Mast).

NABIDS (Nabis spp.) - KANSAS - Counts ranged 0-3 per sweep in south central and southwestern area alfalfa fields. (Peters). IDAHO - Averaged 1.5 per sweep in red clover fields south of Parma, with a ratio of one adult to 2 nymphs. (Waters). OKLAHOMA - Ranged 0.1-0.5 per sweep in alfalfa fields surveyed in south central and central areas. (VanCleave et al.). SOUTH DAKOTA - Populations moderate to heavy in alfalfa in southeast area of State. (Mast).

LACEWINGS (Chrysopa spp.) - KANSAS - Ranged 0-2 per sweep in alfalfa in south central and southwestern areas of the State. (Peters). OKLAHOMA - Counts ranged 0.1-1 per sweep in alfalfa fields surveyed in south central and central areas. Eggs and larvae common in cotton fields checked in same areas. (VanCleave et al.). Light numbers of eggs noted in cotton fields checked in southwestern area. (Hatfield).

FLOWER BUGS (Orius spp.) - OKLAHOMA - Orius sp. populations light and common in alfalfa fields surveyed in south central and central areas. (VanCleave et al.). IDAHO - O. tristicolor averaged 2 per sweep in Canyon County red clover fields. Nymphs easily found in blooming alfalfa seed fields. (Waters).

BIG-EYED BUGS (Geocoris spp.) - IDAHO - Averaged 8 per sweep in a red clover field south of Parma. (Waters).

PREDACEOUS MITES (Typhlodromus spp.) - IDAHO - Caused a drastic reduction of populations of Tetranychus spp. in alfalfa and red clover seed fields, generally, in southwestern area. (Waters).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - NEW YORK - Appears to be decreasing in Suffolk County. (N. Y. Wkly. Rpt., Aug. 10). FLORIDA - Operation of 166 traps in 15 counties gave negative results during July. (Fla. Coop. Sur.).

OLD-HOUSE BORER (Hylotrupes bajalus) - NORTH CAROLINA - Large numbers of adults in Johnston County. (Jones, Farrier).

A STINK BUG (Euschistus ictericus) - SOUTH CAROLINA - Collected in Jasper County, and determined by P. D. Ashlock. There is but a single previous record for the State. (Nettles et al., Aug. 5).

GIANT HORNET (Vespa crabro germana) - SOUTH CAROLINA - A large group entered and upset a household in Jonesville, Union County. (Nettles et al., Aug. 5).

AN EARTHWORM MITE (Fuscuropoda agitans) - CALIFORNIA - Heavy infestation on roots of stock plants in Stockton, San Joaquin County. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 9(32) : 736 - EASTERN SPRUCE GALL APHID (Chermes abietis) - PENNSYLVANIA - Should read: "Heavy on Norway spruce in Christmas tree plantations and in nurseries in Lancaster and York Counties."

CEIR 9(33) : 758 - SCALE INSECTS - IDAHO - Phenacoccus pinifoliae should read Phenacaspis pinifoliae.

ADDITIONAL NOTES

NEW YORK - TWO-SPOTTED SPIDER MITE (Tetranychus telarius) building up slowly in Saratoga County, very fast in Orleans County. EUROPEAN RED MITE (Panonychus ulmi) declining fast in Orleans County. PEAR PSYLLA (Psylla pyricola) beginning to appear in Orleans County. CORN EARWORM (Heliothis zea) ranged from practically nil in treated sweet corn ears to 5 percent in untreated ears in the Hudson Valley area. TARNISHED PLANT BUG (Lygus lineolaris) and LEAFHOPPERS heavy on bean plants in Livingston County. APHIDS building up rapidly on cole crops in Monroe County. A WEEVIL (Hyperodes anthracinus) found in spotty turf infestation at Hicksville, Long Island, during a survey for European chafer. This insect is new to the State. Musca autumnalis found to be serious in 10 counties surveyed August 3-13. Some of the worst infestations are in far western area (Erie and Chautaugua Counties) and in the Hudson Valley area (Dutchess and Columbia Counties). (N. Y. Wkly. Rpt.).

COLORADO - BEET LEAFHOPPER (Circulifer tenellus) and incidence of curly top virus in tomatoes and sugar beets of concern in Prowers, Bent, Otero and Pueblo Counties. Disease in tomatoes as high as 30 percent and widespread and symptoms appearing in some sugar beet fields. Light trap collections of SIX-SPOTTED LEAFHOPPER continue high in Otero and Weld Counties but incidence of aster yellows continues low. APHIDS building up on late planted potatoes in Weld County. CORN LEAF APHID (Rhopalosiphum maidis) populations well distributed through northeast area, but counts are low. No new infestations of SPOTTED ALFALFA APHID (Therioaphis maculata) found in northeastern counties. WESTERN CORN ROOTWORM (Diabrotica virgifera) averaged 5-10 per plant in isolated spots in Fruita area of Mesa County. (Colo. Ins. Sur.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta		Heliothis zea vires.	
ALABAMA								
Auburn 8/7			8		2		43	3
ARKANSAS								
Fayetteville 8/6-12	8	16					121	
Hope 8/6-12	2	8		2			16	
Kelso 8/6-12	7	1					29	
Morrilton 8/6-12	9	18	19				35	
FLORIDA								
Gainesville 8/10						4	43	
Quincy 8/10						34	143	13
ILLINOIS								
Urbana 8/7-13	20	75	8	5		24	68	
INDIANA (Counties)								
Lawrence 8/5,7-11	34	7		1	64	48	2	
Tippecanoe 8/7-13	50	12		2		3	53	
KANSAS								
Manhattan 8/7-11	19	36		2	4	4	52	
Wathena 8/6-10	23	43		8	29	11	44	
LOUISIANA								
Baton Rouge 8/7-13	9	13	577				93	
Franklin 8/12	7		40				10	
MAINE								
Orono 8/2-8	3							
MARYLAND								
Fairland 7/31-8/12	22	11	10	9	8	9	7	
Upper Marlboro 7/28-8/7	4		2		41	33		
MISSISSIPPI								
*Stoneville 8/7-13	126	28	321	1		61	699	20
MISSOURI								
Columbia 8/3-15	51	213	69		126		191	
Sikeston 8/8-14	8			2			338	
NORTH CAROLINA								
Clayton 8/13	9	8				9	55	7
Faison 8/13	32	24				36	373	12
OREGON								
Salem 7/28-8/13		14						1
SOUTH CAROLINA								
Charleston 8/10-16	9	9	123		1	14	473	2
TENNESSEE (County)								
Blount 8/4-10	1	11	2			7	12	
TEXAS								
Brownsville 7/25-31			164				88	964
Waco 8/8-14	37	7		47			3118	59

(Continued on page 788)

*Four traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
WISCONSIN						
Antigo 8/3-9	1	24		22		
*Arlington 8/4-10	72	92	5	230	1	6
Beaver Dam 8/4-10	63					7
Bryon 8/4-10	99	25		75		
Fox Lake 8/4-10	85					3
Janesville 8/4-10	58				2	2
Johnsburg 8/4-10	28	11				
Platteville 8/4-10	112	60				8
River Falls 8/3-10	25	15		1	1	1
Stevens Point 8/4-10	2	2		1		
*Theresa 8/4-10	98					4

*Two traps - Arlington; 3 traps - Theresa

SUMMARY OF INSECT CONDITIONS - 1958

CALIFORNIA

Compiled by Ronald M. Hawthorne

Cereal and Forage Insects: MITES were generally prevalent over the State and caused light to severe damage to clover, alfalfa and other plantings. CLOVER MITE (Bryobia praetiosa) caused moderate, general damage to ladino clover in Glenn County and was a nuisance in homes in many areas. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) required extensive control on field crops, especially beans. THRIPS damaged flax in southern desert areas. APPLE GRAIN APHID (Rhopalosiphum fitchii) was light on grains. PEA APHID (Macrosiphum pisi) was general in alfalfa-growing areas, being a problem in the cooler months. Estimated damage and loss was \$241,500. SPOTTED ALFALFA APHID (Therioaphis maculata), credited with an estimated damage and loss of \$9,704,627 in 1957, is now under semi-biological control. In 1958, the loss estimate was \$1,694,064. Chemical control was not encouraged except in critical situations because of biological balance, except during August, September and October, when extensive control was required. Praon palitans, Trioxys utilis, Aphelinus semiflavus, five species of pathogenic fungi and many native predators were responsible for control. Anticipated GRASSHOPPER outbreaks failed to materialize due to late rains which extended green vegetation over rangeland areas, resulting in no migration to croplands. Severe damage occurred in a few counties, with some damage in all counties. Considerable control occurred statewide. Estimated damage and loss amounted to \$4,836,133. LYGUS BUGS (Lygus spp.) caused considerable damage in all alfalfa-growing areas, especially to seed alfalfa, with proportionable damage to other susceptible crops. It was estimated that loss and damage was approximately \$6,611,118. Safflower and trefoil were also heavily damaged in many locations. STINK BUGS were a problem on southern desert area alfalfa.

ALFALFA WEEVIL (Hypera postica) was medium to heavy on alfalfa in Lassen, Siskiyou and Modoc Counties and appeared in Fresno and San Benito Counties for the first time. Estimated loss and damage was \$84,775. CLOVER LEAF WEEVIL (Hypera punctata) was light to medium in the Montague-Ft. Jones area, Siskiyou County. Total damage and loss estimates in the State amounted to \$100,000. Some control of EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) was required in the extreme southern part of the State. Once considered a desert species, heavy populations now occur along the coast to northern Ventura County and cause considerable damage. A BLISTER BEETLE (Tegrodera erosa) damaged alfalfa in Los Angeles and San Diego Counties in June and July. Infestations of a LEAF MINER (Hydrellia griseola) in rice were heavy in Colusa and light in Glenn Counties, causing an estimated \$21,000 in damage and loss. ALFALFA CATERPILLAR (Colias philodice eurytheme) was light to heavy in alfalfa in Merced, Glenn, Yuba, Fresno and Sutter Counties, causing an estimated damage and loss of \$764,276, and ARMYWORM (Pseudaletia unipuncta) was serious statewide on Sudan grass, soybeans, garbanzo beans, corn, alfalfa and barley, with damage and loss estimated at \$258,690. BEET ARMYWORM (Laphygma exigua) seriously damaged alfalfa, corn, garbanzo beans and other field crops statewide, requiring control and causing \$1,303,120 in damages and losses. CORN EARWORM (Heliothis zea) was generally light in field corn statewide, with a few locally medium to heavy infestations. CUTWORMS were generally more prevalent on all crops over the State than in past few years and caused severe damage to many crops, requiring control. Flights of PAINTED-LADY (Vanessa cardui) adults were possibly the heaviest in years. Larvae damaged weeds and some crops beginning in southern counties and progressing northward as the season continued. SUNFLOWER MOTH (Homoeosoma electellum) considerably damaged sunflower seed crops in Yolo and Sacramento Counties and CLOVER SEED CHALCID (Bruchophagus gibbus) was heavy in alfalfa seed in Imperial County.

Fruit Insects: MITES were generally prevalent and caused light to severe damage to fruit and nut crops over the State. An AVOCADO MITE (Oligonychus punicae) was generally light in avocado groves in Orange, San Diego and Santa Barbara Counties. PARASITES and PREDATORS, including Stethorus picipes and Somatium oviformis, apparently controlled these pests during most of the year. Heavy buildups of CITRUS BUD MITE (Aceria sheldoni) occurred in lemon groves not treated in 1957. Another CITRUS MITE (Brevipalpus lewisi) caused light scarring of citrus fruit in limited areas of San Bernardino, San Diego and Orange Counties. CITRUS RED MITE (Panonychus citri) was troublesome in southern areas and infestations ranged light to severe. A heavy buildup in August was noticeable. CITRUS RUST MITE (Phyllocoptruta oleivora) was active on citrus in Orange, San Diego and Santa Barbara Counties, requiring control in most cases. A FRUIT MITE (Bryobia rubrioculus) caused considerable damage to deciduous fruit trees in southern and northern areas in June and July where controls had been neglected. Control of a RUST MITE (Rhyncaphytoptus ficifoliae) in Fresno and Madera County fig orchards was necessary to avoid severe damage. Damage to grapes by PACIFIC MITE (Tetranychus pacificus) was early and minor in the Calistoga-St. Helena area, Napa County, and moderate in the Livermore area, Alameda County. Loss and damage was approximately \$56,500. Light to moderate PEACH SILVER MITE (Vasates cornutus) populations damaged San Joaquin County peaches in July and August. PEAR LEAF BLISTER MITE (Eriophyes pyri) damaged pear trees in Santa Cruz, San Diego and Calaveras Counties in April through June and was light on Tuolumne County apples in September. Total damage and loss was estimated at \$117,500. PEAR RUST MITE (Epitrimerus pyri) severely damaged some San Diego County orchards where rains prevented spring treatment. An ERIOPHYID MITE (Aceria essigi) was generally medium to heavy on Santa Cruz County boysenberries and light on most bushberries in other localities. SIX-SPOTTED MITE (Eotetranychus sexmaculatus) trace infestations occurred in Santa Barbara County coastal citrus and TWO-SPOTTED SPIDER MITE (T. telarius) severely damaged deciduous fruits, grapes and almonds over the State beginning in June, with many groves partially defoliated late in the season, despite controls. Spring infestations of Eotetranychus willamettei were light to heavy on grapes in Napa and San Joaquin Counties.

THRIPS damaged many crops during 1958. Varying populations of CITRUS THRIPS (Scirtothrips citri) caused leaf damage and fruit scarring of citrus in Riverside, San Bernardino and San Diego Counties and was more prevalent in Los Angeles County than in previous years. EUROPEAN EARWIG (Forficula auricularia) caused light to medium damage to pear trees in some Santa Cruz County locations; heavy damage to three-year-old cherries in the Linden area, San Joaquin County; moderately damaged fruit trees in San Benito County; damaged maturing walnut trees in Calaveras County; and damaged prune and pear trees in Santa Clara County. Total damage and loss approximated \$46,970. KATYDIDS caused medium damage to citrus in Arlington-Corona areas, Riverside County, and grape vines in St. Helena area, Napa County. BLACK SCALE (Saissetia oleae) infestations were light to heavy throughout the southern citrus-growing area and on commercial olive plantings in Tulare, Merced and Yolo Counties, where controls were required, as well as on a wide range of ornamentals. Damage and loss amounted to about \$1,130,350. PARASITES (Aphycus helvolus and Coccophagus rusti) materially aided control. CALIFORNIA RED SCALE (Aonidiella aurantii) continued serious in southern citrus-growing areas and occurred in a few locations in northern counties. Estimated damage and loss in 1958 was \$2,514,857. A warm, dry fall caused a rapid buildup in some counties and a possible extra generation. Ants also aided the buildup and spread. Several species of PREDATORS and PARASITES aided in controlling infestations. CITRICOLA SCALE (Coccus pseudomagnoliarum) was general and light in Tulare County. COTTONY-CUSHION SCALE (Icerya purchasi) was light to medium on citrus locally in Tulare, Riverside and San Diego Counties, and showed a decrease from 1957. EUROPEAN FRUIT LECANIUM (Lecanium corni complex) was generally light locally on prunes, apricots, plums and pears along the coast from Napa to San Benito Counties, developing to heavy where dormant spray was not applied. Estimated loss and damage was \$25,000. Local fig orchards in Fresno and Merced Counties showed an increase of FIG SCALE (Lepidosaphes ficus). Infestations of a FROSTED SCALE (Lecanium pruinosum) were generally heavy on walnut plantings in Stanislaus County and local

in Merced and San Joaquin Counties, with approximately \$52,000 in damages and losses. ITALIAN PEAR SCALE (Epidiaspis piricola) infested pears and prunes in the Highlands area, Santa Cruz County; was moderate to heavy on Santa Clara County prunes; and occurred locally on Alameda County walnuts and apricots. Another SCALE (Aspidiotus lataniae) was generally light on Orange County avocado and very low locally in San Diego County. OLIVE SCALE (Parlatoria oleae) was general on San Joaquin Valley deciduous fruits and olives, necessitating treatment in some counties. Damage and loss amounted to about \$433,131. Parasites were active in most areas. PURPLE SCALE (Lepidosaphes beckii) was generally light, with local medium infestations in Orange County and a local light infestation in the El Cajon area, San Diego County. SAN JOSE SCALE (Aspidiotus perniciosus) was a major pest of deciduous fruits and almonds in the Sacramento and San Joaquin Valleys and seriously damaged trees where controls were not applied. An estimated \$974,690 were credited to loss and damage. YELLOW SCALE (Aonidiella citrina) was light to severe in Tulare County citrus, generally; heavy in Stockton, San Joaquin County; and light in Orland, Glenn County.

A very rapid buildup of APHIDS on southern area citrus early in the year was complicated by rain which prevented treatment. Serious damage did not develop, as a parasitic fungus, Entomophthora aphidis, increased rapidly to control the outbreak. APPLE APHID (Aphis pomi) was light to severe on apples in Napa, Santa Cruz and Tuolumne Counties and light to heavy on Lassen County deciduous fruit trees. MEALY PLUM APHID (Hyalopterus arundinis) caused considerable leaf-curl in Napa, Colusa and Yolo County prune orchards. Estimated damage and loss was \$140,000. ROSY APPLE APHID (Anuraphis roseus) was generally light to medium on apples in Santa Cruz County and in local areas of Napa County. WALNUT APHID (Chromaphis juglandicola) was general on walnuts statewide, with light to severe damage in Santa Barbara, Napa, Orange, Ventura and Yolo Counties. Losses and damage were estimated to be \$439,456. Some areas required extensive treatment. GRAPE PHYLLOXERA (Phylloxera vitifoliae) was light generally on Tulare County grapes and reported for the first time from Stanislaus County. CITRUS MEALYBUG (Pseudococcus citri) was light on citrus most of 1958 but increased locally in the fall in Santa Barbara and San Diego Counties. Biological control aided materially and several liberations of Cryptolaemus montrouzieri were made. GRAPE MEALYBUG (P. maritimus) was light to medium in Tulare and Fresno County grape vineyards, light on oranges in Orange County and locally moderate on Alameda County apricot. LONG-TAILED MEALYBUG (P. adonidum) was light on Orange County oranges. An infestation of CITRUS WHITEFLY (Dialeurodes citri) was discovered for the first time in the State in 22 city blocks in Sacramento, Sacramento County, on several different hosts in January. Eradication treatment was applied to 55 city blocks. Post-spray checks were negative for live citrus whitefly. LEAFHOPPERS damaged prune trees locally in San Benito and Santa Clara Counties and a GRAPE LEAFHOPPER (Erythroneura sp.) was particularly damaging to grape vineyards locally in San Bernardino, Madera, San Joaquin and San Diego Counties. STINK BUGS appeared early, damaged pears in Sacramento and El Dorado Counties and were general in Tuolumne County. DRIED-FRUIT BEETLE (Carpophilus hemipterus) caused moderate damage to Kern County raisin grapes and figs in Fresno and Madera Counties.

A NITIDULID (Haptoncus luteolus) was more numerous than previously reported. FULLER ROSE BEETLE (Pantomorus godmani) populations were heavy and damaging in many citrus groves in the Highgrove area, Riverside County, and light in Escondido area, San Diego County. Light infestations of a LEAF WEEVIL (Adaleres humeralis) occurred on avocado in this same area. A SCAVENGER FLY (Lonchaea n. sp.) attacking sound apricot in the Alpine area, San Diego County, required control. Populations of a VINEGAR FLY (Drosophila melanogaster) were heavier in 1958 than previously recorded. The range of WALNUT HUSK FLY (Rhagoletis completa) was extended to the San Joaquin and Sacramento Valleys to include Calaveras, Mariposa, San Joaquin, Santa Cruz and Tuolumne Counties. CODLING MOTH (Carpocapsa pomonella) caused an estimated \$1,884,752 damage and loss in 1958. Deciduous fruits and walnuts were damaged from Lassen to San Diego Counties, with extremely

heavy damage to pears in some locations. FRUIT TREE LEAF ROLLER (Archips argyrospila) damaged grapes, pears and walnuts locally. GRAPE LEAF FOLDER (Desmia funeralis) caused damage in grape-growing areas north of the Tehachapi Mountains. NAVEL ORANGEWORM (Paramyelois transitella) seriously damaged walnuts and almonds from Tehama to Stanislaus and San Benito Counties, with up to 10 percent damage in Tehama County. Total damage and loss was estimated at \$370,000. ORANGE TORTRIX (Argyrotaenia citrana) was light to heavy on Santa Cruz County apples and pears and light to medium on citrus in Orange County. Medium local damage by ORIENTAL FRUIT MOTH (Grapholitha molesta) occurred to late peaches in Orange County. PEACH TWIG BORER (Anarsia lineatella) caused an estimated \$3,530,123 loss and damage, nearly a million dollars more than in 1957. This species was general in all deciduous fruit-growing areas and damage was varied. Some damage occurred to almond fruit. RED-HUMPED CATERPILLAR (Schizura concinna) was most damaging to young walnuts, but was spotty from Mendocino to San Joaquin Counties. Several species of TENT CATERPILLARS (Malacosoma spp.) caused considerable damage to deciduous fruit trees in Alameda, Marin, Santa Clara, Napa, Humboldt and Santa Cruz Counties and moderate damage to Yolo County walnuts in September. Most WESTERN TUSSOCK MOTH (Hemerocampa vetusta) damage occurred to citrus from March to May. Populations were light to moderate in Los Angeles, Riverside, Orange and San Bernardino Counties. Light to moderate, scattered damage, occurred to Santa Clara County prunes. WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) in the El Cajon Valley was not damaging, probably because of parasites. PEAR-SLUG (Caliroa cerasi) caused light to medium damage, defoliating pear and cherry trees in Mendocino, Napa, Lassen and Riverside Counties.

Truck Crop Insects: MITE infestations were very heavy on sugar beets, cantaloups and watermelons in Imperial County, light to medium on strawberries in Tehama and Santa Barbara Counties, damaged beans in Calaveras County and lettuce in San Benito County. BULB MITE (Rhizoglyphus echinops) was heavy on garlic in Merced area, Merced County, in May. CYCLAMEN MITE (Steneotarsonemus pallidus) infested strawberries over the State, with damage in Orange, San Diego, Santa Cruz and Santa Barbara Counties. TOMATO RUSSET MITE (Vasates lycopersici) was medium in Yolo, Sacramento, Napa, San Benito, Santa Barbara and Orange Counties. Controls were required in late season in many locations. Damage and loss was estimated at \$139,000. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) caused an estimated \$1,801,895 damage. Rapid buildups severely damaged many crops over the State. BEAN THRIPS (Hercothrips fasciatus) lightly damaged beans in Colusa County fields. ONION THRIPS (Thrips tabaci) infestations were light to medium on beans in Orange County, light on onions in Riverside County, heavy on onion and garlic in Imperial County and caused some damage to Sacramento County tomatoes. EUROPEAN EARWIG (Forficula auricularia) damaged beans in Santa Barbara, artichokes in Santa Cruz and truck crops in Marin Counties and home gardens in many northern counties. GRASSHOPPERS caused considerable damage to truck crops and home gardens statewide, but less than anticipated. A FIELD CRICKET (Acheta sp.) heavily damaged melon crops in Imperial County. APHIDS were generally light to severe on many truck crops, requiring considerable control. APPLE APHID (Aphis pomi) damage was severe on Merced County watermelon plantings; spotted, heavy on carrots and light on tomatoes in Imperial County; and light to medium on Tulare County truck crops. BEAN APHID (Aphis fabae) was medium locally on beans in Orange County in July. CABBAGE APHID (Brevicoryne brassicae) caused light to medium damage to cole crops in Alameda, Orange, San Diego, Santa Barbara and Santa Cruz Counties. Damage and loss were estimated at \$764,593. Anuraphis apiifolia was light locally on celery in San Diego and San Luis Obispo Counties. GREEN PEACH APHID (Myzus persicae) was medium on Santa Cruz County lettuce and potatoes and necessitated control on potatoes in Santa Barbara County. Light to heavy infestations on peppers presented some control difficulty in San Diego County. Loss and damage approximated \$736,000. A LETTUCE ROOT APHID (Pemphigus bursarius) damaged lettuce in the Fremont area, Alameda County, during July. PEA APHID (Macrosiphum pisi) caused considerable damage in pea-growing areas. Mosaic damage of 10-60 percent, with an estimated 25 percent yield reduction, occurred in San Luis Obispo County. Infestations were light in Orange County and damage moderate in the delta region of Sacramento County.

GROUND MEALYBUG (Rhizococcus falcifer) was spotted, heavy in Santa Cruz County strawberry plantings, while TOMATO PSYLLID (Paratrioza cockerelli) was spotty on tomatoes in the Chula Vista area, San Diego County. A STINK BUG (Euschistus conspersus) severely damaged tomatoes locally in Merced County. CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) damage was light to Santa Cruz County cabbage seed production. Larvae and adults of CUCUMBER BEETLES (Diabrotica spp.) damaged beans, cucumbers, melons and tomatoes generally in northern areas. Forty acres of potatoes were disced under in the Murietta area, Riverside County, because of a heavy infestation. Damage was moderate to Sacramento County hops and heavy to squash in San Joaquin County. A FLEA BEETLE (Epitrix sp.) was heavy on San Joaquin County tomatoes and sugar beets in May and PEPPER WEEVIL (Anthonomus eugenii) was medium to heavy in San Diego County pepper fields. ARMYWORM (Pseudaletia unipuncta) damage was heavy on several crops in Imperial, medium on garbanzo beans in Santa Barbara and light to medium on soybeans in Lake Counties. ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) was particularly damaging, with 60 percent bud damage in one location and up to 30 percent in other areas during the season. BEET ARMYWORM (Laphygma exigua) was medium on 2,000 acres of garbanzo beans, requiring control, in Los Angeles County, and light to medium in Orange County. Infestations were medium to heavy on sugar beets in Colusa, Sacramento and Imperial Counties, heavy and damaged peas and cabbage in Santa Cruz County and medium to heavy on truck crops and celery in San Diego and Orange Counties. CABBAGE LOOPER (Trichoplusia ni) and ALFALFA LOOPER (Autographa californica), often in mixed populations, caused \$4,365,461 damage and loss. CORN EARWORM (Heliothis zea) was the number one pest in the State with an estimated \$7,426,398 damage and loss. Light to heavy damage occurred in all counties, with corn and tomatoes the most severely damaged crops. CUTWORMS were prevalent statewide causing considerable damage and treatment cost. Total damage and loss amounted to \$1,276,398. IMPORTED CABBAGEWORM (Pieris rapae) caused light to medium damage to cabbage and cauliflower in Alameda and Santa Barbara Counties.

LIMA-BEAN POD BORER (Etiella zinckenella) caused a 5-15 percent loss of lima beans in San Diego County and some damage in other bean-growing areas. ORANGE TORTRIX (Argyrotaenia citrana) damage to strawberries was light to medium in the Santa Maria area, Santa Barbara County. Unusually heavy flights of PAINTED-LADY (Vanessa cardui) occurred over the State. Populations fed primarily on malva, but varying degrees of damage occurred to tomatoes, lettuce, cole crops, hops and carrots. POTATO TUBERWORM (Gnorimoschema operculella) caused damage in potato-growing areas of San Benito and Riverside Counties, estimated at about \$499,144. SALT-MARSH CATERPILLAR (Estigmene acrea) was general over the State, with economic buildups on strawberries in Santa Cruz, beans in Madera and lettuce in Riverside Counties. Medium to heavy BEET WEBWORM (Loxostege sticticalis) populations damaged Colusa County sugar beets in July. TOMATO HORNWORM (Protoparce quinquemaculata) caused light damage to tomatoes in Sacramento, Santa Barbara, Calaveras and Alameda Counties. TOMATO PINWORM (Keiferia lycopersicella) lightly damaged tomatoes in San Diego County. CABBAGE MAGGOT (Hylemya brassicae) lightly damaged radish and cole crops locally in Alameda and Santa Cruz Counties. LEAF MINERS (Liriomyza spp. and Tischeria spp.) caused heavy damage to various crops over the State. PAVEMENT ANT (Tetramorium caespitum) was serious enough in tomato fields to require control in Sacramento, Yolo and San Joaquin Counties.

Cotton Insects: Generally, MITES required treatment most of the growing season, with some severe outbreaks being reported. An apparent resistance to phosphate materials was reported locally. APHIDS caused damage to cotton plantings in all areas; treatment required. WHITEFLIES were present in many cotton fields over the State, being heaviest in field margins. Crumple leaf disease was serious locally in the Imperial and Palo Verde Valleys. Populations of LYGUS BUGS (Lygus spp.) were variable and damaging. An apparent tolerance to some insecticides developed in areas of Kern and Fresno Counties. STINK BUGS were present in cotton fields and occasionally heavy in desert areas. BEET ARMYWORM (Laphygma exigua) caused light damage to cotton in several areas. CABBAGE LOOPER (Trichoplusia ni) populations were heavy and damaged Imperial Valley cotton and were generally light in other areas. Light to medium BOLLWORM (Heliothis zea) populations were

damaging in all cotton-growing areas. COTTON LEAF PERFORATOR (Bucculatrix thurberiella) was heavy locally in Riverside and Imperial Counties where stub cotton is grown, causing an estimated \$1,135,187 in loss and damage. PAINTED-LADY (Vanessa cardui) migrations required control in a few cases. SALT-MARSH CATERPILLAR (Estigmene acrea) caused varying amounts of damage in all cotton-growing areas and required considerable treatment.

Forest, Ornamental and Shade Tree Insects: A RHODODENDRON APHID (Masonaphis rhododendri) was heavy and damaged wild rhododendrons in the Ft. Bragg area, Mendocino County, and was more serious than previously reported. Populations of a PSYLLID (Psylla uncatoides) became heavy on acacia trees in San Diego County urban areas. CALICO SCALE (Lecanium cerasorum) damaged large elms in Napa and EUROPEAN ELM SCALE (Gossyparia spuria) was widely distributed over the State on elms, the honeydew being a nuisance. GOLDEN OAK SCALE (Asterolecanium variolosum) damaged oaks in San Joaquin, Marin and Santa Cruz Counties. A PINE SCALE (Physokermes insignicola) occurred locally in Marin County. SPRUCE BUD SCALE (P. piceae) was medium on spruce in San Rafael, Marin County and in three locations in Alameda County. This species was new to the State in 1958. Another SCALE (Asterolecanium arabisidis) was serious on ornamentals in Woodland, Yolo County. A PLANT BUG (Neoborus illitus) caused light damage to ash trees in Shasta, Glenn and Yolo Counties. ELM LEAF BEETLE (Galerucella xanthomelana) caused extensive damage to elms in many locations and considerable control was applied. A medium infestation of a PINE REPRODUCTION WEEVIL (Cylindrocopturus eatoni) on pines in Tuolumne County required control on several acres. RED TURPENTINE BEETLE (Dendroctonus valens) killed ornamental and forest pines in Tuolumne, Calaveras and Alameda Counties. Several large elms in Sacramento were killed by SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) and heavy populations occurred in Yolo County. This species now occurs in both northern and southern areas of the State. CALIFORNIA OAKWORM (Phryganidia californica) was not generally serious on oaks in 1958. CARPENTERWORM (Prionoxystus robiniae) was a local problem in San Joaquin, Fresno County, attacking elms. GRANULATE CUTWORM (Feltia subterranea) was problem in dichondra lawns in San Diego and Los Angeles Counties. Monterey pines in the Pasadena-Sierra Madre areas required treatment for a GELECHID (Exoteleia burkei). In San Joaquin County, a CASEMAKER (Bucculatrix albertiella) was heavy on valley oaks. Considerable defoliation was caused to oaks in the St. Helena-Calistoga areas by YELLOW-NECKED CATERPILLAR (Datana ministra) and to ash in the St. Helena area by BROWN-HEADED ASH SAWFLY (Tomostethus multicinctus) in Napa County. A GALL WASP (Neuroterus saltatorius) was numerous under oak trees.

Beneficial Insects: HONEY BEE (Apis mellifera) - Beekeepers operated 559,000 colonies in 1958 and honey production was estimated at 44,720,000 pounds, the largest since the alltime high of 1952. Apiary inspection revealed 3,202 colonies infected with American foulbrood. Nesoma disease was prevalent early in the season due to adverse weather.

Some Pests New to the State in 1958: A MEALYBUG (Heterococcus graminicola) on lawn grass in Davis, Yolo County. BLACK PECAN APHID (Melanocallis caryaefoliae) in Riverside, Orange and San Bernardino Counties. These are the first known infestations west of the Rocky Mountains. A CUCUJID (Hemipeplus marginipennis) in a fruit fly trap in July in Santa Cruz County. A PINE RESIN MIDGE (Retinodiplosis inopis) in El Dorado National Forest, previously unrecognized in the West. An ANT (Cardiocondyla nuda minor) in San Diego. A MITE (Aceria ajugae) in Los Angeles and Sacramento; a first record for North America.

New County Records of Some Important Insects: BROWN-BANDED COCKROACH (Supella supellectilium) in Sacramento and Alameda Counties. PEAR PSYLLA (Psylla pyricola) extended into 6 new northern counties. SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) extended into Alameda County. WALNUT HUSK FLY (Rhagoletis completa) extended range into 5 new northern counties. WESTERN CHERRY FRUIT FLY (R. cingulata indifferens) in Humboldt County. A FAN PALM MOTH (Litoprosopus coachella) in Corning, Tehama County, first record this far north.

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**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Division
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United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS in damaging numbers on 40,000-50,000 acres in Phillips County and caused more damage to range grass than anticipated in Prairie County, Montana. Controls successful in Black Hills of South Dakota and in 3 counties in North Dakota. Second-brood EUROPEAN CORN BORER will possibly be greater than in 1958 in Wisconsin. (p. 797). CORN EARWORM infestation heavy on 5,000 acres of corn in Butte County, California. FALL ARMYWORM infestation general in grain sorghum from Conecuh County east to Henry County, Alabama. (p. 798). GREEN CLOVERWORM numerous on soybeans in Illinois, feeding on pods in some fields. VELVETBEAN CATERPILLAR increasing on soybeans in Jasper County, South Carolina, and defoliating peanuts throughout peanut-growing area of Alabama. (p. 800).

APPLE MAGGOT damage to apples greater in Wisconsin than in 1958. (p. 801). PEACH TWIG BORER causing more injury to peach fruits in Willamette Valley, Oregon, than in several years. (p. 802).

LEAFHOPPER populations heavy in New Jersey, with possibility that virus yellows disease may be troublesome in lettuce. (p. 803). CABBAGE LOOPER building up on cole crops in three eastern states and damaging watermelons in Riverside County, California. MEXICAN BEAN BEETLE causing some damage to beans in scattered areas. (p. 804).

BOLL WEEVIL migrations underway and infestations have increased in several cotton-growing states. (p. 806). BOLLWORMS continue to be a problem in several cotton-growing areas. (p. 806, 807).

SOUTHERN PINE BEETLE epidemic continues in two Texas counties. (p. 809). Outbreak of a LEAF-EATING GRASSHOPPER on oaks in Wisconsin involves 35-45 square miles. (p. 809). ELM LEAF BEETLE damaging elms in several states. (p. 810).

Infestations of Tabanus atratus on livestock, heaviest in years in areas of Texas. (p. 811).

INSECT DETECTION: A weevil, Hyperodes anthracinus, reported in CEIR 9(34): 786, is first record for New York. Sogata orizicola found in St. James Parish, Louisiana, for first time. (p. 799). Soybean cyst nematode reported for first time from Craighead County, Arkansas. (p. 801). First record of white-fringed beetle from Arkansas; also found for first time since 1946 in Muscogee County, Georgia. (p. 801). Pear psylla found for first record from Amador County, California. (p. 802). First published record of cottony maple scale from Oklahoma. (p. 809). Oligonychus aceris, a maple mite, recorded for the first time in California and the West. (p. 809). Brown dog tick collected for first time in Arkansas. (p. 811).

CORRECTIONS. (p. 813).

ADDITIONAL NOTES. (p. 815).

HAWAIIAN insect notes. (p. 816).

INSECTS not known to occur in the United States. (p. 817).

Reports in this issue are for the week ending August 21, unless otherwise designated.

WEATHER OF THE WEEK ENDING AUGUST 24

Most of the Nation east of the Rocky Mountains continued hot and humid throughout the week, with moderate to locally heavy scattered showers and thunderstorms in many areas. Several states from the northern Great Plains to the Ohio Valley recorded the hottest week of the season. Cooler weather extended from New England to the Middle Atlantic States over the weekend, briefly replacing record or near-record heat in the latter section. Temperatures were generally near normal along the Gulf coast and in the lower Great Plains, where almost daily scattered showers left extremely variable rainfall amounts. Temperatures, near normal west of the Rocky Mountains early in the week, fell sharply over the Pacific Northwest, the northern Rockies, and the Great Basin at midweek, and widespread moderate to heavy showers, totaling from 1/4 to over 1 inch, were recorded throughout the Western States. The unseasonably cool weather, with readings 10° to 20° below normal, set new records for low maximum temperatures in interior California, and produced light frost in the Reno, Nevada, area on Thursday night. Unusually warm temperatures late in the week resulted in above-normal weekly averages along the California coast. Extreme heat, high winds, and generally inadequate rain in the northern Great Plains caused rapid soil-moisture depletion. Maximum temperatures above 100° were general early in the week, reaching 112° at Vivian, 111° at Pierre, and 109° at Phillip and Aberdeen, South Dakota, and 106° at Grand Rapids and Kensal, North Dakota, on the 18th.

Heavy showers left over 5 inches of rain in parts of north and central Iowa during the weekend, with 7.21 inches at Forest City, and scattered showers in Arkansas brought 4.77 inches during the week at Searcy. Hot and humid conditions were predominant over the Great Lakes, the Ohio Valley, and the South Atlantic States, with little daily change, and rainfall was highly variable. High temperatures caused a rapid drain on moisture, and dry to very dry soils were reported from northeastern Georgia to the Middle Atlantic States. In the Northeast, showers at the beginning and end of the week and widespread rain in New England on the 24th left light to locally heavy precipitation totals. Much of Vermont and Rhode Island and sections of New York and Massachusetts were reported very dry. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - MONTANA - Reports indicate damaging numbers are present north of Malta in Phillips County. It appears the infestation covers 40,000 to 50,000 acres. There was more damage to range grass during July in Prairie County than was anticipated. Indications are that range species are extremely numerous in Richland County. (PPC, West. Reg., July Rpt.). SOUTH DAKOTA - An estimated 36,992 acres in the Black Hills were treated under a cooperative program and another 29,150 acres were treated under a voluntary program. The severe Melanoplus bilituratus infestation in the Black Hills area was reduced to noneconomic by these programs. NORTH DAKOTA - A cooperative program was completed July 15-28 in Golden Valley, Billings and Slope Counties which controlled grasshoppers on 12,597 acres of government and private rangeland. (PPC, Cent. Reg.). Light infestations of M. femur-rubrum present in many alfalfa fields through Richland, Sargent and Ransom Counties. (N. D. Ins. Rpt.). KANSAS - Counts of Melanoplus femur-rubrum, M. differentialis and M. bilituratus range from less than 1 to 5 per square yard in central and north central areas of the State. (Peters). OKLAHOMA - Ranged 5-30 per square yard in 2 roadside margins and 0.2-0.6 per sweep in an alfalfa field checked in Caddo County; 1-8 per square yard in 4 pasture areas surveyed in Kiowa County. (Hudson). WISCONSIN - M. femur-rubrum nymphs averaged 6-8 per square yard in most legume fields examined in northeastern counties; however, one field in Manitowoc County averaged 24 per square yard and one Winnebago County field averaged 30 per square yard. Nymphs are mainly in fourth and fifth instars, except in Door, Kewaunee and Brown Counties where third and fourth instars are most common. A few adults, chiefly on roadsides, were present. (Wis. Coop. Sur.). INDIANA - Noneconomic to light in localized areas in southeastern counties. Highest infestations averaged about 5 per square yard along field margins. Adults of M. differentialis and M. femur-rubrum were observed, with the latter species containing well developed eggs. (Deay, Matthew).

A FIELD CRICKET - NORTH DAKOTA - Extremely high populations of an undetermined species observed in Hettinger County. (N. D. Ins. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NORTH DAKOTA - Pupation ranged 0-40 percent in southeastern counties. No moth emergence noted. (N. D. Ins. Rpt.). OKLAHOMA - Approximately 5 percent of plants infested in fields of late corn checked in the Bixby area, which is heaviest infestation in these fields in last 5 years. (Arbutnot). WISCONSIN - Moths which give rise to second-brood borers appear fairly numerous in light traps. It appears the second-brood infestations will be greater than in 1958. Dissections of corn indicate flight will continue for a while. In Dane County, 12.5 percent are in pupal stage and 12.5 percent have emerged. (Wis. Coop. Sur.). INDIANA - Infestations in field corn ranged 4-56 percent and averaged 24 percent in Madison County. (Deay, Matthew). MARYLAND - Young larvae generally light on sweet and field corn on Eastern Shore. Pupae present in field corn in Worcester County. (U. Md., Ent. Dept.). PENNSYLVANIA - Adults quite abundant in corn in Centre County, and flying to lights. (Udine). LOUISIANA - Light in a Madison Parish corn field. (Spink).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - TEXAS - Infestations in corn averaged 75-80 percent in Panola, Cherokee, Harrison, Marion, Cass and Bowie Counties. (Hawkins). OKLAHOMA - Infestation 80 percent in corn in a home garden checked at El Reno. (Pennington).

CORN EARWORM (Heliothis zea) - IDAHO - Larval infestations in corn have increased following a recent increase of adults in southeastern area. In one sweet corn field near Parma, 25 percent of ears were infested with mostly second-instar larvae. (Scott). UTAH - Moth counts increased recently in light trap at Ogden. Sweet corn coming into canneries now averages 8 percent infested ears. (Dorst, Knowlton). NEVADA - Larvae averaged 2-3 per half-grown corn plant in Las Vegas, Clark County. (Bechtel, Lauderdale, Aug. 14). ARIZONA - Infesting 30 percent of heads of star millet at Agula, Maricopa County, with considerable damage

to seed in infested heads. (Ariz. Coop. Sur.). TEXAS - Light to heavy on peanuts in Frio County and causing slight ragging to complete defoliation of plants. (Harding). OKLAHOMA - Ranged 0-0.3 per sweep in alfalfa fields checked in Arkansas River bottoms in east central area, with a 34 percent infestation of heads noted in a field of loose-headed grain sorghum in Haskell County (VanCleave, Hatfield); ranged 1-6 per 100 heads in a grain sorghum field in Caddo County (Hudson); heavy (1.5 per terminal) in a field of late planted grain sorghum in the Lebanon area and averaged 1.5 per foot of row in a peanut field in same area (Vinson). WISCONSIN - Weather has been favorable for moth flights. In general, numbers of moths caught in light traps show a considerable increase over last week, and it is expected the increase will be even greater. (Wis. Coop. Sur.). ALABAMA - Moderate larval infestation in grain sorghum heads in Henry County. Limited numbers of larvae observed on peanut vines in southeast part of State. (Grimes). Heavy in grain sorghum in Jackson County. (Ruffin). GEORGIA - Light on peanuts in southern part of the State. (Johnson). MARYLAND - Small larvae present in 4-25 percent of field corn ears on lower Eastern Shore. Very light in sweet corn. (U. Md., Ent. Dept.). DELAWARE - In Sussex County, most larvae have pupated; young larvae remain common in ears of field corn in New Castle and Kent Counties. (Mason). CALIFORNIA - Heavy in 5,000 acres of corn in the Chico-Durham areas of Butte County. (Cal. Coop. Rpt.).

FALL ARMYWORM (*Laphygma frugiperda*) - NEW JERSEY - Light trap counts indicate adults are fairly numerous. (Ins. Dis. Newsl.). MARYLAND - Generally light on Eastern Shore. Controls necessary in some fields of late sweet corn. (U. Md., Ent. Dept.). ALABAMA - General infestation observed in grain sorghum from Conecuh County east to Henry County. Larvae ranged from second instar to almost mature, with half-grown larvae predominant. (Grimes). GEORGIA - Infestations in peanuts light in southern parts of the State. (Johnson). ARIZONA - Very light in heads of star millet at Aguila, Maricopa County. Increasing in heads of grain sorghum in Cochise County and present in late corn in central area. (Ariz. Coop. Sur.).

ARMYWORM (*Pseudaletia unipuncta*) - NEW JERSEY - Light trap counts indicate adults are fairly numerous. (Ins. Dis. Newsl.). MARYLAND - Larvae injuring a hayfield at Easton, Talbot County, and another at Federalsburg, Caroline County. (U. Md., Ent. Dept.).

SORGHUM WEBWORM (*Celama sorghiella*) - TEXAS - Heavy on maize in Anderson County. (Texas Coop. Rpt.). OKLAHOMA - Infestation of seed heads 2 percent in a field of loose-headed grain sorghum in Haskell County. (VanCleave, Hatfield). Ranged 8-30 per head in a Lebanon area grain sorghum field. (Vinson). ALABAMA - Larvae heavy in grain sorghum in Jackson County. (Ruffin).

SUGARCANE BORER (*Diatraea saccharalis*) - LOUISIANA - One hundred percent damage observed in sorghum at Baton Rouge and in corn at Crowley and Baton Rouge. (Spink).

NORTHERN CORN ROOTWORM (*Diabrotica longicornis*) - MISSOURI - Adults feeding on corn silks and grain sorghum heads; ranged 3-6 per ear in late corn and 0-5 per head in sorghum in northeast area of State. (Kyd, Thomas, Munson).

CORN LEAF APHID (*Rhopalosiphum maidis*) - SOUTH DAKOTA - Counts high on corn plants in east central part of State. (Mast). WYOMING - Infestation has moved from tassels to leaves and ears of corn. Population in southeastern area appears lower than in 1958. No economic damage to date. (Davison). UTAH - Scarce on corn examined in Garfield County. (Knowlton). KANSAS - Ranged from zero to about 50 per plant in some sorghum fields in central and north central areas. (Peters). OKLAHOMA - Averaged 50 per head in a late planted grain sorghum field in the Lebanon area. (Vinson). MARYLAND - Well distributed in late planted sweet corn on Eastern Shore, but control is being affected by a syrphid, *Mesogramma polita*. (U. Md., Ent. Dept.). DELAWARE - Colonies numerous in Sussex County and remain present in New Castle and Kent Counties on field corn. (Mason).

EUROPEAN EARWIG (Forficula auricularia) - CALIFORNIA - Heavy in corn in Jackson, Amador County. (Cal. Coop. Rpt.).

SPIDER MITES - WYOMING - Tetranychus telarius continues to infest field corn in southeastern part of State, remaining on leaves on lower two-thirds of plant. No economic damage noted. (Davison). ILLINOIS - Unspecified species reported damaging soybeans in central section of State. (Ill. Ins. Rpt.).

A RICE DELPHACID (Sogata orizicola) - LOUISIANA - This vector of hoja blanca disease found in St. James Parish. Present in very low numbers and only 5 specimens were collected in the parish. (Spink).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - LOUISIANA - Heavily damaging a field of rice in Madison Parish. (Spink).

RICE STINK BUG (Oebalus pugnax) - LOUISIANA - Averaged 73 adults per 100 sweeps in 6 fields of rice in Ascension Parish and 200 per 100 sweeps in a Madison Parish field. (Spink).

SOD WEBWORMS (Crambus spp.) - KANSAS - Infesting blue grass lawns in Manhattan, Riley County. (Peters).

GROUND MEALYBUG (Rhizoecus falcifer) - CALIFORNIA - Heavy on grasses and other plants in Concord, Contra Costa County. (Cal. Coop. Rpt.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - CALIFORNIA - Causing severe damage to alfalfa generally in the El Centro area of Imperial County. (G. D. Peterson, Jr.). NEVADA - Averaged one per 2 sweeps in a field in Las Vegas area, Clark County. (Bechtel, Aug. 14).

BEEF ARMYWORM (Laphygma exigua) - NEVADA - Light in alfalfa in Las Vegas area, Clark County, and Pahrump Valley, Nye County. (Bechtel, Lauderdale, Parker, Aug. 14).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Averaged one per stem in stubble and 10-15 per stem in fields ready for cutting in Las Vegas, Clark County; 5 per sweep in Moapa Valley, Clark County; and 7-10 per sweep in Pahrump Valley, Nye County. (Bechtel, Parker, Aug. 14). UTAH - Populations remain very low in Millard, Garfield and Beaver Counties. (Knowlton). KANSAS - Ranged from less than 5 to 25 per sweep in central and north central alfalfa fields. Averaged about 350 per sweep on a roadside embankment in Smith County. (Peters). OKLAHOMA - Very light (up to 3 per sweep) in alfalfa fields surveyed in Arkansas River bottoms in east central area. Counts approximately same as noted in the area for past several months. (VanCleave, Hatfield). Ranged 1.5-2.5 per sweep in a Caddo County alfalfa field. (Hudson). TEXAS - Medium infestations damaging alfalfa in Deaf Smith County. (Garner).

PEA APHID (Macrosiphum pisi) - WEST VIRGINIA - Moderate to very heavy on alfalfa in scattered areas of the State. (W. Va. Ins. Sur.). DELAWARE - Prevalent to numerous on alfalfa in all 3 counties, being abundant in one small field in Kent County. (Mason). WISCONSIN - Populations continue to decline. (Wis. Coop. Sur.). TEXAS - Light on alfalfa in Deaf Smith County. (Garner). WYOMING - Infestation in third-cutting alfalfa in southeast area averages 60-90 per 100 sweeps. (Davison). UTAH - Caused moderate damage to several alfalfa fields in the Circleville-Marysville area of Piute County. (Knowlton). NEVADA - Only occasional specimens found in alfalfa in Clark and southern Nye Counties. (Bechtel, Parker, Aug. 14).

PLANT BUGS (Adelphocoris spp.) - SOUTH DAKOTA - A. lineolatus averaged 5 per 10 sweeps in alfalfa in Beadle County. (Mast). UTAH - A. superbus common in alfalfa fields in Millard, Utah and Weber Counties and in Uintah Basin. (Knowlton).

WISCONSIN - Populations in alfalfa continue to decline. (Wis. Coop. Sur.).
DELAWARE - Adults and nymphs of A. lineolatus prevalent in one large alfalfa field in Sussex County, and present in New Castle and Kent Counties. (Mason).

LYGUS BUGS (Lygus spp.) - WYOMING - Infestations low in seed alfalfa in Riverton area, Fremont County. Danger of damage past, and last controls applied week ending August 14. Probability of good yield of seed bright in most areas. (Davison). IDAHO - Nymphal numbers increased rapidly in alfalfa and red clover seed fields in southwest area of State, with up to 50 per sweep not uncommon. (Gibson).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEVADA - Averaged 3-5 per sweep in alfalfa in Las Vegas and Moapa Valley, Clark County. (Bechtel, Parker, Aug. 14). OKLAHOMA - Very light populations (0-0.2 per sweep) found in alfalfa fields surveyed in Arkansas River bottoms in east central area. (VanCleave, Hatfield).

POTATO LEAFHOPPER (Empoasca fabae) - SOUTH DAKOTA - Populations very high in some lawns in Brookings County. (Mast). WISCONSIN - Populations appear to be declining in alfalfa. (Wis. Coop. Sur.). DELAWARE - Adults and nymphs on soybeans in all counties; present on alfalfa in Kent and Sussex Counties and common on same crop in New Castle County. (Mason).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - SOUTH DAKOTA - Averaged as high as 40 per 10 sweeps in margins of some alfalfa fields in central and south central areas. (Mast). NORTH DAKOTA - Light to moderate in alfalfa through Richland, Sargent and Ransom Counties. Infested plants show no feeding injury. Also reported heavy in Adams and Hettinger Counties. (N. D. Ins. Rpt.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSOURI - Counts on soybeans in north-east ranged 0-3 per foot of row and 2-7 in southeast. Some foliage damage and feeding on pods and blooms in southeast area. (Kyd, Thomas, Munson). OKLAHOMA - Ranged up to 0.2 per linear foot in soybean fields checked in Arkansas River bottoms in east central area. (VanCleave, Hatfield).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - OKLAHOMA - Ranged 0-0.1 per sweep in alfalfa fields and up to 0.2 per linear foot in soybean fields checked in Arkansas River bottoms in east central area. (VanCleave, Hatfield).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Numerous on soybeans and reported feeding on pods in some fields. (Ill. Ins. Rpt.). MISSOURI - Counts in soybeans in northeast area ranged 0-4 per linear foot of row and 1-2 in southeast area. (Kyd, Thomas, Munson). OKLAHOMA - Ranged 0-0.1 per sweep in alfalfa fields surveyed in Arkansas River bottoms in east central area. (VanCleave, Hatfield). MARYLAND - One small larva per foot of row on soybeans in Worcester County. (U. Md., Ent. Dept.). DELAWARE - Larvae prevalent in New Castle and Kent Counties and common in Sussex County on alfalfa. Larvae very common in soybeans in Kent and Sussex Counties. General increase in numbers noticeable throughout State. (Mason).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - SOUTH CAROLINA - Numbers increasing in soybeans in Jasper County. (Nettles et al.). GEORGIA - Light infestations present in southern area peanuts. (Johnson). ALABAMA - Defoliating peanuts throughout the peanut-growing section of the State. Generally, infestations are moderate; however, in localized areas of Houston, Geneva and Henry Counties, severe defoliation had occurred. (Grimes, Carter).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ALABAMA - Moderate infestation observed on peanuts in Henry County. (Grimes).

SOYBEAN CYST NEMATODE (Heterodera glycines) - NEW JERSEY - To date, 26 soil samples were collected during inspections made in July. VIRGINIA - A total of 651 samples were taken on 3 farms in Norfolk and Southampton Counties, involving 489 acres. In MARYLAND and DELAWARE, 1,867 samples representing 1,181 acres and 78 properties were processed during July, with negative results. (PPC, East. Reg.). ARKANSAS - The first infestation in Craighead County was found during July. TENNESSEE - Two new infestations were reported from Lauderdale County. NORTH CAROLINA - Inspections were made on 1,310 acres in 11 counties. SOUTH CAROLINA - Surveys were conducted on 2,139 acres in 5 counties. (PPC, So.Reg.). MISSOURI - During July, 21 new properties consisting of 703 acres have been confirmed infested. KENTUCKY - Three additional infested properties were found in Fulton County. (PPC, Cent. Reg.).

A CUTWORM - GEORGIA - Infestations heavy on peanuts in Early County. (Johnson).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Heavily damaged 92-100 percent of young peanuts in Frio County; larvae eating nuts of spring plantings. (Harding).

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Light on peanuts in southern area of State. (Johnson).

RED-NECKED PEANUTWORM (Stegasta basqueella) - TEXAS - Light (1 per terminal per foot of row) in Frio County on peanuts. Some feeding damage evident. (Harding). OKLAHOMA - Averaged 3.5 per linear foot of row in a peanut field in the Lebanon area. (Vinson). ALABAMA - Infestations increasing in localized areas of Geneva County. (Carter).

WHITE-FRINGED BEETLES (Graphognathus spp.) - GEORGIA - Found for the first time since 1946 in Muscogee County, during July. LOUISIANA - Surveys revealed 206 acres of new infestations in 5 parishes already known to be infested. NORTH CAROLINA - An additional 130 acres were found infested in 3 counties. SOUTH CAROLINA - In Florence County, an additional 5 acres were found infested during July. TENNESSEE - A new infestation of 239 acres was found in Shelby County and 10 additional acres were found in Hardeman County. Beetles were found north of the Wolf River in Raleigh, Shelby County, for the first time. (PPC, So. Reg.). ARKANSAS - Two adults of Graphognathus leucoloma striatus collected at Widner, near Forrest City, St. Francis County, on July 16; found in an area including 900 acres of cropland and 157 acres of noncropland. The area in which the beetles were found and a sufficient periphery around was surface treated. Delimiting surveys were conducted in the area, with negative results. This is the first record of white-fringed beetles in the State. (Ark. Ins. Rpt., PPC).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - WISCONSIN - Widespread damage to apple fruit; greater than in 1958. (Wis. Coop. Sur.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - OKLAHOMA - Heavy on a few small apple trees in a nursery plot in the east central area. (Rogers, Washum). UTAH - Less common than in 1958. (Knowlton).

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Widespread damage to apple fruit; greater than in 1958. (Wis. Coop. Sur.).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - NEW JERSEY - In a survey, 552 trees were examined at 60 locations in 7 counties. New infestations were found in areas of Middlesex, Somerset, Morris and Sussex Counties. (Ins. Dis. News1.).

LEAFHOPPERS - UTAH - Discoloring apple and rose foliage at Levan and Magna. (Knowlton).

FALL WEBWORM (Hyphantria cunea) - DELAWARE - Common in all counties and building up on apple, crab apple, black walnut and cherry. (Mason). PENNSYLVANIA - Causing moderate defoliation to walnut and apple trees along the Delaware River in Pike County. (Nichols, Aug. 14). NORTH DAKOTA - Becoming conspicuous on scattered fruit trees in the eastern area. (N. D. Ins. Rpt.).

ORCHARD MITES - UTAH - Damage common on apple and pear trees through the northern and central areas. (Knowlton). CALIFORNIA - Tetranychus telarius and T. pacificus medium to heavy on English walnut trees and building up over a widespread area in Lake County. (Gripp).

PEAR PSYLLA (Psylla pyricola) - OREGON - Building up rapidly in some orchards around Salem. (Stephenson). CALIFORNIA - Light on pear trees in Jackson, Amador County, for first record of the county. (Cal. Coop. Rpt.).

PEAR-SLUG (Caliroa cerasi) - RHODE ISLAND - Second-generation larvae causing severe damage on pear and cherry in Pawtucket and North Providence area. (Mathewson).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Causing greater amount of injury to peach fruits in the Willamette Valley than in several years. (Every).

Citrus Insect Situation, Lake Alfred, Florida, Mid-August, 1959 - PURPLE SCALE (Lepidosaphes beckii) activity dropped from the previous low level. FLORIDA RED SCALE (Chrysomphalus aonidum) showed sharp decrease in activity to below normal level. An upward trend will begin within next two weeks and hatching will increase in September. CITRUS RED MITE (Panonychus citri) activity decreased and will drop lower until the end of August. CITRUS RUST MITE (Phyllocoptruta oleivora) activity continued to drop and is expected to decrease further during next three weeks. TEXAS CITRUS MITE (Eutetranychus banksi) will begin to increase in September and is expected to be abundant this fall. (Simanton, Thompson, Johnson).

PURPLE SCALE (Lepidosaphes beckii) - CALIFORNIA - Medium on orange trees in Rancho Santa Fe, San Diego County. (Cal. Coop. Rpt.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Reinspection of the Nuevo Laredo District was negative. The area between Oyama, Tamaulipas, to the Nuevo Leon State line has been taken out of chemical control and placed under biological control. In the chemical control and free zones of the States of Tamaulipas, Nuevo Leon, Sonora and Baja California, 100,425 citrus trees were inspected on 2,388 properties. In six properties, 99 lightly infested trees were found. In the biological control zone in the State of Tamaulipas, 22,500 Prosopaltella clypealis parasites were liberated in Municipio Ocampo. (PPC, Mex. Reg.). TEXAS - A total of 87,432 trees on 2,352 properties were inspected during July in Brooks, Cameron, Dimmit, Hidalgo and Webb Counties. (PPC, So. Reg.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - LOUISIANA - Checks of 106 traps operated in Jefferson, Orleans, Plaquemines and St. Bernard Parishes were negative in July. GEORGIA - Inspections of 27 traps in 6 counties during the month, gave negative results. TEXAS - No suspicious specimens were taken in 70 trap inspections made in July in Cameron County. (PPC, So. Reg.).

MEXICAN FRUIT FLY (Anastrepha ludens) - MEXICO - Third and fourth sprayings of Tijuana were completed in July. A total of 31,857 trees were sprayed on 6,456 properties. A total of 8,151 trap inspections were made on 872 properties in Ensenada, Tecate and Tijuana, Baja California, with negative results. Larval inspections were made on 12 properties in Tijuana, with negative results. (PPC, Mex. Reg.).

BURROWING NEMATODE (Radopholus similis) - FLORIDA - Surveys were conducted in 81 groves, 41 citrus nurseries, 10 ornamental nurseries and 40 miscellaneous properties during July. Delimiting inspections were made in 11 groves and a total of 20.5 acres was reported ready for treatment by the State Plant Board. New infestations were discovered in 12 citrus groves, 2 citrus and 3 ornamental nurseries and on one proposed nursery site. Extensions were discovered in 8 properties previously treated. (PPC, So. Reg.).

PECAN NUT CASEBEARER (Acrobasis caryae) - NORTH CAROLINA - Causing loss of pecan nuts in Martin County. (Hodges, Farrier). OKLAHOMA - Light to medium in nut clusters in native pecan trees checked in Jefferson and Marshall Counties. (Vinson).

PECAN WEEVIL (Curculio caryae) - NORTH CAROLINA - Causing loss of pecan nuts in Martin County. (Hodges, Farrier).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Averaged 1,500 caught in traps hung in pecan trees in El Cajon, San Diego County, in one week. (Cal. Coop. Rpt.).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - CALIFORNIA - Medium on English walnut trees in Ukiah, Mendocino County. (Cal. Coop. Rpt.).

A MEALYBUG (Pseudococcus malacearum) - CALIFORNIA - Light on grape vines in Gonzales, Monterey County. (Cal. Coop. Rpt.).

PLANTHOPPERS - FLORIDA - Increasing in the Pensacola district on figs and bottlebrush. Numbers unusually high. (Fla. Coop. Sur.).

CHAIN-SPOTTED GEOMETER (Cingilia catenaria) - PENNSYLVANIA - Has completely defoliated blueberry plants in Sullivan County. (Gesell).

TRUCK CROP INSECTS

POTATO APHID (Macrosiphum solanifolii) - WISCONSIN - Present in 80 percent or more of the potato acreage in the Racine-Kenosha area. (Wis. Coop. Sur.).

Potato Aphids in Maine - Still have a spotty distribution, with overall numbers ranging from very small to large in the Presque Isle area. Numbers decreased somewhat during the week, owing largely to continued action of predators and parasites, and to a sharp increase in prevalence of fungus diseases. Macrosiphum solanifolii still predominates, except that where populations are largest Aphis abbreviata is the most abundant species. Myzus persicae is generally the second most abundant and M. solani has recently become very scarce. (Shands).

FLEA BEETLES - WISCONSIN - In small numbers in 60-80 percent of the potato acreage. (Wis. Coop. Sur.). MAINE - Epitrix cucumeris adults of summer generation in small numbers in the Presque Isle area. (Shands). OREGON - E. tuberis present on potatoes near Dayton, about one per 5 sweeps. (Larson).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Continues to decrease in the southeast area. Largest infestation found is south of Lingle, with 6 per 100 sweeps. Trace damage was noted. (Davison).

LEAFHOPPERS - NEW JERSEY - Populations high, with possibility that virus yellows disease may be troublesome in lettuce. (Ins. Dis. Newsl.). DELAWARE - Empoasca fabae adults and nymphs fairly common on lima beans throughout the State. (Mason). WISCONSIN - Small numbers of E. fabae in 60-80 percent of the potato acreage. (Wis. Coop. Sur.). TEXAS - Circulifer tenellus heavy and causing leaves to curl on tomatoes in Bailey County. (Hatchett).

GREEN PEACH APHID (Myzus persicae) - VIRGINIA - Very heavy on peppers in some sections of the eastern area. (Hofmaster).

EUROPEAN CORN BORER (Pyrausta nubilalis) - ALABAMA - Has caused only light damage to pimento peppers in Marshall County this year. (Ruffin).

CABBAGE LOOPER (Trichoplusia ni) - NEW JERSEY - Building up on cabbage. (Ins. Dis. Newsl.). DELAWARE - Egg deposition heavy on young cabbage in New Castle County, with an average of 9 eggs per leaf. Larvae present on horseradish in Kent County and snap beans in Sussex County. (Mason). VIRGINIA - Continues to build up on cabbage and cole crops in eastern and southeastern areas. Based on light trap catches, the infestation is not quite as heavy as in 1958. (Hofmaster). ARIZONA - Very light in some lettuce fields at Aguila, Maricopa County. (Ariz. Coop. Sur.). CALIFORNIA - Caused considerable damage to watermelons in the Peris Valley, Riverside County, by feeding on the surface of the melons. (Campbell, Aug. 14).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW JERSEY - Building up on cabbage. (Ins. Dis. Newsl.). OREGON - Increasing in abundance in the Willamette Valley on broccoli. (Every, Aug. 17).

HARLEQUIN BUG (Murgantia histrionica) - NEBRASKA - Very numerous on weeds and wild flowers in range and pastures of many southwestern counties. (Webb, Aug. 15). SOUTH DAKOTA - Working on cabbage in Hughes County. (Mast).

APHIDS - NEW JERSEY - Heavy in cabbage in some areas of State. (Ins. Dis. Newsl.). IDAHO - Many late noncolonizing species seen in bean fields in Twin Falls area. (Gibson).

TURNIP APHID (Rhopalosiphum pseudobrassicae) - VIRGINIA - Unusually heavy on turnip greens and mustard in eastern and southeastern areas. (Hofmaster).

MEXICAN BEAN BEETLE (Epilachna varivestis) - WYOMING - In untreated bean fields in the Wheatland-Lingle-Torrington areas, infestations average about 9 adults and 12 larvae per 25 sweeps. Damage ranges 5-20 percent. (Davison). UTAH - Very destructive to home garden beans in Cache and Salt Lake Counties. (Knowlton). TEXAS - Heavy on garden beans in Deaf Smith County. (Garner). INDIANA - Heavy in home gardens in Jefferson and Ripley Counties. (Matthew). VIRGINIA - Causing damage to snap beans in localized eastern areas. (Hofmaster). DELAWARE - Adults and larvae fairly common on lima beans in Sussex County, with moderate feeding injury in some fields. (Mason).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - VIRGINIA - Damaging snap beans in localized eastern areas. (Hofmaster).

THRIPS - IDAHO - Many bean plants infested in the Twin Falls area. Infestation not thought to be economic. (Gibson). DELAWARE - Sericothrips variabilis adults present on lima beans in Kent County and on snap beans in Sussex County. (Mason).

CORN EARWORM (Heliothis zea) - DELAWARE - Adults numerous in fields of lima beans in Kent and Sussex Counties. (Mason). ALABAMA - Moderate to heavy in okra in Henry County. (Grimes).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Larvae present in New Castle County, common in Kent County and numerous in Sussex County on lima beans. (Mason).

SPIDER MITES - IDAHO - Tetranychus spp. infestations continue severe in bean fields in the Twin Falls area. (Gibson). NORTH DAKOTA - T. telarius severe on raspberries at Hankinson. (N. D. Ins. Rpt.).

SQUASH BUG (Anasa tristis) - NEVADA - Heavy on melons in Moapa Valley, Clark County. (Lauderdale, Aug. 14).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - INDIANA - Heavy on cucurbits throughout the State. (Gould).

CARROT WEEVIL (Listronotus oregonensis) - NEW JERSEY - In a survey, 53 fields in 15 counties were examined and 13 were found to be infested. The heaviest infested area was in the vicinity of Vineland. No other infestation found except in the now very limited vegetable-growing section of Bergen County. (Ins. Dis. Newsl.).

BEEET WEBWORM (Loxostege sticticalis) - SOUTH DAKOTA - High numbers migrating from weed areas into croplands in Davison County. (Mast).

SPINACH LEAF MINER (Pegomya hyoscyami) - VIRGINIA - Adults emerged from heavily damaged beet leaves in a Bland County garden about June 13, 1959. Det. by R. H. Foote. (Rowell, Mallory).

GRASSHOPPERS - FLORIDA - Causing damage to nursery plants and agricultural crops in Volusia, Flagler and Pasco Counties. (Fla. Coop. Sur.). UTAH - Damaging gardens, berry crops and margins of alfalfa fields locally throughout the foothill areas of the State. (Knowlton).

GOLDEN NEMATODE (Heterodera rostochiensis) - NEW YORK - Infestation was confirmed on a 12-acre field outside the generally infested area on the South Fork of Long Island, near Bridgehampton. In MARYLAND and DELAWARE, field sampling continued with approximately 1,500 samples taken. (PPC, East. Reg., July Rpt.). During July, surveys made in ALABAMA, ARKANSAS, GEORGIA and MISSISSIPPI were negative. (PPC, So. Reg.).

TOBACCO INSECTS

TOBACCO HORNWORMS (Protoparce spp.) - NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin). INDIANA - Very light in all fields surveyed in Madison County. Populations somewhat lighter than in previous years. (Deay, Matthew).

TOBACCO BUDWORMS (Heliothis spp.) - NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin). MARYLAND - Very light in tobacco. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin). MARYLAND - Light to heavy on maturing tobacco in southern area. Several species of predators attacking aphids common in tobacco fields in Prince Georges County. (U. Md., Ent. Dept.). INDIANA - Light in one of 12 fields examined in Madison and Ripley Counties. (Deay, Matthew). VIRGINIA - Probably this species, severe on tobacco in many Prince Edward County fields. (Peery).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin). MARYLAND - Light on tobacco in southern area. (U. Md., Ent. Dept.). INDIANA - Light in most fields surveyed in Madison County. Damage estimated at less than one percent. (Deay, Matthew).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - TENNESSEE - Migration is definitely under way. Fields that had no infestations are now infested. The bulk of the infestation is still in the southern counties but some are being found further north. Counts made in the southern counties averaged 46 percent this week. (Locke). **ARKANSAS** - Second, third and beginning of fourth generation general. Counts vary from field to field, but general activity has increased considerably from last week. Range 10-100 percent infestation in southwestern area. (Ark. Ins. Rpt.). **MISSOURI** - Of 862 fields inspected, 24 were infested. Percent punctured squares and bolls ranged 0-8. Some widely scattered fields outside the scouted area ranged 35-61 percent punctured squares. (Kyd, Thomas, Munson). **OKLAHOMA** - Counts ranged 9-88 damaged squares per 100 squares examined in the east central area, and averaged 39 percent infestation. Ranged 40-98 percent infestation in 6 cotton fields in McCurtain and Choctaw Counties, and averaged 66 percent. Ranged 6-27 percent and averaged 15 in Marshall, Love and Jefferson Counties. Ranged 0-8 percent and averaged 4 percent in 3 fields checked in Grady and Canadian Counties. Averaged 18 and 31 percent in two fields in McClain County. Ranged 6-8 percent and averaged 7 percent in 3 fields in Tillman County. (VanCleave et al.). **MISSISSIPPI** - Increased in some fields. Light local movement from field to field in some areas of the delta counties. (Merkl et al.). **SOUTH CAROLINA** - Severe in small acreages in Beaufort County. Have begun to migrate in Edgefield County and number of punctured bolls and squares and adult weevils greater than for several years. Damage is great in wet areas and slight in dry areas of McCormick County. (Nettles et al.). **LOUISIANA** - Tensas Parish: ranged 1-78 percent and averaged 21 percent in 282 fields. Ouachita Parish: ranged 1-62 percent and averaged 12 percent in 105 fields. Franklin Parish: ranged 1-94 percent and averaged 33 percent in 144 fields. Heavy emergence of third generation observed in several parishes during past week. (Spink). Infestations above the 25 percent level in many fields in Madison Parish this week. (Smith et al.). **TEXAS** - Damage heavy in fields receiving no or inadequate treatment in McLennan and Falls Counties. Mostly irrigated or succulent fields. (Parencia et al.). Spotted heavy infestations in the south central, central and east areas. Continue to cause concern in the west cross timbers, central, northeast and isolated sections of the northwest area. (Gaines). **ALABAMA** - Evident in south and central area. Adults plentiful in most fields surveyed. Have increased considerably in northern area during past week. General infestations in that area range 50-65 percent. (Ruffin, Grimes, Carter, Bass).

BOLLWORMS (*Heliothis* spp., et al.) - NEVADA - Only occasional specimens found in Moapa Valley, Clark County, and Pahump Valley, Nye County. (Bechtel, Lauderdale, Parker, Aug. 14). **TENNESSEE** - Increasing rapidly over the cotton-growing area. Averaged 3 larvae per 100 terminals. (Locke). **ARKANSAS** - Fourth generation adults emerging in large numbers. Egg deposition general on green succulent cotton. Egg counts in some areas are as high as 184 per 100 plants. (Ark. Ins. Rpt.). **MISSOURI** - Of 862 fields inspected, 842 were infested. Egg counts ranged 1-16 per 100 terminals and larvae ranged 1-36 per 100 terminals. (Kyd, Thomas, Munson). **GEORGIA** - Light to heavy in small bolls in some cotton fields in the southern area. (Johnson). **OKLAHOMA** - Ranged 0-9 percent and averaged 2 percent in Wagoner, Muskogee, Sequoyah, Haskell, Le Flore, and McIntosh Counties. Ranged 3-16 percent and averaged 7 percent in Marshall, Love and Jefferson Counties. Averaged about 25 percent in some untreated cotton fields in Grady and Canadian Counties. Ranged 1-15 percent and averaged 8 percent in 3 fields in McClain and Caddo Counties. Ranged 4-16 percent and averaged 10 percent in 3 fields in Tillman County. (VanCleave et al.). **ARIZONA** - Medium in some fields in Maricopa and Pinal Counties. Egg counts low. (Ariz. Coop. Sur.). **MISSISSIPPI** - Egg deposition very spotty. Counts range 0-47 eggs per 100 terminals. Higher in green succulent cotton and in fields where large populations are present. (Merkl et al.). **LOUISIANA** - Ouachita Parish: ranged 0-5 percent and averaged 1 percent in 105 fields. Tensas Parish: ranged 1-4 percent and averaged 1 percent in 62 fields. Franklin Parish: ranged 0-4 percent and averaged 1 percent in 143 fields. (Spink). Some damage to bolls observed in a few fields in Madison Parish. Egg

deposition increasing this week in cotton plant terminals. (Smith et al.). TEXAS - Egg deposition still heavy in irrigated or succulent fields in McLennan and Falls Counties. (Parencia et al.). Continue to be a problem in all areas where plants still attract adults. Infestations range from light and spotted to very heavy. (Gaines). ALABAMA - Continues to increase throughout State. Heavy in Conecuh and Houston Counties. Larvae feeding in large bolls in these areas. In northern area larvae and eggs plentiful. In some localized areas egg counts were as high as 50 per 100 terminals. (Grimes, Ruffin, Bass). CALIFORNIA - Heavy egg deposition and hatching continues in Imperial County. (Peterson). Increasing rapidly in Tulare County and the San Joaquin Valley. (Leigh).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Light to medium in Wagoner County where ragging of leaves quite common. Isolated infestations noted in other areas in the east central area. Light to medium in isolated fields throughout the south central and southwestern areas. (VanCleave et al.). ARIZONA - Light to medium in many fields in central area. Egg counts continuing high. (Ariz. Coop. Sur.). MISSISSIPPI - Light infestations along field margins in delta counties. (Merkl et al.). TEXAS - Medium to heavy "ragging" of leaves in a few fields in McLennan and Falls Counties. (Parencia et al.). Causing "ragging" from the south plains area to the northeast area with mostly spotted infestations. (Gaines). CALIFORNIA - Increasing and causing considerable leaf damage in Imperial Valley. (Peterson). Generally light over Kern County with high populations in the Arvin area. (Leigh).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - A limited amount of green boll inspection was conducted in 13 counties during July. ARKANSAS - First specimen of the season was taken from a green boll originating out of the State and intercepted at the Homan Road Station, July 13. All inspections made during July in ALABAMA, LOUISIANA and MISSISSIPPI were negative. (PPC, So. Reg.). CALIFORNIA - Blossom inspection was completed in the San Joaquin Valley during July with negative results. (PPC, West. Reg.). NEVADA - Surveys negative through August 14, at Clark and Nye Counties. (Parker). MEXICO - Lint cleaner inspections in the Matamoros, Tamaulipas district indicate light infestation. The Laguna region of Durango and Coahuila had increase over 1958, but properly timed insecticide applications holding pest under control. Within the regulated area in the States of Tamaulipas, Coahuila, Durango, Chihuahua and Sinaloa, 276 locations involving 336,701 acres of cotton in 28 Municipios were inspected and of these 222 locations involving 329,997 acres in 25 Municipios were found infested. (PPC, Mex. Reg.).

BEET ARMYWORM (Laphygma exigua) - ARIZONA - Counts down in many fields previously heavily infested. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Increasing slowly in some fields in Maricopa and Pinal Counties. Heaviest populations in the Coolidge to Gilbert area. In Yuma County, infestations still heavy in some fields with severe foliage damage in many cases. (Ariz. Coop. Sur.).

APHIDS - TENNESSEE - Increasing slightly but damage is light so far. (Locke). ARKANSAS - Increasing in cotton-growing areas. (Ark. Ins. Rpt.). OKLAHOMA - Aphis gossypii light in occasional fields in the east central area. Some light to medium infestations in Washita and Kiowa Counties. (VanCleave et al.). MISSISSIPPI - Light to medium generally over the delta counties. (Merkl et al.). LOUISIANA - In two fields inspected in Madison Parish, an average of .04 per square inch of leaf were found. (Smith et al.). ALABAMA - A. gossypii increasing in the Tennessee Valley area. Very heavy localized infestations in areas of Madison and Cullman Counties. (Ruffin).

SPIDER MITES - TENNESSEE - Continue to increase slightly and damage is heavy in some fields. The number of fields found to be infested is increasing. (Locke) MISSOURI - Of 862 fields inspected, 355 were infested to some degree. (Kyd, Thomas, Munson). OKLAHOMA - Tetranychus sp. severe in isolated fields in the

Chickasha area. (Bryan). MISSISSIPPI - Light to medium generally over the delta counties. (Merkl et al.). LOUISIANA - In two fields inspected in Madison Parish, an average of 3.96 per square inch of leaf was found. (Smith et al.). ALABAMA - Continue to spread throughout State. Moderate in Conecuh County. In northern area are present to some degree in all fields. Severe defoliation has occurred in areas where control not applied. (Grimes). CALIFORNIA - Heavy over most of Kings County. (McCutcheon). Increasing sharply over wide area of Imperial County. (Peterson). Abundant in areas of San Joaquin Valley and increasing where controls were inadequate. (Leigh). Damage decreasing in Tulare County due to heavy predator populations. (George).

STINK BUGS - ARIZONA - Euschistus servus medium in some Graham County fields. Light to medium in central area. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEVADA - Populations low in most fields in Pahrump Valley, Nye County, because of control measures or high predator populations. Only occasional specimens found in Moapa Valley, Clark County. (Bechtel, Lauderdale, Parker, Aug. 14). ARIZONA - Continues as the number-one problem in cotton over the State. (Ariz. Coop. Sur.). CALIFORNIA - Reaching economic levels in some fields, especially near recently harvested alfalfa fields in Kings County. (McCutcheon). Increasing where heavy populations have been occurring in Imperial County. (Peterson). Reinfestations occurring in many fields in San Joaquin Valley where controls were applied. (Leigh). OKLAHOMA - Infestation in a Washita County field 4 percent. (Hudson).

COTTON LEAFWORM (Alabama argillacea) - TEXAS - Heavy spotted infestations in Tom Green and Schleicher Counties. (Gaines).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Still building up and damage becoming significant in many fields in Imperial County. (Peterson).

FLEAHOPPERS - MISSOURI - Of 862 fields inspected, 648 were infested with from 0 to 70 per 100 terminals. (Kyd, Thomas, Munson). TEXAS - Heavy in some fields in Hockley, Lubbock, Lynn and Terry Counties. (Gaines).

GRASSHOPPERS - TEXAS - Nymphs and adults causing damage to blooms and leaves in Tom Green, Runnels and Schleicher Counties. (Gaines).

PALE STRIPED FLEA BEETLE (Systema blanda) - NEVADA - Numerous in cotton fields in Moapa Valley, Clark County. Infestations higher in weedy fields with feeding primarily on lower leaves and bracts. (Bechtel, Lauderdale, Parker, Aug. 14).

WHITEFLIES - CALIFORNIA - Heavy, with some fields showing marked decrease in top-set of bolls in Imperial County. (Peterson).

A FIELD CRICKET (Acheta sp.) - ARIZONA - Heavy and troublesome in a few fields in Pinal County. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

GYPSY MOTH (Porthetria dispar) - NEW JERSEY - One male taken at Jockey Hollow National Historical Park, Morris County, July 23, and another on July 30. One moth taken in the Hibernia area of the same county, July 31. NEW YORK - Living female pupa found under burlap band on a tree at Davenport, Delaware County, July 30. First male moths were recovered July 9 in Suffolk County and males were trapped in the Hudson Valley area by mid-July. Heaviest recoveries in Dutchess and Putnam Counties occurred in towns adjoining untreated areas in Connecticut, which may indicate serious infiltration from generally infested areas nearby. Lesser numbers were trapped in treated areas of Orange, Ulster and Westchester Counties. Heavy numbers were trapped outside treated sections of Ulster County. Specimens were also recovered in the Mohawk Valley and in Otsego and Delaware Counties. (PPC, East. Reg.). WEST VIRGINIA - This year's trapping results negative. (W. Va. Ins. Sur.). PENNSYLVANIA - Single male recovered in trap in forest, Perry County, July 17. No further recoveries. (Nichols). MICHIGAN - One trap in Windsor Township of Eaton County contained 14 male moths when checked on July 31, and collected an additional 7 moths over the weekend. Another trap in the same township collected one moth and at the same time another male moth was collected in a trap in Clarence Township in Calhoun County. (PPC, Cent. Reg.).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Continued epidemic in Hardin and Liberty Counties. Fourteen new spots located by aerial observations, of which six had over 100 brood trees. Total spots picked up by aerial reconnaissance this year are 87 with 12 having 100 brood trees. Control work hampered by continuous, heavy rains. Twenty-seven spots lack control. (Young).

PALES WEEVIL (Hylobius pales) - RHODE ISLAND - Adults causing heavy damage in pine plantations in the Scituate area. (Mathewson).

WHITE-PINE WEEVIL (Pissodes strobi) - WEST VIRGINIA - Abundant on pine in southeast. (W. Va. Ins. Sur.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - PENNSYLVANIA - Very heavy infestation of Scotch pine in Columbia County caused death of about 24 trees. (Nichols).

SAWFLIES - TEXAS - Infestations of a sawfly were serious in Hardin, Liberty and Polk Counties where control is underway on 17,000 acres. Pines up to 100 feet tall were defoliated. Another species is attacking pine reproduction, both natural and planted, throughout eastern area. Partial defoliation. (Young).

A LEAF-EATING GRASSHOPPER (Dendrotettix quercus) - WISCONSIN - Outbreak on oak trees involves about 35-45 square miles on either side of Wood-Adams County line. (Wis. Coop. Sur.).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - OKLAHOMA - Light infestation on twigs of Ulmus sp. in Garvin County on May 15, 1959. This is first published record of this species in the State. (Apt).

A MAPLE MITE (Oligonychus aceris) - CALIFORNIA - Heavy infestation of silver maple trees on a nursery property in Arlington, Riverside County. This is the first record of this mite occurring in California and the West. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - PENNSYLVANIA - Present but not serious on maple in Westmoreland County. (Udine). WEST VIRGINIA - Light on hardwoods statewide. (W. Va. Ins. Sur.). SOUTH DAKOTA - Conspicuous infestations on scattered shade trees in eastern area. (N. D. Ins. Rpt.).

UGLY-NEST CATERPILLAR (Archips cerasivorana) - RHODE ISLAND - Severe on a roadside wild cherry in South Kingstown and locally elsewhere in State. (Hansen, Mathewson).

LARGER ELM LEAF BEETLE (*Monocesta coryli*) - NORTH CAROLINA - Larvae injuring elms in Davie County. (Williams, Farrier).

ELM LEAF BEETLE (*Galerucella xanthomelaena*) - CALIFORNIA - Severe damage to Chinese elms in Lost Hills, Kern County. (Cal. Coop. Rpt.). OREGON - Adults abundant, with moderate to severe damage evident in areas of Willamette Valley. (Every). IDAHO - Many Twin Falls elm trees continue to be defoliated. (Gibson). KANSAS - The foliage of elms 50-100 percent injured in eastern one-half of Dodge City, Ford County. Oviposition underway. (Thompson). VIRGINIA - Defoliated some Chinese elms in Rockingham County. (Morris, Aug. 10).

EUROPEAN ELM SCALE (*Gossyparia spuria*) - DELAWARE - Very common on elm in New Castle County, resulting in death of some trees. (Bray).

A CHESTNUT-BARK BORER (*Anoploclera nitens*) - PENNSYLVANIA - Working in crotches of ornamental English oaks and causing concern in Westmoreland County. (Udine).

DOGWOOD BORER (*Thamnospectia scitula*) - NORTH CAROLINA - Killing dogwoods in Hoke County. (Williams, Farrier).

HAG MOTH (*Phobetron pithecium*) - PENNSYLVANIA - Found locally on forsythia in Carbon County. Judging from numbers sent in from all over State, species must be numerous this year. (Udine).

MIMOSA WEBWORM (*Homadaula albizziae*) - WEST VIRGINIA - Heavy on mimosa in scattered areas, statewide. (W. Va. Ins. Sur.). MARYLAND - Larvae moderately abundant, Prince Georges County. (U. Md., Ent. Dept.).

SCALE INSECTS - CALIFORNIA - Medium infestation of *Chionaspis ortholobis* on willows in San Diego. (Cal. Coop. Rpt.). WEST VIRGINIA - *C. sylvatica* moderate on blackgum in Greenbrier and Kanawha Counties. (W. Va. Ins. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

A MUSCID (*Musca autumnalis*) - INDIANA - The first record for the State was June 3, 1959, in Randolph County, east central area. Specimens were collected by D. L. Matthew, and determined by C. W. Sabrosky. (Matthew). This record predates the note carried in CEIR 9(29):657. (PPC). ILLINOIS - Positive determinations have been made from McHenry, Boone, Stephenson, Jo Daviess, Carroll, Ogle and Kendall Counties. (Ill. Ins. Rpt.). WEST VIRGINIA - A fly, suspected to be this species, moderate to heavy on cattle in various areas of the State. (W. Va. Ins. Sur.).

HORN FLY (*Siphona irritans*) - TEXAS - Heavier than normal on beef cattle in Palo Pinto County. (Tex. Coop. Rpt.). OKLAHOMA - Counts per animal averaged 75 on 20 beef cows in McCurtain County, 90 on 75 beef cows in Pushmataha County, 30 on calves and 80 on cows in Jefferson County, 20.9 on 22 untreated cows at Stillwater and 500 on untreated dairy cattle in Tulsa area. (Goin, Mount, Vinson, Henderson, Taylor).

STABLE FLY (*Stomoxys calcitrans*) - OKLAHOMA - Counts per animal averaged 3 and 4 on beef cows in Pushmataha and McCurtain Counties respectively, 2.7 on 22 untreated cows at Stillwater and 15 on untreated dairy cattle in Tulsa area. (Goin, Mount, Henderson, Taylor).

TABANIDS - OKLAHOMA - Counts of *Tabanus mularis* averaged 1.5 per animal on 80 head of beef cattle in Jefferson County. (Vinson). Populations of this species building up through the east central area and numbers beginning to cause concern to inhabitants in the area. *T. sulcifrons*, *T. equalis* and *T. mularis* present in largest numbers. (VanCleave, Hatfield). LOUISIANA - Averaged 8 *Tabanus* sp. per

15-minute trapping period in Calcasieu, St. Landry, Caddo and Tensas Parishes. (Spink). TEXAS - Heaviest infestation of Tabanus atratus in years on livestock in upper coastal, coastal bend and southwest areas. (Garner, Price).

FLIES - WISCONSIN - Undetermined species very numerous and annoying in parts of Langlade County; very annoying to cows in Green County. (Wis. Coop. Sur.). Utah - Unspecified species unusually numerous in parts of south central Utah. (Knowlton). OKLAHOMA - Counts of Musca domestica averaged 15.3 per animal on 22 untreated cows at Stillwater. (Mount, Henderson).

MOSQUITOES - WISCONSIN - At Madison most of mosquitoes caught in traps are Aedes vexans. Large numbers of mosquitoes causing considerable annoyance in many areas. Problem expected to remain for some time due to rains. (Wis. Coop. Sur.). CALIFORNIA - Populations increased slightly in all except coastal areas of State. Culex tarsalis remained about the same with slight increases in the Central Valley. (Vector Control).

MASKED HUNTER (Reduvius personatus) - UTAH - In motor court rooms in south Sevier County. A number in light traps at Spanish Fork, Ogden and Benjamin. (Knowlton).

BROWN DOG TICK (Rhipicephalus sanguineus) - ARKANSAS - Collected at Fayetteville. First report for State. (Ark. Ins. Rpt.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Adults averaged 1 and 2 per animal on cattle checked in Pushmataha and McCurtain Counties respectively. Larvae and nymphs heavy in both areas. (Goin).

MIDGES - OREGON - Chironomids numerous all summer, recently about 4 times as severe as in past years and piling up in heaps at lights of commercial establishments and homes in Klamath Falls area. (Bertrees, Schuh).

CAT FLEA (Ctenocephalides felis) - INDIANA - Heavy home and yard infestations in Tippecanoe, Steuben and Rush Counties. (Ent. Dept.).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - TEXAS - Survey work was concentrated in the El Paso area, with no new infestations found during July. OKLAHOMA - Surveys were conducted in 10 counties, with a total of 32 establishments examined, including 10 initial and 12 repeat inspections. ALABAMA - One initial and 7 repeat inspections were made of properties in Mobile County. (PPC, So. Reg.). MEXICO - Inspections were conducted in the states of Baja California, Sonora, Jalisco, Michoacan, Queretaro, Guanajuato and Chihuahua. No positive determinations were received during July. (PPC, Mex. Reg.).

A PYRALID (Aglossa pinguinalis) - MASSACHUSETTS - Specimens of this potential pest of stored cereals have been taken at the following localities: Barnstable, July 14, 1949, and June 23, 1958 (Kimball); a pair at Brookline, June 23, 1954 (Kamp); and at Dedham, July 3, 1958 (Cady). Determinations by E. G. Munroe. (Kimball).

BENEFICIAL INSECTS

LADY BEETLES - OKLAHOMA - Populations of Hippodamia convergens light in alfalfa fields surveyed in Arkansas River bottoms in east central area (VanCleave, Hatfield); light to heavy in cotton fields and heavy in grain sorghum fields checked in south central area (Vinson); ranged up to 0.5 per plant in cotton fields checked in Tillman County (Hatfield); and averaged 0.5 per sweep in a

Caddo County alfalfa field surveyed (Hudson). KANSAS - Primarily H. convergens, found in most alfalfa fields checked in central and north central area, with counts of 0-6 per sweep. (Peters).

LACEWINGS (Chrysopa spp.) - OKLAHOMA - Eggs common in a Choctaw County cotton field checked (Goin) and light numbers found in Tillman County cotton fields surveyed (Hatfield). KANSAS - Counts ranged 0-3 per sweep in alfalfa fields in central and north central areas of the State. (Peters).

NABIDS (Nabis spp.) - WYOMING - Extremely abundant in many crops in southeastern area of State. (Davison). OKLAHOMA - Light, up to 0.4 per sweep, in all alfalfa fields surveyed in Arkansas River bottoms in east central area. (VanCleave, Hatfield). KANSAS - Ranged 0-3 per sweep in central and north central area alfalfa fields. (Peters).

A SYRPHID (Mesogramma polita) - MARYLAND - Large numbers controlling corn leaf aphid were present in large numbers on the Eastern Shore. (U. Md., Ent. Dept.).

ALKALI BEE (Nomia melanderi) - WYOMING - Nesting sites in Riverton area, Fremont County, 10 percent larger than at same time in 1958. (Davison).

A WASP (Scolia dubia) - NORTH CAROLINA - Adults very abundant over lawns in Forsyth, Wake, Warren, and Wilson Counties. (Hammon, Scott, Lewis, Farrier).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - RHODE ISLAND - Adult activity spotty throughout the State. (Mathewson, Hansen). NEW YORK - A total of 99 beetles were trapped in 15 localities in 9 of 16 western counties. Scouting detected 5 beetles in a nursery at Gardenville, Erie County, and 13 at a nursery in Batavia, Genesee County. MAINE - Trapping began July 15, with no beetles recovered to the end of the month. VERMONT - Trapping began July 20, with a few beetles trapped again this year at Montpelier and Barre. (PPC, East. Reg.). TENNESSEE - An important extension of the infestation in Loudon County was discovered during July. SOUTH CAROLINA - Found for the first time in Lexington County during the month. ALABAMA - One positive identification was made of a specimen submitted from L. and N. Railroad Yards at Huntsville, and one was collected from the Farmer's Market at Birmingham. (PPC, So. Reg., July Rpt.). Several new infestations and considerable increased infestation have been found in the Central Region. MISSOURI - The new location reported in June north of St. Louis covers about 60 acres. Two beetles were captured in 2 traps at the southwest edge of St. Louis at Lambert Field airport. ILLINOIS - New infestations were revealed at Dolton, Markham, Calumet City and Mattoon, all suburbs in the south Chicago area except Mattoon. Reinfested areas include East Peoria, Kankakee, Chicago, Streator, Joliet, East St. Louis and Washington Park. In the Sheldon areas, beetles were found within and without the treated areas during July. INDIANA - New infestations were found at Crawfordsville, Seymour and Roachdale. MICHIGAN - Only beetles found were in the Metropolitan Detroit area and in Monroe County. Over 2,000 beetles were found in 9 traps on the Ford property in Dearborn in one week. In the Lambertville area, Monroe County, 11 and one-half square miles have been determined as infested. By the end of July, 72 acres in the Detroit area had been soil treated. OHIO - Adult populations were heavy during July. Many locations within the regulated area, previously free, are showing positive occurrences. Beetles have been found at 29 nurseries inside and 3 outside the regulated area, all determined beetle-free in previous years. An attempt is being made to delimit all new or enlarged infestations. The State is following up with foliage sprays. KENTUCKY - New infestations were found at South Portsmouth, Ashland and Harland. (PPC, Cent. Reg.).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - New find confirmed in Southport, Chemung County. Chafers were observed and trapped 2 miles east of a previous infestation at Lockport and an extension of an old infestation was discovered at Niagara Falls, both in Niagara County. Infestation has been confirmed at sites on Staten Island, the Battery Park, Manhattan, Governor's Island and Bedloe's Island in New York Harbor. Scouting and trapping in the upstate area showed a slight extension around the periphery of known infested areas, but was negative at old infested and regulated sites in Elmira and Minetto. Intensive scouting failed to reveal presence of this species in the vicinity of Binghamton, where suspected flight was reported. (PPC, East. Reg., July Rpt.).

ASIATIC GARDEN BEETLE (Autoserica castanea) - MARYLAND - "Clouds" of beetles at sunset, Kaleshore, Anne Arundel County, August 13. (U. Md., Ent. Dept.).

A GALL INSECT - IDAHO - Heavy infestations in stems of dodder noted in scattered areas in vicinity of Marsing and Parma. (Scott).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - RHODE ISLAND - Unseasonal swarms occurred during mid-August in the Providence area. (Mathewson).

CORRECTIONS

CEIR 9(25) : 553 - CHRYSANTHEMUM GALL MIDGE (Diatrromomyia chrysanthemi) should read (Diarthronomyia chrysanthemi).

CEIR 9(28) : 620 - CUTWORMS - MONTANA - Determined by H. W. Capps as "definitely not Agrotis orthogonia." No species determined. (Roemhild).

CEIR 9(31) : 696, 706 - INSECT DETECTION - Micromyzus formosanus should read Micromyzus formosanus. The entire note should be changed to read: AN APHID (Micromyzus formosanus) - CALIFORNIA - Occurred as a heavy infestation on onions in Gonzales for a second record in Monterey County. First reported in May 1944, from Salinas Valley. (Cal. Coop. Rpt.).

CEIR 9(31) : 720 - Last statement under description should read: "Autumnalis also differs from domestica in that it has, on the ridge above the thoracic squama, a few fine bristles on its inner end." Delete "... the middle of the propleura base and ..."

CEIR 9(33) : 751 - Under EUROPEAN CORN BORER - MICHIGAN - Barada should read Baraga.

CEIR 9(33) : 756 - Ips vancouveri should read Ips montanus according to Wood, S. L. 1957 (Canad. Ent. 89(9) : 398).

CEIR 9(33) : 760 - A GRASSHOPPER MITE (Eutrombidium trigonum) should read RED GRASSHOPPER MITE (E. trigonum).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta		Heliothis zea vires.	
ALABAMA								
Auburn 8/18	1	3	4					8
ARKANSAS								
Fayetteville 8/13-19	4	6		1				50
Hope 8/13-19	4	3		1				9
*Morrilton 8/13-19	5	9						26
FLORIDA								
Gainesville 8/19								1
ILLINOIS								
Urbana 8/14-20	55	32	19	18	13 spp.			94
INDIANA (Counties)								
Lawrence 8/12-14,16-18	12	1		2	71	45		6
Tippecanoe 8/14-20	41	4		4	1	4		26
KANSAS								
Garden City 8/12,17	1	15		3	2			16
Manhattan 8/15-20	20	9		5				14
Wathena 8/10-11,13	9	11		1	29	7		27
LOUISIANA								
Baton Rouge 8/14-20	4	5	222					37
Franklin 8/17,19			7					1
MARYLAND								
Fairland 8/13-17	15	2	3	1	3	4		8
Upper Marlboro 8/8-17					32	19		
MISSISSIPPI								
*Stoneville 8/14-20	47	11	319	2		23		477 13
MISSOURI								
Columbia 8/17-22	5	5	94		13			59
Sikeston 8/15-21	4	2		4				74
NEBRASKA								
Concord 7/29-8/7	105	122		7				442
Kearney 8/3,4,7,10-13	143	22		55	28	2	127	33
Lincoln 8/5-17	321	510		13		7	42	2
North Platte 8/5-17	191	42		93	28	8	44	2
Scotts Bluff 7/31-8/13	84	130	1	202	9		2	2
NORTH CAROLINA								
Clayton 8/20	1	5			1	10	24	1
Faison 8/20	1	6				6	47	
OREGON								
Salem 8/14-20		11						
SOUTH CAROLINA								
Charleston 8/17-23	5	5	26			15	140	2
Clemson 8/8-21	105	40	13	7	3	15	166	1
TEXAS								
Brownsville 8/1-7		72	448		10	5	70	172

(Continued on page 815)

*Two traps - Morrilton; 4 traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
<u>WISCONSIN</u>						
Antigo 8/10-16	14	18		13		
*Arlington 8/11-17	131	98	28	87		41
Beaver Dam 8/11-17	47					3
Bryon 8/11-17	92	28		61		36
Fox Lake 8/11-17	59					50
Janesville 8/11-17	33				1	24
Johnsburg 8/11-17	21	12				2
La Crosse 8/5-12	185	112		33		9
Middleton 8/13-19	68	19		23		1
Ripon 8/11-17						7
River Falls 8/11-15	17	3		4		2
Rosendale 8/11-17						17
Stevens Point 8/11-17	4	6		1		24
*Theresa 8/11-17						3
Waterford 8/11-17	37					

ADDITIONAL COLLECTIONS - VELVETBEAN CATERPILLAR (*Anticarsia gemmatalis*) - LOUISIANA, Baton Rouge (8/14-20) - 2; SOUTH CAROLINA, Charleston (8/17-23) - 11.

*Two traps - Arlington; 3 traps - Theresa

ADDITIONAL NOTES

VIRGINIA - FALL ARMYWORM (*Laphygma frugiperda*) heavily damaged 6 of 10 acres of grain sorghum, 18 acres of waist-high corn and denuded a lawn in Lunenburg County. (Rowell, Powers, Aug. 14). SPIDER MITES have been heavy all season long on some soybean crops on the Eastern Shore. (Hofmaster).

NEW YORK - *Carpocapsa pomonella*, *Grapholitha molesta* and *Argyrotaenia velutinana* adults still being taken in small numbers in Niagara County. Most of the moth flight appears to be over for the season. CORN EARWORM (*Heliothis zea*) trap catches building up on Long Island, August 10-13, and increasing in the Hudson Valley area. EUROPEAN CORN BORER (*Pyrausta nubilalis*) second brood present in field in all larval instars, especially the fourth, in the Hudson Valley area. Ranged 3-16 percent over the area. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) very heavy in some Nassau County home garden tomato plantings. Injury by LACE BUGS to sycamore and azaleas becoming increasingly noticeable in Suffolk County. (N. Y. Wkly. Rpt.).

NEW MEXICO - HARVESTER ANTS (*Pogonomyrmex* sp.) mounds very abundant on rangeland in southern Hidalgo County. GRASSHOPPERS numerous on many acres of rangeland in southern Hidalgo County. Nymphs and adults ranged from less than one to 14 per square yard. CODLING MOTH (*Carpocapsa pomonella*) infested almost 100 percent of untreated pears at Mesilla Park, Dona Ana County. BOLLWORM (*Heliothis zea*) generally light to moderate infestations damaging cotton in Eddy, Dona Ana and Luna Counties. STINK BUGS, LYGUS BUGS and FLEAHOPPERS heavily damaging in many cotton fields where growers failed to treat earlier in season. Generally light with occasional heavy infestations in Luna, Dona Ana and Eddy Counties. (N. M. Coop. Rpt.).

NEVADA - SPOTTED ALFALFA APHID (*Therioaphis maculata*) increased to 7 per stem in alfalfa stubble in Las Vegas, Clark County. Very light in Baker, White Pine County, and Reno-Sparks area, Washoe County. (Bechtel et al.). THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) increasing in Clark County. (Parker). CORN EARWORM (*H. zea*) averaged one larva per corn ear in southern Washoe County. TOMATO HORNWORM (*Protoparce quinquemaculata*) heavy on tomato plants in Reno, Washoe County. (Gardella). A LEAFHOPPER heavy and causing partial defoliation of sycamores in Reno, Washoe County. (Bechtel).

NEBRASKA - ALFALFA PLANT BUG (*Adelphocoris lineolatus*) averaged 5-20 and RAPID PLANT BUG (*A. rapidus*) averaged 1-8 per 10 sweeps in eastern area. (Roselle). SAW-TOOTHED GRAIN BEETLE (*Gryzaephilus surinamensis*) and GRAIN BEETLES (*Laemophloeus* spp.) heavy in stored milo in Otoe County. (Kantack).

HAWAIIAN INSECT NOTES

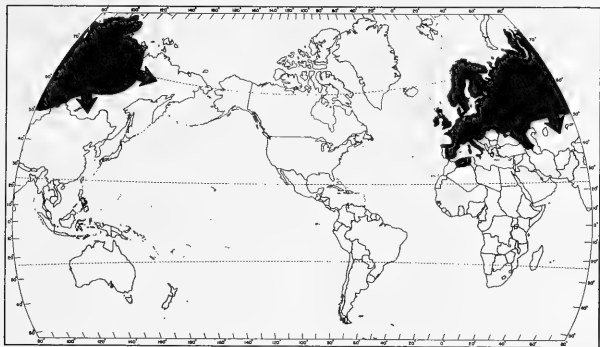
A COCONUT LEAF ROLLER (Hedylepta blackburni) caused much destruction to coconut fronds in Lahaina, Maui. The first adult of a LAWN ARMYWORM (Spodoptera mauritia acronyctoides) was taken in Lahaina, Maui. Previous reports of this species were based on larvae reared from eggs collected at this same locality. ARGENTINE ANT (Iridomyrmex humilis) was reported as established along the Manoa Cliff Trail on Mt. Tantalus, on June 20. The ants were evident for about one-half mile along the trail and were observed tending mealybugs, principally Pseudococcus montanus, on Freycinetia vines. (Hawaiian Entomological Society, July 13 Meeting).

A COCONUT LEAF ROLLER (H. blackburni) caused considerable damage on the windward exposed areas of Molokai, but not much damage in Kaunakai. Many coconuts were also damaged near Lahaina, Maui, on the windward exposed areas. Larvae of a TENEBRIONID (Eutochia lateralis) were found boring into seed pieces of sugarcane, particularly into the eyes, in cane planted for experimental purposes near Pahoia, Hawaii. About one-third of the seed in an acre plot had been ruined in a small kipuka (area isolated by lava flows) of good soil surrounded by lava from the Kilauea eruption of 1955. The species has been reported doing serious damage to sugarcane only once before, at Kohala, Hawaii, in 1922. PEA APHID (Macrosiphum pisi) was reported very abundant in alfalfa fields on Molokai, but did not appear to be causing much damage. (Hawaiian Entomological Society, August 10 Meeting).

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

PINE SAWFLY (Diprion pini (L.))

Economic Importance: This diprionid is of considerable economic importance as a sporadic defoliator of pines in Europe. Outbreaks may become very severe and completely defoliate relatively large acreages of pines when conditions are favorable. In September 1948, a severe outbreak in Scotch pine in eastern Spain defoliated areas that measured up to $4\frac{1}{2}$ by $1\frac{1}{2}$ -2 miles. In most areas, however, only a small percentage of pines defoliated in one year are killed, but the trees may die if defoliated for 2 successive years. Damaged trees also seem very susceptible to attack by several species of weevils. Damage appears to be most serious in trees on impoverished sites with sparse vegetation or in young trees from 4 to 8 years old. Needle damage will vary from 60 to 100 percent on the edges and in thin parts of the forest to 30 percent or less in the dense parts.



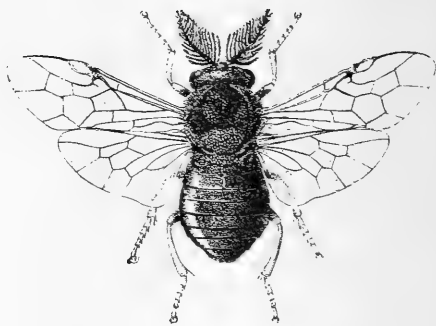
General Distribution of Diprion pini

Distribution: Occurs throughout most of Europe, Algeria and through Siberia.

Hosts: Attacks most pines, but apparently prefers Scotch pine. Will also attack spruce and fir.

Life History and Habits: The biology is nearly the same for all species of the genus. In France, under normal conditions, adults emerge in April. Females deposit eggs in rows in pine needles in slits cut by the saw-like process of the female. Young larvae begin to feed in May on the previous year's growth. Larvae start feeding on the needle near the tip and work downwards, eating about 5 mm. at a time. The attack continues into June with pupation occurring on the branches. A second generation appears in July. The larvae feed to the end of the summer, then enter hibernation under cover or in the soil. Overwintering larvae do not pupate until 2 or 3 weeks before emergence in the spring. The larvae molt 5 or 6 times. They are often found in colonies, principally when most of the foliage has been devoured on a branch. In the colder climates of Germany, Scandinavia and USSR, only a single generation may develop.

Description: ADULT - Wing expanse of the male is 16 mm., female 18 mm. The male is black, with apex of abdomen reddish and white spots on the underside of the first segment; antennae pectinate. The female body is dull yellow, with three dark areas on thorax and middle of abdomen black; antennae serriform; legs are yellow and wings have dusky borders, which are not noticeable in forewings of male. Newly emerged females of *D. pini* can be distinguished from *D. similis*, an important, introduced species that occurs in the United States, as follows: Tip of abdomen yellow in *D. pini*, greenish-blue in *D. similis*. LARVA - Pale green at first, almost whitish beneath, and with black feet. As larva matures, body color becomes dull brownish-green with dusky marks above prolegs and with dark brown head; feet are yellow with brown line at base. Full-grown larva is about 25 mm. long. COCOONS are variable, some being dark, others dull brownish-gray. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 9(35) : 8-28-59.



Adults of Pine Sawfly



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Cooperative
ECONOMIC INSECT
REPORT

Issued by
PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Serious GRASSHOPPER infestation in northern Baker County, Oregon, and heavy infestations damaging range and cropland in San Miguel County, New Mexico. (p. 821). CORN EARWORM severe on soybeans in eastern and southeastern Virginia. Larvae causing defoliation and damage to pods. Controls needed in many cases. Damage to corn heavy in areas of California and Oregon. (p. 821). HESSIAN FLY population higher in Illinois than in 1958. (p. 822). GREEN CLOVERWORM light to heavy on soybeans in southeastern Virginia and prevalent in Kent and Sussex Counties, Delaware. (p. 824).

APPLE MAGGOT abundant and causing concern to apple growers and RED-BANDED LEAF ROLLER abundant and difficult to control in Massachusetts. ORCHARD MITES troublesome in several states. (p. 825).

Infestations of POTATO APHID and GREEN PEACH APHID spotted and severe on potatoes over lower peninsula of Michigan. (p. 826).

Increasing numbers of eggs and adults of BOLLWORMS being reported in several cotton-producing states, especially Mississippi, Louisiana and Arkansas. (p. 830).

INSECT DETECTION: Western corn rootworm, reported in CEIR 9 (34): 771, is a first record for Montana. Other first state records are Musca autumnalis in Michigan and Massachusetts (p. 832), Livia vernalis in South Carolina (p. 830) and Aedes increpitus in Nebraska (p. 831). The records of Aglossa pinguinalis, reported in CEIR 9 (35) : 811, are the first recorded collections of this species in the United States. A tick, Ornithodoros coriaceus, is recorded from a new area of the Sierras in California. (p. 832).

CORRECTIONS (p. 836).

ADDITIONAL NOTES (p. 836).

INSECTS not known to occur in the United States. (p. 837).

WEATHER BUREAU 30-DAY OUTLOOK

SEPTEMBER 1959

The Weather Bureau's 30-day outlook for September calls for temperatures to average above seasonal normals over the western half of the Nation and also over the Middle and North Atlantic States. Greatest departures are expected over the Northern Plains and the far Southwest. Near normal temperatures are anticipated for the remaining area, except for below normal in the middle Mississippi Valley. Precipitation is expected to exceed normal over the eastern third of the Nation, but to be deficient over the western half. In the remaining areas near normal rainfall is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING AUGUST 31

Unusually warm and humid weather continued to cover most areas east of the Rocky Mountains this week. Several states in the northeastern and central areas have recorded the warmest August in several years. Temperatures were above seasonal levels throughout the Nation, with the exception of the Pacific Northwest, most of Texas and southern Florida. Cooler polar air covered the Northwest, while recurring widespread rain and shower activity provided some cooling in the latter areas. Largest temperature excesses extended from western New England and the Middle Atlantic States to the upper Great Plains, reaching maxima over the central Great Lakes States. The longest hot spell of the summer gradually came to an end late in the week and over the weekend in much of the midsection of the country.

Precipitation ranged from moderate to heavy in most areas east of the central Great Plains, while the only precipitation of consequence in the Western States fell early in the week over the mountains of Arizona and New Mexico. An extensive area of rain and thunderstorms in western Louisiana and southern Texas accompanied the passage of a weak low pressure area from the Gulf of Mexico into Texas at midweek. Rainfall totals along the Texas coast exceeded 4 inches at several stations. Heavy, local rainfall was recorded in the eastern Dakotas, the upper Mississippi Valley and the Great Lakes States as cooler air moved southward touching off heavy thunderstorms. At Antigo, Wisconsin, 5.18 inches of rain fell in 3 hours Wednesday night, causing local flash flooding. In Michigan, excessively heavy rains left weekly totals up to 7 inches around Detroit. Local thunderstorms in the Ohio Valley were generally widely scattered with variable amounts of precipitation. Heavy thunderstorms, showers and rains also developed in the northward flow of hot, humid air from the eastern Gulf of Mexico to New England. Rainfall again was highly variable, with local areas from Maine to Florida receiving in excess of 5 inches, while other places recorded only light amounts. Many East Coast States report numerous local dry areas. (Summary supplied by the U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - OREGON - Serious infestation in northern Baker County just north of Halfway. Species undetermined. Average population was 45 per square yard, covering approximately 10,000 acres of which damage to range forage is about 90 percent as of August 19. Most of severe damage is in green fescue, the most valuable feed in the area, with considerable damage to all other forage in evidence. Hoppers located mostly in large open meadows on south and west slopes. Infestation discovered too late for control measures to be of value this year. (Chinn, Stewart). UTAH - Numerous in local foothills on the range near North Logan and Hyde Park in Cache County. *Trimerotropis pallidipennis* has been unusually light to scarce in most localities during 1959. (Knowlton). NEW MEXICO - Heavy grasshopper infestations damaging range and cropland near Pecos and Tecolote in San Miguel County. (N. M. Coop. Rpt.). SOUTH DAKOTA - Adult grasshopper survey near completion. Population not as high in eastern area as was anticipated. Considerable crop spraying reported in area. Potential for a severe infestation still remains for 1960. *Melanoplus femur-rubrum* is dominant species in eastern area. (Mast). NORTH DAKOTA - Threatening infestations of grasshoppers numerous in flax, alfalfa and soil bank fields throughout south central area. Boll clippings in flax noticeable in some fields. Dominant species in area, *M. femur-rubrum* followed by *M. bivittatus*. (N. D. Ins. Rpt.). WISCONSIN - Populations of *M. femur-rubrum* have decreased about 30 percent since last week of July in central area. Apparently rains and humid conditions were influencing factors. Where grasshoppers are numerous, some spraying reported. (Wis. Coop. Sur.). MICHIGAN - Moving from hayfields to cultivated crops in several places. (Hutson).

CORN EARWORM (*Heliothis zea*) - VIRGINIA - Larvae heavily damaging soybeans in eastern and southeastern parts of State. Control measures needed in many cases. Many fields that now have apparently light populations will become heavily damaged very soon. Larval sizes vary from very small to mature. In some soybean fields, larval feeding is causing defoliation as well as destroying pods present, cutting off young pods and even feeding on the flowers. Situation looks bad unless something unusual happens to stop the outbreak. (Morris). NORTH CAROLINA - Attacking soybeans in Hyde and Pamlico Counties. (Stovall, Scott, Farrier). MARYLAND - Egg laying on sweet corn silks at peak at Fairland. Counts on field corn ears in St. Marys County high. (U. Md., Ent. Dept.). DELAWARE - Young larvae numerous in ears of field corn and present in alfalfa in New Castle and Kent Counties. (Burbutis, Mason). NEW JERSEY - Increasing on corn. (Ins. Dis. Newsl.). ALABAMA - Light infestations in heads of grain sorghum in Geneva and limited activity observed in peanuts in Coffee, Pike and Geneva Counties. (Grimes). WISCONSIN - Moths increasing. Late-planted sweet corn expected to have significant infestations. (Wis. Coop. Sur.). OHIO - Moderately heavy feeding on August 25 in whorls of late sweet corn at Toledo. An adjacent field ready for harvest had heavy infestation of second and third-instar larvae in ear tips. Sweet corn harvested at Wooster on August 13 was almost free of larvae. (Triplehorn). MISSOURI - Larval counts on grain sorghum in southeast ranged 0-0.5 per head. (Kyd, Thomas, Munson). OKLAHOMA - Light populations continue common most alfalfa fields in central area (VanCleave, Ritter); averaged 2 per head in 2 grain sorghum fields in Paradise area of Payne County (Henderson); averaged 0.3 per linear foot of row in 2 soybean fields in Marshall County; ranged 6-66 percent infestation of heads in 3 grain sorghum fields in Marshall and Bryan Counties; and averaged 6 and 26 percent infestation of terminals in 2 peanut fields in Bryan County (Vinson). COLORADO - Counts 20-60 per 100 ears of corn in Otero and Pueblo Counties. (Colo. Ins. Sur., Aug. 24). UTAH - Light in Cache, Box Elder and Salt Lake Counties in sweet corn. (Knowlton). CALIFORNIA - Caused heavy damage to corn in Sacramento County; most damage is in the ears. (Cal. Coop. Rpt.). OREGON - Larvae and eggs found in sweet corn and field corn in termiston area on August 25. Damage to untreated fields extensive, with 90 to 15 percent of ears showing some damage. (Eppley).

EUROPEAN CORN BORER (Pyrausta nubilalis) - DELAWARE - Egg masses from second-generation adults numerous in field corn and all stages of larvae remain numerous to abundant in field corn and sorghum throughout State. Adults abundant. (Burbutis, Mason). WISCONSIN - Moths increasing. Late-planted sweet corn expected to have significant infestations. (Wis. Coop. Sur.). OHIO - Second-generation moths have stopped oviposition at Wooster. (Triplehorn). MISSISSIPPI - In northern delta of Mississippi River third-generation adults depositing eggs on late-planted corn. Approximately 24 percent emergence of adults from second-generation pupae, with 16 percent in pupal stage and 60 percent in larval stage. (Cox).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSISSIPPI - As high as 20 percent infestation by second-generation larvae in some fields in Coahoma County. Larvae, believed to be this species, found for first time and damaging corn in Tunica, Panola, Tate, Quitman and Bolivar Counties. One field in Bolivar County had a 50 percent infestation. (Cox).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Counts on sorghum in southeast ranged 0-9 larvae per head. (Kyd, Thomas, Munson). KANSAS - Found in 2 sorghum fields in southeastern area. Field in Labette County less than one percent infested while field in Bourbon was 50 percent infested, with an estimated 25 percent damage to grain. (Peters). OKLAHOMA - Counts averaged 4 per head in 2 grain sorghum fields in Paradise area of Payne County (Henderson) and ranged 0.3-32 per head in 3 sorghum fields in Marshall and Bryan Counties (Vinson). ALABAMA - Heavy infestations in heads of grain sorghum in Geneva County; as many as 15-20 larvae per head common. (Grimes).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ALABAMA - Moderate infestations in grain sorghum in Geneva County. (Grimes).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WISCONSIN - Heavy feeding on corn silks by exceptionally large numbers of adults in southern Columbia County may result in poor pollination and poorly filled ears in late plantings of sweet corn. (Wis. Coop. Sur.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - SOUTH DAKOTA - Populations increasing in alfalfa and corn in eastern area. (Mast).

SPIDER MITES - COLORADO - Tetranychus telarius severely damaged Otero County corn. (Colo. Ins. Sur., Aug. 24). UTAH - Damage by undetermined species of mites to field corn has increased in Cache, Davis, Weber, Salt Lake and Sevier Counties. Some fields severely damaged. (Knowlton). WYOMING - T. telarius present on one of 10 leaves of corn in Riverton area. No damage noted. (Davison). CALIFORNIA - T. telarius and other species of mites are damaging corn in Sacramento County. Heavy populations present. Earlier populations credited with causing poor filling of ears; many cobs set only a few kernels per ear. (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Medium infestations in some sorghum in central and southeastern areas. Sticky board catches greatly increased in Maricopa County. (Ariz. Coop. Sur.).

Hessian Fly Conditions in Illinois for 1959 - Results of the annual survey conducted by entomologists of the University College of Agriculture and the Illinois Natural History Survey indicate that the hessian fly (Phytophaga destructor) population is higher throughout the wheat-growing sections of the State than it was in 1958. In 1958, the State average was 2.9 puparia per 100 tillers compared with 10.6 in 1959. The most marked increase occurred in the central section, with a high of 33.6 for Sangamon County. (Univ. of Ill. College of Agr., Ill. Nat. Hist. Sur., coop. agencies).

RICE STINK BUG (Oebalus pugnax) - LOUISIANA - Adults ranged 4-43 and averaged 18 per 100 sweeps in 11 rice fields in East Carroll Parish. Nymphs ranged 1-53 and averaged 18 per 100 in same fields. (Spink).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - CALIFORNIA - Light infestations in rice in Wheatland and Marysville areas of Yuba County. Infestations generally occurring along margins of paddy. (Cal. Coop. Rpt.).

FALL ARMYWORM (Laphygma frugiperda) - NEW JERSEY - Increasing on corn. (Ins. Dis. Newsl.). VIRGINIA - Severe locally on sorghum, pasture and ensilage crop. (Woodside, Basham). OHIO - Moderate infestation locally at Marietta in late sweet corn from August 12-17. (Triplehorn). ALABAMA - Heavy infestation in grain sorghum locally in Coffee County. Severe defoliation of plants occurred. (Grimes). TEXAS - Light infestations on St. Augustine and Bermuda grass in College Station area. (Garner).

ARMYWORM (Pseudaletia unipuncta) - MARYLAND - Feeding on grass in lawns, in field crops and on field borders in St. Marys, Talbot and Caroline Counties. Damage to corn light in St. Marys County. Most larvae mature on August 26; one pupa found. Tachinid parasites common. (U. Md., Ent. Dept.).

CHINCH BUGS - NEW JERSEY - Second generation now present and active in previously untreated bentgrass lawns. (Ins. Dis. Newsl.).

A FIELD CRICKET (Acheta sp.) - SOUTH DAKOTA - Moderate populations in some stubble fields and flax fields in eastern area. No damage evident. (Mast). MARYLAND - Abundant in grass. Mainly a dooryard problem. (U. Md., Ent. Dept.).

CLOVER HAYWORM (Hypsopygia costalis) - INDIANA - Increasing in numbers and doing considerable damage to all types of baled hay in Lafayette area. (Chandler).

GRANULATE CUTWORM (Feltia subterranea) - CALIFORNIA - Heavy infestations damaging alfalfa and peanut plantings in Arvin area of Kern County; causing considerable defoliation. (T. Leigh).

GARDEN WEBWORM (Loxostege similalis) - NEBRASKA - Averaged 6 larvae per 10 sweeps in east central area. (Roselle). ARIZONA - Infestations in alfalfa continuing medium to heavy in central area. (Ariz. Coop. Sur.).

FORAGE LOOPER (Caenurgina erechtea) - KANSAS - Ranged 0-4 per sweep in few alfalfa fields in southeastern area. (Peters).

BEET ARMYWORM (Laphygma exigua) - ARIZONA - Populations increased in alfalfa in central area. Counts averaged 15-20 larvae per 10 sweeps. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - ARIZONA - Heavy infestations in alfalfa in southwestern Maricopa County and in Yuma County. Larvae causing considerable damage in parts of some fields and adults still very abundant around fields. (Ariz. Coop. Sur.). UTAH - Larvae common in alfalfa fields throughout Cache County. (Knowlton).

A CATERPILLAR (Nomophila noctuella) - OHIO - An 8-acre field of alfalfa, band seeded 3 weeks earlier, was almost completely stripped of foliage on August 28. Half-grown larvae readily found in soil. Adults taken in sweepings of alfalfa in Sandusky County on August 20. (Treece).

ALFALFA WEBWORM (Loxostege commixtalis) - CALIFORNIA - Medium infestations occurring in alfalfa in Antelope Valley area of Los Angeles County; requiring control. (C. A. Perry).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Causing limited damage in southern part of State. Populations generally low in Millard and Sevier Counties and scarce in Tooele County. (Knowlton). COLORADO - Increasing in Prowers, Bent, Otero, Pueblo and Crowley Counties; 1,500-3,000 per 100 sweeps. (Colo. Ins. Sur., Aug. 24). OKLAHOMA - Populations continued to increase in alfalfa in central area. Counts ranged 20-100 per sweep, with honeydew beginning to appear on plants in some fields. (VanCleave, Ritter). Counts averaged 6 and 12 per sweep in 2 alfalfa fields checked in Bryan and Love Counties, respectively (Vinson) and none noted in 5 fields checked in Choctaw and McCurtain Counties (Goin). KANSAS - Found in all alfalfa fields examined in southeast and east central areas. Counts ranged from less than 5 to about 300 per sweep. (Peters). ILLINOIS - Small numbers, 2-10 per sweep, in southwestern counties. (Ill. Ins. Rpt.).

PEA APHID (Macrosiphum pisi) - DELAWARE - Numerous to abundant on alfalfa throughout State; building up steadily. (Burbutis, Mason). IDAHO - Populations in alfalfa 6-10 inches high averaged 100-125 per tip in Glenns Ferry area on August 24. Control required. (Edwards).

BROWN STINK BUG (Euschistus servus) - ARIZONA - Heavy infestations in some older alfalfa in Tonopah area of Maricopa County. (Ariz. Coop. Sur.).

FALSE CHINCH BUG (Nysius ericae) - SOUTH DAKOTA - Averaged as high as 6 per sweep in alfalfa in Beadle County. (Mast). UTAH - Moderately numerous on alfalfa field margins and on rangeland in North Logan-Smithfield area of Cache County. (Knowlton).

LYGUS BUGS (Lygus spp.) - UTAH - Nymphs extremely numerous in alfalfa fields in Hyde Park-Smithfield area of Cache County. Moderately severe in alfalfa seed fields in Tooele County. (Knowlton). WYOMING - Counts per 100 sweeps in seed alfalfa in Riverton area ranged 1-44. Minor damage noted. Fields nearing maturity. (Davison).

PLANT BUGS (Adelphocoris spp.) - NEBRASKA - Counts in alfalfa in east central area averaged 3 A. rapidus and 22 A. lineolatus per 10 sweeps. (Roselle).

TARNISHED PLANT BUG (Lygus lineolaris) - NEBRASKA - Averaged 5 per 10 sweeps in east central counties. (Roselle).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Populations heavy in alfalfa, statewide. (Ariz. Coop. Sur.).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - SOUTH DAKOTA - Counts high in most alfalfa fields in eastern area. (Mast).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Larvae common to prevalent on alfalfa in State and prevalent on soybeans in Kent and Sussex Counties. (Burbutis, Mason). VIRGINIA - Light to heavy on soybeans in 11 southeastern counties (Morris) and are general on soybeans on Eastern Shore (Hofmaster). MISSOURI - Counts on soybeans in southeast ranged 2-6 small larvae per foot of row. (Kyd, Thomas, Munson). NEBRASKA - Counts in soybeans in east central area averaged 4 per 10 sweeps. (Roselle).

A NOCTUID - MARYLAND - Larvae feeding on soybean foliage in St. Marys County. Damage moderate but increasing. Controls underway. (U. Md., Ent. Dept.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - CALIFORNIA - Heavy infestations in few corn fields and light to medium in field peas in Chino area, San Bernardino County. (Cal. Coop. Rpt.) TEXAS - First economic damage to peanuts in west cross timbers area this season. (King). ALABAMA - Heavy infestation in field peas locally in Monroe County. (Lemons).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Infestations increasing on peanuts in southeast. Counts per foot of row were 12 in Coffee County, 16 in Pike County and 40 in Geneva County. (Grimes).

LEAFHOPPERS (undetermined) - NORTH CAROLINA - Losses to peanuts in some fields may be as high as 200 pounds per acre. Rains prevented proper treatments. (Scott). TEXAS - Abundant on Bermuda grass lawns and causing some damage in College Station area. (Hawkins).

BEAN THRIPS (Hercotothrips fasciatus) - CALIFORNIA - Medium infestations occurring on beans in Jackson, Amador County. (Cal. Coop. Rpt.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSOURI - Damage continues evident on late-planted soybeans throughout State. Counts in southeast ranged 2-8 per foot of row. (Kyd, Thomas, Munson). VIRGINIA - Light to heavy on soybeans in 11 southeastern counties surveyed. (Morris).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - WEST VIRGINIA - Predominant pest in apple orchards at present in eastern panhandle. (W. Va. Ins. Sur.) UTAH - Damage has been moderate to severe in apple orchards in Tooele-Erda area, Tooele County. (Knowlton). OHIO - Cage emergence of summer brood moths started July 10, peaked July 28 to August 5, and ended August 27. (Cutright).

APPLE MAGGOT (Rhagoletis pomonella) - MICHIGAN - Third flight on blueberries occurred between August 10 and 15. (Hutson). MASSACHUSETTS - Abundant, late activity causing much concern among apple growers. (Wheeler).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Defoliating apple trees near Lincoln, Lincoln County. (N. M. Coop. Rpt.).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MASSACHUSETTS - Second brood abundant and difficult to control. (Wheeler). OHIO - Second-brood larvae causing increased injury. Third-brood larvae expected by September 10. (Cutright).

APHIDS - ARIZONA - First Hysteroneura setariae collection of season made in Maricopa County, mid-August, and increased considerably since. (Ariz. Coop. Sur.). OKLAHOMA - Melanocallis caryaefoliae light on pecan trees in Madill area, Marshall County. (Vinson). Monellia sp. averaged two per leaflet on pecan trees at Comanche. (VanCleave, Ritter). MICHIGAN - Aphis pomi has reached peak, now generally declining. (Hutson).

ORCHARD MITES - NEW MEXICO - Tetranychus mcdanieli light to extremely heavy and damaging apple trees in Hondo Valley, Lincoln County. (N. M. Coop. Rpt.). ARIZONA - Brevipalpus lewisi infesting fruit of most older citrus groves on Yuma Mesa, Yuma County. (Ariz. Coop. Sur.). CALIFORNIA - Aceria sheldoni medium on lemon trees in Long Beach, Los Angeles County. (Cal. Coop. Rpt.). MICHIGAN - Panonychus ulmi has reached second peak. T. telarius increasing, with lower surfaces of leaves on lower limbs of fruit trees having greatest numbers. (Hutson). MASSACHUSETTS - Late buildup of P. ulmi on apples and peaches causing concern. (Wheeler). OHIO - P. ulmi severe in many orchards. Natural decline started about July 25 and by August 15 most populations low. (Cutright).

A SCARABAEID (Cotinis texana) - NEW MEXICO - Has been serious on peach trees in home orchards in Chaves, Luna and Dona Ana Counties. (N. M. Coop. Rpt.).

PEACH TREE BORER (Sanninoidea exitiosa) - NEW MEXICO - Causing considerable damage to peach trees in Otero County. (N. M. Coop. Rpt.).

ORIENTAL FRUIT MOTH (*Grapholitha molesta*) - TEXAS - Damaged late crop of peaches in Upshur County. (Tex. Coop. Rpt.).

PECAN NUT CASEBEARER (*Acrobasis caryae*) - OKLAHOMA - Approximately 20 percent of nut clusters infested in two pecan groves in Love and Marshall Counties. (Vinson). TEXAS - Light infestation of third-generation larvae on pecan trees in Bexar County. (McEachern).

SAN JOSE SCALE (*Aspidiotus perniciosus*) - CALIFORNIA - Medium infestations showing damage to nectarine trees in Biggs, Butte County. (Cal. Coop. Rpt.).

RAISIN MOTH (*Ephestia figulilella*) - CALIFORNIA - Medium on figs in Merced area, Merced County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

POTATO APHID (*Macrosiphum solanifolii*) - MICHIGAN - Spotted, severe infestations on potatoes over lower peninsula. (Hutson). COLORADO - Increasing on potatoes in Weld and Rio Grande Counties, range 10-50 per 100 sweeps. (Colo. Ins. Sur., Aug. 24). WISCONSIN - Moderate in Racine-Kenosha County area. (Wis. Coop. Sur.).

Potato Aphids in Maine - BUCKTHORN APHID (*Aphis abbreviata*), POTATO APHID (*Macrosiphum solanifolii*), GREEN PEACH APHID (*Myzus persicae*) and FOXGLOVE APHID (*M. solani*) continue to decline in the Presque Isle area except for a few heavy infestations in a few fields. (Shands).

POTATO PSYLLID (*Paratrioza cockerelli*) - COLORADO - Increasing in San Luis Valley, range 1-20 per 100 sweeps. (Colo. Ins. Sur., Aug. 24).

TARNISHED PLANT BUG (*Lygus lineolaris*) - MAINE - Generally light to moderate injury in potato fields in the Presque Isle area. (Shands).

POTATO TUBERWORM (*Gnorimoschema operculella*) - CALIFORNIA - Causing moderate damage to potato plants in Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

BUCKTHORN APHID (*Aphis abbreviata*) - MICHIGAN - Principal aphid on potatoes over the lower peninsula and is widespread and troublesome. (Hutson).

SIX-SPOTTED LEAFHOPPER (*Macrosteles fascifrons*) - COLORADO - Light trap catches ranged 955 in Rocky Ford, Otero County, August 6-12, to 1,209 in Greeley, Weld County, August 8-18. Trace amounts collected in Mesa and Boulder Counties August 7-15. (Colo. Ins. Sur.). DELAWARE - Prevalent on carrots in New Castle County. (Burbutis, Mason). MAINE - Possibly this species, causing generally light to moderate injury in potato fields in the Presque Isle area. (Shands).

GREEN PEACH APHID (*Myzus persicae*) - ARIZONA - Alates of this vector of western yellows virus collected considerably earlier than normal this fall. (Ariz. Coop. Sur.). COLORADO - Increasing on potatoes in Weld and Rio Grande Counties; range 10-50 per 100 sweeps. (Colo. Ins. Sur., Aug. 24). MICHIGAN - Spotted, severe infestations on potatoes over the lower peninsula. (Hutson). DELAWARE - Colonies remain heavy in Sussex County on peppers despite recommended controls. (Burbutis, Mason).

TOMATO FRUITWORM (*Heliothis zea*) - MASSACHUSETTS - Moth flights and egg laying increased greatly during recent period of high temperatures. (Wheeler). DELAWARE - Adults numerous in lima bean fields in all counties. (Burbutis, Mason). VIRGINIA - Light trap catches at Painter on Eastern Shore have been heavy. (Hofmaster). NORTH CAROLINA - Larvae feeding in okra pods in Craven County. (Jackson, Farrier). INDIANA - Adults particularly abundant in Tippecanoe County during past week. (Matthew). OREGON - Appearing at light trap in Dayton area for first time this year. (Larson, Aug. 24).

A VINEGAR FLY (Drosophila sp.) - NEW JERSEY - Populations very high in tomato fields in most areas. (Ins. Dis. Newsl.)

TOMATO RUSSET MITE (Vasates lycopersici) - NEW MEXICO - Heavy and severely damaging several tomato fields in Luna County. (N. M. Coop. Rpt.).

A LEAF MINER (probably Liriomyza munda) - CALIFORNIA - Heavy and damaging tomato plantings in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

TOBACCO HORNWORM (Protoparce sexta) - INDIANA - Increasingly abundant on tomato foliage in Lafayette area. (Gould). DELAWARE - Common on peppers and tomatoes in Kent County, and abundant on unsprayed peppers in Sussex County. (Burbutis, Mason).

GRASSHOPPERS - INDIANA - Melanoplus spp. feeding extensively on tomato foliage in Howard and Grant Counties and in some fields in the northern area. (Gould).

EUROPEAN CORN BORER (Pyrausta nubilalis) - VIRGINIA - Lighter than expected damage to peppers by third-brood larvae in eastern area. However, still rather heavy. Peppers approximately 20 percent infested on Eastern Shore. (Hofmaster). DELAWARE - First, second and third-instar larvae abundant in pepper pods in untreated fields in Sussex County. (Burbutis, Mason).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OREGON - Heavy on beans east of Independence, week of August 17-21. Ranged 50-100 per leaf. Light but increasing on hops in Salem and Brooks area. (Morrison). WYOMING - Abundant on beans in Riverton area. Trace damage on late plantings. (Davison).

MEXICAN BEAN BEETLE (Epilachna varivestis) - WISCONSIN - Limited survey where this insect has previously been present for over a decade was negative. (Wis. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Slowly building up on leaf crops in eastern area despite extensive control measures. (Hofmaster). DELAWARE - Prevalent on broccoli and abundant on cabbage, common on carrots in New Castle County. Abundant on broccoli in Sussex County; larvae range 3-5 per pepper plant. (Burbutis, Mason). WISCONSIN - Moderate in the Racine-Kenosha County area. (Wis. Coop. Sur.). LOUISIANA - Heavy on cabbage in Lafayette Parish. (Spink). NEW MEXICO - Building up in lettuce fields in Dona Ana County. (N. M. Coop. Rpt.).

CABBAGE APHID (Brevicoryne brassicae) - WISCONSIN - Moderate in the Racine-Kenosha County area. (Wis. Coop. Sur.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW JERSEY - Fairly general on cabbage. (Ins. Dis. Newsl.) WISCONSIN - Moderate in the Racine-Kenosha County area. (Wis. Coop. Sur.).

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - Averaged 50 per 100 sweeps on sugar beets in Otero County. (Colo. Ins. Sur., Aug. 25).

MELON APHID (Aphis gossypii) - SOUTH DAKOTA - Heavy on cucurbits in Brookings County area. (Mast).

SWEETPOTATO LEAF BEETLE (Typophorus viridicyaneus) - MISSISSIPPI - Larvae, believed to be this species, heavily damaged sweetpotatoes in Chickasaw County and is reported in sweetpotatoes in northeastern part of State. (Hutchins, Aug. 17).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ARIZONA - Heavy populations defoliating near-mature sweetpotatoes northwest of Phoenix, Maricopa County. (Ariz. Coop. Sur.).

BANDED CUCUMBER BEETLE (*Diabrotica balteata*) - LOUISIANA - Larvae of this species, in combination with *Chaetocnema confinis*, seriously damaged sweet-potatoes in St. Martin and Acadia Parishes. (Spink).

ASPARAGUS BEETLES (*Crioceris* spp.) - WISCONSIN - Much lower populations on asparagus during 1959 than in recent years. (Wis. Coop. Sur.). DELAWARE - *C. duodecimpunctata* abundant on asparagus ferns in Sussex County. (Burbutis, Mason).

CYCLAMEN MITE (*Steneotarsonemus pallidus*) - OREGON - Building up in untreated fields of Marion and Yamhill Counties, week of August 17-21. (Rosenstiel).

TOBACCO INSECTS

HORNWORMS (*Protoparce* spp.) - WISCONSIN - Light on tobacco; presented less of a problem during 1959 than in many years. (Wis. Coop. Sur.).

GRASSHOPPERS - WISCONSIN - Presented less of a problem on tobacco during 1959 than in many years. (Wis. Coop. Sur.).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - NORTH CAROLINA - Weevils migrating over State, especially numerous in late cotton. (Cott. News Lett., Aug. 24). TENNESSEE - Adults very numerous in southern part of western area. Migration continues and control is needed to protect young bolls. (Locke). MISSISSIPPI - Infestations generally low. Young cotton will need protection past middle of September. (Merkl et al.). LOUISIANA - Percent infestation averaged 24 in 217 fields and 16 in 66 fields in Tensas Parish; 32 in 103 fields in Franklin Parish; 13 in 103 fields in Ouachita Parish; and 14 in 140 fields in Morehouse Parish. (Spink). Average percent infestation in Madison Parish was 21. (Smith et al.). ARKANSAS - Older cotton continues to "cut out". Weevil emergence from squares continues to build up in most fields over State. Infestation counts expected to rise. Young bolls will need protection. (Ark. Ins. Rpt.). MISSOURI - Percent punctured squares ranged 0-54. (Kyd, Thomas, Munson). OKLAHOMA - Percent infestation averaged 24 in McCurtain County (Slogner); 61 in McCurtain and Choctaw Counties (Goin); 21 in Bryan, Johnston, Marshall and Love Counties (Vinson); 26 in Jefferson, Cotton and Comanche Counties (VanCleave, Ritter); and 27 in Tillman, Jackson and Kiowa Counties (Hatfield).

BOLLWORMS (*Heliothis* spp., et al.) - NORTH CAROLINA - Causing considerable damage; most abundant in replanted fields. (Cott. News Lett., Aug. 24). TENNESSEE - Causing some damage over cotton-growing area. (Locke). MISSISSIPPI - Moth flight is at peak for the year in delta area. Extremely heavy egg deposition is reported, especially on young, green, succulent cotton. Counts range 0-187 eggs per 100 terminals. Eggs being deposited on most parts of the plant. Hatch occurring some fields and controls will be needed to prevent heavy economic damage to bolls. (Merkl et al.). LOUISIANA - In Tensas Parish, eggs very numerous in many cotton fields. In some instances eggs covered tops of plants, ranging 40-70 per 100 plants. Moths also numerous. Infestation counts in Franklin, Ouachita and Morehouse Parishes light. (Spink). Counts per 100 terminals in Madison Parish averaged 13.07 eggs and 0.83 larva. The second heavy peak of moths and eggs for season appeared during week. Controls being applied. (Smith et al.). ARKANSAS - Moth flight very heavy. Egg deposition heavy many fields, above 100 per 100 terminals. Controls very satisfactory, larval counts low. (Ark. Ins. Rpt.). MISSOURI - Total of 677 fields out of 790 scouted infested with 0-185 eggs and 1-40 larvae per 100 terminals. (Kyd, Thomas, Munson).

OKLAHOMA - Percent damaged squares, 4-6 in McCurtain County (Slogner); 9 in Bryan, Johnston, Marshall and Love Counties (Vinson); 1-2 in two-thirds of fields in Jefferson, Cotton and Comanche Counties (VanCleave, Ritter); 5 in Tillman, Jackson and Kiowa Counties (Hatfield); 11 in northern Kiowa County (Hudson); and eggs common in approximately half of cotton fields in McCurtain and Choctaw Counties (Goin). ARIZONA - Infestations increasing gradually in central area. In Rainbow Valley area of Maricopa County, counts high, with some fields averaging 10 larvae per 100 plants. Much of damage occurring below main terminals from larvae which hatch on side branches and move in. Egg counts also increased. (Ariz. Coop. Sur.). CALIFORNIA - Heavy hatching continues and many cotton fields being seriously damaged. Moth flights appear to have passed peak flights. (G. D. Peterson).

COTTON LEAFWORM (Alabama argillacea) - OKLAHOMA - Light infestations noted in widely scattered points throughout State. (VanCleave, Ritter, Hudson, Stiler). ARIZONA - Light populations in some fields in Graham County. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Light to medium infestations noted in few widely scattered cotton fields throughout south central area. (VanCleave, Ritter, Vinson). ARIZONA - Infestations in central area have been almost completely wiped out by disease. Egg counts still very high. (Ariz. Coop. Sur.). CALIFORNIA - Causing light damage in Hughson area, Stanislaus County. (Cal. Coop. Rpt.).

FALL ARMYWORM (Laphygma frugiperda) - OKLAHOMA - Light infestations noted in few isolated cotton fields in south central area. (Vinson).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Increasing some Maricopa County cotton fields northwest of Phoenix and in Buckeye area. Few fields show heavy foliage damage, with heavy migration in area. (Ariz. Coop. Sur.)

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Light to medium infestations in central area, heavier areas being the Tonopah, Arlington vicinity of Maricopa County and the Coolidge area of Pinal County. In Yuma County, some cotton is heavily infested, particularly that planted on poorer soils. (Ariz. Coop. Sur.).

BEET ARMYWORM (Laphygma exigua) - ARIZONA - Infestations have almost completely disappeared in the formerly heavily infested central areas of the State. It is noticeable that the disappearance occurred in untreated fields at about the same time it did in treated fields. (Ariz. Coop. Sur.). CALIFORNIA - Causing light damage to cotton in Hughson area, Stanislaus County. (Cal. Coop. Rpt.).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Heavy populations continue throughout Imperial County, with moderate to heavy damage. (G. D. Peterson).

STINK BUGS - CALIFORNIA - Continue to occur in heavy populations on cotton, especially where close to seed alfalfa crops in Imperial County. (G. D. Peterson).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Infestations heavy in untreated cotton. Damage severe in these fields. (N. M. Coop. Rpt.). ARIZONA - Infestations continuing heavy in many cotton fields, statewide. Average percent punctured squares ranged 20-60. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

PINE SAWFLIES - WISCONSIN - Second and third-instar larvae of second-generation Neodiprion lecontei present on jack pine in Sauk County at same time last-instar larvae of first generation were feeding, week ending August 15. N. lecontei larvae still active in natural red pine stands in Sawyer County August 22. All eggs of N. swainei hatched and fourth-instar larvae present in Dane and Columbia Counties, August 15. Diprion similis larvae and cocoons present in Dunn and St. Croix Counties, and 30 percent of cocoons showed parasite emergence. Defoliation was minimal, August 15. (Wis. Coop. Sur.).

LARCH SAWFLY (Pristiphora erichsonii) - WISCONSIN - Defoliation in west central counties less than in 1958. Samples of cocoons from 9 northwestern counties indicated better than 75 percent damaged by rodents and another 10 percent parasitized. (Wis. Coop. Sur.).

LODGEPOLE NEEDLE MINER (Recurvaria milleri) - CALIFORNIA - Approximately 4,000 acres of a 60,000-acre infestation being aerial treated in Tuolumne Meadows area of Yosemite National Park. Epidemic infestations seriously weakened the trees, many are dying. (Cal. Coop. Rpt.).

MOUNTAIN PINE BEETLE (Dendroctonus monticolae) - CALIFORNIA - Moving into and killing weakened trees on 60,000-acre area infested by lodgepole needle miner in Tuolumne Meadows area of Yosemite National Park. Threatening the entire stand. Controls being directed toward saving a limited area of high usage in the valuable recreational area. (Cal. Coop. Rpt.).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - ALABAMA - Increase in activity reported from Marshall County. Infestations localized in 2 small areas. (Spain). Activity increasing in a 10-square mile area concentrated where Bibb, Tuscaloosa and Hale Counties join. (Grimes).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - NEW MEXICO - Galls very abundant on Colorado blue spruce in Colfax County. (N. M. Coop. Rpt.).

A PSYLLID (Livia vernalis) - SOUTH CAROLINA - Collected on pine at North Augusta, Aiken County, June 23, 1959. Det. L. M. Russell. (Nettles et al). This is a new State record. (McAlister).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Heavy infestations damaging shade trees in Dona Ana, Lincoln, Chaves, Eddy and Bernalillo Counties. (N. M. Coop. Rpt.).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - RHODE ISLAND - Small larvae locally heavy on oaks in South Kingstown area. (Hansen).

MIMOSA WEBWORM (Homadaula albizziae) - PENNSYLVANIA - Heavy on honeylocust in Fayette and Greene Counties, August 13. (Cole). SOUTH CAROLINA - Numerous on mimosa trees in Greenville, Oconee, Pickens and Anderson Counties. (Nettles et al.).

HAG MOTH (Phobetron pithecium) - PENNSYLVANIA - Collected from ornamental crab apple trees in Carbon and Mifflin Counties (Gesell) and have been quite numerous this year on maple in Allegheny County (Udine). RHODE ISLAND - Larvae of this species and Prolimacodes badia causing considerable attention on maples in East Greenwich and South Kingstown. (Hansen).

BASSWOOD LEAF ROLLER (Pantographa limata) - RHODE ISLAND - Larvae moderate on linden in Kingston during August. (Hansen).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Heavy infestations damaging Chinese elms in Lakeside, San Diego County. (Cal. Coop. Rpt.). WISCONSIN - A total of 3,393 cases of Dutch elm disease, transmitted by this species, had been diagnosed as of August 27. The only municipality having its first case in 1959 was Johnstown township in Rock County. The disease has been found in a total of 148 municipalities in 15 counties, during 1959. (Wis. Coop. Sur.). MARYLAND - Many adults seen emerging from cut elm wood locally. Dutch elm disease appears to be on the increase. (U. Md., Ent. Dept.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Moderate to heavy damage noted on elms at Duncan, Stephens County, and Lawton, Comanche County. This is the first year this species is known to have caused damage in this area. (VanCleave, Ritter). Very low populations in Stillwater area. (Howell). MISSISSIPPI - Caused moderate to severe damage to elms in delta area and in northern portion of the State. (Hutchins, Aug. 20).

POPLAR AND WILLOW BORER (Sternochetus lapathi) - IDAHO - Reported from Priest Lake region, Bonner County. (Nonini).

SYCAMORE LACE BUG (Corythucha ciliata) - DELAWARE - Abundant on sycamore throughout the State and causing browning of leaves. (Burbutis, Mason).

A SPITTLEBUG (Clastoptera arizonana) - CALIFORNIA - Probably this species, heavy on acacia trees in Vista, San Diego County. (Cal. Coop. Rpt.).

A FALSE CHINCH BUG (Nysius sp.) - CALIFORNIA - Heavy infestations damaging junipers and nursery stock in Vallejo, Solano County. (Cal. Coop. Rpt.).

BEECH BLIGHT APHID (Prociphilus imbricator) - DELAWARE - Abundant on beech in New Castle County. (Burbutis, Mason).

A PHYLLOXERA (Phylloxera popularia) - NEW MEXICO - Heavy populations, probably this species, present on young poplar trees at Alamogordo, Otero County. (N. M. Coop. Rpt.).

WALKINGSTICK (Diaperomera femorata) - NORTH DAKOTA - Caused severe defoliation of oak and basswood in a limited area near Leyden, Pembina County. Several collections also made along Red River north of Fargo, Cass County, but no appreciable defoliation observed. (Post). WISCONSIN - Moderate populations, feeding chiefly on underbrush, in two Washburn County areas and defoliation of oak occurred in Marathon County. (Wis. Coop. Sur., Aug. 15).

A SPIDER MITE (Eotetranychus weldoni) - ARIZONA - Heavy populations on leaves of willow trees in Yuma County. (Ariz. Coop. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Psorophora ferox is a nuisance, comprising over three-fourths of attempted bites at the Cliffs in Neuse State Park. Aedes atlanticus, A. canadensis and P. varipes also biting in same area. (Mead). A. sollicitans abundant along northern coastal areas. (Ashton). WISCONSIN - Populations of unspecified species, resulting from emergence after rains, began to drop with drying weather. There is a possibility that warm weather following the last rains will cause another big emergence within next 7-14 days. (Wis. Coop. Sur.). NEBRASKA - Larvae of Culex tarsalis ranged 200-800 per dipper in sewage lagoons in Platte Valley area, and Aedes increpitus was collected in Sioux County, a new State record. (Rapp). UTAH - Numerous species moderate in Mendon-Wellville area, Cache County, and annoying in several parts of Cache Valley. Also locally troublesome in areas of Skull Valley, Tooele County. (Knowlton). CALIFORNIA - Populations of all species down generally over the State. Highest populations occurring in Coachella Valley. Culex tarsalis populations generally low over State. (Vector Control).

A MUSCID (Musca autumnalis) - MICHIGAN - This species has been noticeable during August over the southern half of the lower peninsula. Reported from Monroe, Flint, Jackson, Sturgis, Colwater, Kalamazoo, Battle Creek and Hartford. Populations have dropped somewhat on eastern side of State during past week. These are first records for the State. (Hutson, Aug. 25). ILLINOIS - Counts ranged 10 to over 100 per animal in northern half of the State and 0-8 per animal in southern portion. (Ill. Ins. Rpt.). OHIO - Infestations on farm animals continue without much change in numbers. (C. R. Neiswander). VIRGINIA - Flies, probably this species, ranged 25-150 on the face and eyes of cattle in Bath County. (Amos). MASSACHUSETTS - Collected from Angus cattle in Amherst, Hampshire County, August 25. This is the first record of the species from the State. (Shaw, Steve, Wheeler).

NORTHERN CATTLE GRUB (Hypoderma bovis) - ALABAMA - Fully grown larva removed from back of a Holstein heifer owned by the Experiment Station at Auburn, August 3. Heifer originally purchased outside the State. Det. K. L. Hays. (Grimes).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 3 per animal in untreated dairy cows checked in Stillwater area. (Howell).

A BLOW FLY (Phormia sp.) - MASSACHUSETTS - Larvae infesting wool of sheep in several flocks. (Wheeler, Aug. 26).

HORN FLY (Siphona irritans) - OKLAHOMA - Averaged 150 per animal on 52 head of beef cattle in Pushmataha County. (Goin). UTAH - Moderate on cattle in Morgan area, Morgan County. Populations light to moderate in Cache County and moderate in Tooele County. Counts averaged 75 per cow at Randolph, Rich County. (Knowlton).

TABANIDS - OKLAHOMA - On 60 yearling steers, checked in a creek bottom area near Stillwater, Tabanus sulcifrons averaged 3 per animal, T. atratus one, T. abactor 2 and T. lineola 6 per animal. (Howell). Unspecified species averaged 2 per calf, 10 per cow and 200 per bull on 52 beef cattle checked in Pushmataha County. (Goin). LOUISIANA - Adults of Tabanus sp. averaged 7 collected per 15-minute trapping period in Calcasieu, St. Landry, Caddo and Tensas Parishes. (Spink). UTAH - Unspecified species annoying cattle and horses at Hyde Park, Cache County, and Tabanus spp. numbers have decreased in Tooele County meadow areas. (Knowlton).

SYRPHIDS - INDIANA - Adults of several species extremely annoying to persons throughout the State. (Chandler).

A REDUVID (Rasahus throacicus) - CALIFORNIA - Medium to heavy numbers attracted to cold quartz lamps used over tomato inspection tables in several locations in Yolo County. Bugs biting personnel as many as 5 times on contact and causing an employment problem. (Cal. Coop. Rpt.).

FLEAS - MASSACHUSETTS - Unspecified species causing much trouble in homes throughout the State. (Wheeler, Aug. 26). RHODE ISLAND - Heavy populations of Ctenocephalides canis in several houses in South Kingstown. (Hansen).

A TICK (Ornithodoros coriaceus) - CALIFORNIA - Occurring on brush in the Coulterville area, Tuolumne County. This represents a new record of occurrence in the Sierras. The species has long been known in the coast range. (Cal. Coop. Rpt.).

STORED-PRODUCT INSECTS

TOBACCO MOTH (Ephestia elutella) - SOUTH CAROLINA - Heavy infestation of tobacco in packhouse in Marion County, apparently started from grains left in packhouse last year. (Nettles et al.).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - ILLINOIS - Numbers lower in southern third of State than for several years. Infestations in 1958 ear corn range 0.5-10 percent. Although many moths present around 1958 ear corn storages, population is considerably below normal. Adults average 50-100 per crib where ear corn has been held over the summer. (Ill. Ins. Rpt.).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - KANSAS - Present in most alfalfa fields examined in southeastern and east central areas. Counts ranged 0-3 per sweep. (Peters). OKLAHOMA - Ranged 0.2-1.5 per sweep in central area alfalfa fields. (VanCleave, Ritter). Medium to heavy populations in some alfalfa, soybean and pea fields in south central area; light in a Bryan County peanut field; and common in south central area cotton fields. (Vinson). Also common in southwestern area cotton fields. (Hatfield, Hudson).

NABIDS (Nabis spp.) - KANSAS - Present in several fields in southeastern and east central areas of State; ranged 0-2 per sweep. (Peters). OKLAHOMA - Counts 0.2-0.8 per sweep in alfalfa fields surveyed in central area of State (VanCleave, Ritter) and up to 2 per sweep in alfalfa fields in southeastern area (Goin).

LACEWINGS (Chrysopa spp.) - KANSAS - Present in a few southeastern and east central fields. Counts 0-3 per sweep. (Peters). OKLAHOMA - Ranged 0.2-0.5 per sweep in central area alfalfa fields. Eggs common in cotton fields in Comanche, Cotton and Jefferson Counties. (VanCleave, Ritter). Ranged up to one per sweep in Bryan County alfalfa fields (Vinson) and were common in southwestern area cotton fields (Hatfield).

A WASP (Scolia dubia) - VIRGINIA - Heavy on a lawn in Culpeper County (Amos, Heltzel), large numbers present on a lawn in Smyth County (Amos, Eller) and a Nansemond County lawn (Morris, Freeman).

MISCELLANEOUS INSECTS

BLACK CUTWORM (Agrotis ypsilon) - VIRGINIA - Very heavy catches in the light trap on Eastern Shore during past week. Most abundant insect coming to trap for the period. (Hofmaster).

WHITE-LINED SPHINX (Celerio lineata) - ARIZONA - Heavy populations observed moving from the desert area near Tucson, Pima County, and Coolidge, Pinal County. (Ariz. Coop. Sur.).

ASIATIC OAK WEEVIL (Cyrtopistomus castaneus) - DELAWARE - Adults abundant under lights at Newark. (Burbutis, Mason).

OLD-HOUSE BORER (Hylotrupes bajalus) - PENNSYLVANIA - Heavy infestation in a barn in Bradford County. (Gesell). NORTH CAROLINA - Large numbers found in a house in Robeson County. (Scott, Farrier).

CRICKETS - MICHIGAN - Acheta sp. numerous in houses in Jackson, Lansing and Detroit. (Hutson, Aug. 25). INDIANA - Large numbers of Nemobius fasciatus appearing in dwellings throughout central portion of the State. (Gould). NORTH DAKOTA - An unspecified species infesting many homes in the Fargo area, Cass County. (N. D. Ins. Rpt.).

EUROPEAN EARWIG (Forficula auricularia) - NEW MEXICO - Found in Cimarron Canyon, Colfax County. (N. M. Coop. Rpt.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ARKANSAS						
Fayetteville 8/20-26	25					225
Hope 8/20-26	8	4		6		43
Kelso 8/13-26	2					46
Morrilton 8/20-26	3	4	7			148
COLORADO						
Greeley 8/19-25						1
Longmont 8/16-24						1
New Liberty 8/13-22						2
Rocky Ford 8/13-19						14
FLORIDA						
Gainesville 8/25					2	8
Quincy 8/17					4	9
ILLINOIS						
Urbana 8/21-27	168	38		31	17	680
INDIANA (Counties)						
Lawrence 8/21-26	30	2		1	16	86
Tiptecanoe 8/21-27	138	22		7	5	568
KANSAS						
Garden City 8/18,21,24	4	8			3	9
Hays 8/21,24,26	15	17		4		18
Manhattan 8/21-28	11	4			1	25
Wathena 8/18-23	9	37		4	1	23
LOUISIANA						
Baton Rouge 8/21-27	5	4	84			95
Franklin 8/24			4			3
MISSISSIPPI						
*Stoneville 8/21-27	51	13	33		73	1861 59
MISSOURI						
Columbia 8/24-29	6	6	39		14	71
Sikeston 8/22-28	43	15		1		425 2
NORTH CAROLINA						
Clayton 8/27	73	35			8	63 196 18
Faison 8/27	135	39			6	24 175 23
SOUTH CAROLINA						
Charleston 8/24-30	65	11	51	2		56 1027 13
Clemson 8/22-28	52	31	23	4		11 75
TEXAS						
Brownsville 8/8-14,18-21			795		3	4 304
Waco 8/22-28	13			43		823 20
UTAH						
Benjamin 8/20-24						3
Ogden 8/20-24						2
Spanish Fork 8/20-24						3

(Continued on page 835)

*Four traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
WISCONSIN						
Antigo 8/17-23	16	12		5		
*Arlington 8/18-24	318	51		55		362
Beaver Dam 8/18-24	262					123
Bryon 8/18-24	78	14		30		28
Fox Lake 8/18-24	261					767
Janesville 8/18-24	100					93
Johnsburg 8/18-24	23	2				31
Middleton 8/19-25	455	80		58		37
Platteville 8/14-20	105	24		12		56
Ripon 8/18-24						821
River Falls 8/18-24	54					5
Rosendale 8/18-24						224
Stevens Point 8/18-24	20	6		4		6
Waterford 8/14-24	18					11

ADDITIONAL COLLECTIONS - VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - LOUISIANA, Baton Rouge (8/21-27) - 5; SOUTH CAROLINA, Charleston (8/24-30) - 253. SALT-MARSH CATERPILLAR (Estigmene acrea) - TEXAS, Brownsville (8/8-14) - 1974; (8/18-21) - 70; Waco (8/22-28) - 6. COTTON LEAFWORM (Alabama argillacea) - TEXAS, Brownsville (8/8-14) - 7938; (8/18-21) - 742; Waco (8/22-28) - 374.

*Two traps - Arlington

CORRECTIONS

CEIR 9(34):771 - FALSE CHINCH BUG (*Nyzus ericae*) should read FALSE CHINCH BUG (*Nysius ericae*).

CEIR 9(34):773 - CLOVER SEED CURCULIO should read CLOVER ROOT CURCULIO.

CEIR 9(35):803 - FLEA BEETLES - OREGON - *E. tubercis* should read *E. subcristata*.
Det. L. G. Gentner.

ADDITIONAL NOTES

NEW YORK - CODLING MOTH (*Carpocapsa pomonella*) activity declined sharply in eastern part of State and should present no problem from now on in orchards clean to date. Activity continues in Clinton County and some injury is showing in apples in Orleans County. RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) moths were caught in considerable numbers in both well-sprayed and neglected orchards in eastern area. APPLE MAGGOT (*Rhagoletis pomonella*) activity continues in same area. CORN EARWORM (*Heliothis zea*) moth catches were light at Ithaca and adults continue to emerge in the Hudson Valley, with infestation of untreated ears around 5-15 percent at harvest. Moth catches increased in Erie County. FALL ARMYWORM (*Laphygma frugiperda*) moths and larvae appear scarce in the Hudson Valley. Unusual light trap catches in the Hudson Valley included specimens of COTTON LEAFWORM (*Alabama argillacea*), BRONZED CUTWORM (*Nephelodes emmedonia*), YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) and TOBACCO HORNWORM (*Protoparce sexta*). In the Erie County area, CABBAGE LOOPER (*Trichoplusia ni*) larvae averaged 22 per leaf on cabbage in harvested fields. In other western areas, CABBAGE LOOPER and IMPORTED CABBAGEWORM (*Pieris rapae*) larvae were numerous. (N. Y. Wkly. Rpt.).

COLORADO - SPOTTED ALFALFA APHID (*Therioaphis maculata*) counts per 100 sweeps in alfalfa in several counties were 20-150 in Boulder, 20 in Adams, 20-60 in Weld, 5 in Larimer and 50-150 in Montrose. PEA APHID (*Macrosiphum pisi*) populations in alfalfa vary 1,000-10,000 per 100 sweeps. Population reduction was noticed in many areas. Nymphs of a LYGUS BUG (*Lygus* sp.) increased in alfalfa in Mesa, Montrose, Delta, Garfield, Weld, Adams, Boulder and Larimer Counties, with populations of 50-1,000 per 100 sweeps. Some seed fields on Western Slope have a poor seed set due to injury. CORN EARWORM (*Heliothis zea*) larval counts in corn, per 100 ears, were 40-60 in Montrose County and 10-30 in Morgan County and TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) caused severe damage to the same crop in some areas. POTATO APHID (*Macrosiphum solanifolii*) ranged 30-50 per 100 sweeps on potatoes in Montrose County. PEACH SILVER MITE (*Vasates cornutus*) caused silvering of leaves in occasional Mesa County peach orchards. CODLING MOTH (*Carpocapsa pomonella*) is active in Delta County and a seventh cover spray date has been set in Austin-Eckert area and Rogers Mesa. GRASSHOPPERS (*Melanoplus bivittatus*, *M. bilituratus* and *M. femur-rubrum*) averaged 20-30 per square yard in foothills and 1-10 on the plains in Larimer County. LADY BEETLES (*Hippodamia* spp.) ranged 10-30 per 100 sweeps in Larimer, Boulder, Morgan, Weld and Adams Counties. A NABID (*Nabis ferus*) ranged 10-50 per 100 sweeps in Weld, Larimer, Adams, Morgan and Boulder Counties. (Colo. Ins. Sur.).

NEVADA - THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) continued to average 10-15 per sweep in Clark County and LYGUS BUGS (*Lygus* spp.) averaged 12 per sweep in alfalfa seed fields in Pahrump Valley, Nye County. (Parker).

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

CLOVER ROOT WEEVIL (Amnemus quadrituberculatus (Boh.))

Economic Importance: This Australian curculionid was not recognized as a pest of major economic importance until 1956, when efforts to provide a legume for the nitrogen-deficient grass pastures of the Richmond River District, New South Wales, were brought to a virtual standstill by its depredations. During 1956, practically all the subterranean clover stands in that district were destroyed. The larvae cause most of the damage. Typically, the larvae gouge out or sever the clover root about one-half inch below ground level. The adults feed only on the above-ground portions of legumes and do little damage. The effects of clover root weevil injury are much more apparent on clovers with well defined tap roots, such as subterranean, crimson and red clover. White clover is better able to withstand feeding by the insect.



Adult Damage to Leaves
and Petioles

Larval Damage to Tap Root
of Clover

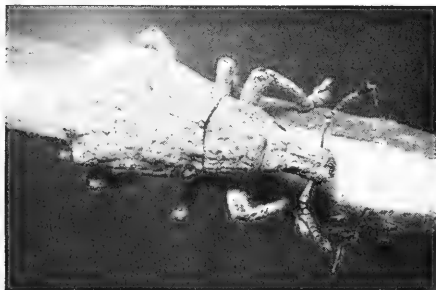
Hosts: Subterranean, red, crimson and white clovers are the major crops attacked. Adults will also feed on a wide variety of legumes including Desmodium sp., Dolichos lablab, Glycine javanica, Phaseolus bracteatus, Crotalaria sp., Trifolium hybridum (alsike clover), and Desmodium sandwichense which is particularly favored as a summer host. Larval damage has been recorded on vetches in the field.

Distribution: Occurs along the coastal districts of New South Wales and Queensland, Australia. The Manning River in New South Wales is regarded as the southern limit of the species from an economic standpoint.

Life History and Habits: The adults are present in the field from spring until early winter. They begin feeding as soon as they emerge and continue to feed actively throughout the warm summer and autumn months. They stand astride the edges of the leaves making typically round cuts as they feed. In winter, very little feeding takes place. After emergence, some weeks elapse before sexual maturity is reached and egg laying begins. Females lay up to 1,100 eggs each in

the laboratory, but on a much smaller scale in the field, probably about one-fourth as many. Eggs are laid in central hollows of clover petioles, being generally deposited in the lower portion where the hollow is well defined. Groups of 3 or 4 eggs along the length of the hollow are common, but chains of up to 14 have been found. Oviposition has only been recorded on red, white, alsike and subterranean clovers. Eggs hatch 10 to 51 days under laboratory conditions, being longest in midwinter. Larvae are found in the soil from fall until spring, during which development takes place. The larvae pass through seven instars over a period of 12 to 16 weeks after which they enter a prepupal stage for 2 to 9 weeks. The prepupal and pupal stages are passed in an earthen cell. The depth at which larval feeding occurs depends on soil moisture. Larvae feed throughout their development, but damage to plants is most pronounced in autumn and early winter. The pupal stage lasts 18 to 26 days under laboratory conditions.

Description: ADULTS - Length 7 to 12 mm., the females usually longer and broader than the males. Body color is variable, ranging from deep gray to black to brick-red. Fawn, ranging to brick-red is the most common color. The rostrum is typically curved. There are four pronounced spines on the fused elytra. LARVAE - White, legless, ranging from 1.6 mm. in length in first instar to 9 mm. in final instar. The head is large, honey-colored and has two prominent white stripes on the frons. EGGS - Cigar-shaped and approximately 1.5 mm. long and 0.5 mm. wide. When laid, eggs are white, but after a few days change to pale yellow. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9 (36) : 9-4-59.



Adults and Larva of Annemus quadrituberculatus

Illustrations furnished through the courtesy of Division of Science Services, Department of Agriculture, New South Wales.

Reference: Braithwaite, B. M., Jane, A. and Swain, F. G. 1958. Austral. Inst. Agr. Sci. Jour. 24(2): 146-154.

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Cooperative

**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CORN EARWORM larvae are critical on soybeans in eastern Virginia and are light to moderate on soybean pods in Maryland. Moths abundant and larvae damaging to late-planted sweet corn in Wisconsin. (p. 841). HESSIAN FLY surveys reported from Missouri and Nebraska. Percent infestation increased in Missouri. (p. 841, 842). VELVETBEAN CATERPILLAR causing severe damage to soybeans and peanuts and MEXICAN BEAN BEETLE serious on soybeans in southern Alabama. (p. 844).

SPIDER MITES heavier than for some years in pear orchards in Medford area of Oregon and causing serious damage to apple orchards in many parts of Utah. PEAR PSYLLA infestations heavier this year in Willamette Valley of Oregon than anytime previously noted. (p. 845).

BOLLWORMS continue to increase and are causing considerable damage to cotton in Tennessee. (p. 848).

SCREW-WORM infestations reported in Madison Parish, Louisiana, and in Canadian County, Oklahoma. (p. 851).

INSECT DETECTION: New State records include Musca autumnalis in New Hampshire, Vermont, Delaware, New Jersey and West Virginia (p. 850); Ufeus sagittarius in Wyoming (p. 849); and Aphaenogaster fulva in Florida (p. 852). New United States records include a katydid (Meconema thalassina) on Long Island, New York, and an ant (Prionopelta sp.) in Florida. (p. 852). M. thalassina is not known to be of economic importance. The specimens of Prionopelta sp. collected represent the first species of this genus found in the United States.

ADDITIONAL NOTES (p. 852).

Report of 1959 infestation and damage by meadow spittlebug to alfalfa and clover in Indiana. (p. 855).

Status of some IMPORTANT INSECTS in the United States. (p. 857).

Reports in this issue are for the week ending September 4, unless otherwise designated.

WEATHER OF THE WEEK ENDING SEPTEMBER 7

Unseasonable heat over a large portion of the Nation from the desert southwest across the center of the country to New England and the Great Lakes continued to be the main weather feature as September began. Brief relief from the persistent warmth was felt from the central and northern Great Plains to the Middle Atlantic States as cool, dry air moved southeastward at midweek. Minimum temperatures dropped to the 40's as far south as the Oklahoma Panhandle, and the 36° reading at Valentine, Nebraska, on Thursday was the lowest there for so early in September; but warm, humid conditions returned to most areas by the weekend. Hot, dry, southerly winds spread record-high temperatures across areas of the western Great Plains and central Rocky Mountains over the weekend. North Platte, Nebraska, recorded 101° and Lander, Wyoming, 92° on Monday, their highest temperatures for so late in the season. Warm, humid air covering the Atlantic Coastal States most of the week prevented effective night-time radiational cooling, keeping minimum temperatures mostly in the 70's as far north as New England through the 3rd and producing much above normal temperatures.

Hot, summer weather was temporarily moderated by almost daily scattered showers and thunderstorms from central Texas and Oklahoma eastward to the south Atlantic Coast. Moderate to heavy precipitation totals were recorded in many areas of the Southeastern, Middle Atlantic and Northeastern States, in Missouri and Arkansas, over most of Ohio and from western Wisconsin to the Eastern Dakotas. In the Pacific Northwest and northern Rocky Mountains, cloudy and showery weather held temperatures below seasonal levels. Precipitation was substantial along the coast of Washington and in scattered areas of northern Idaho, but generally light elsewhere. No precipitation of consequence was reported in the region from northern California and Wyoming southward. Ranges are very dry in this area, except in New Mexico and eastern Arizona, where good moisture has been received in the past few weeks.

Day-time temperatures from Colorado and extreme western Texas to Arizona and southern Idaho were unusually high, reaching the high 90's and exceeding 100° in many sections. El Paso, Texas, recorded 100° or above on the 2nd, 3rd, 6th and 7th, making this the first September in 70 years during which more than one 100° reading has been recorded there. (Summary supplied by the U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (*Heliothis zea*) - VIRGINIA - Larvae have become critical on soybeans most eastern counties of the State and outbreaks are quite general from the North Carolina state line to King George County. In some counties, infestations heavy enough to warrant controls in spotted localities. Practically all fields in area that were planted following small grains are in danger of having entire crop of beans destroyed. Although *H. zea* is primary insect pest present in soybean fields, *Pseudaletia unipuncta*, *Laphygma frugiperda* and *Anticarsia gemmatalis* were also present. (Morris). In Westmoreland County, outbreak one of heaviest ever experienced. Of approximately 5,000 acres of soybeans in county, 75 percent need treating or have been treated. (Dawson, Ptucha).

MARYLAND - Light to moderate soybean pod infestations in all sections. (U. Md., Ent. Dept.). DELAWARE - Young larvae common in soybeans and alfalfa throughout State, as many as one per sweep. Adults abundant in corn, alfalfa and soybeans. (Burbutis, Mason).

INDIANA - Infesting 90 percent of sweet corn ears harvested September 3 in La Porte County. Small larvae common; less than 15 percent in last instar. (Gould). WISCONSIN - Moths are probably as abundant as they have been for many years. Larvae, all instars, present in corn; damage to ears of untreated, late-planted sweet corn was observed. Treatments applied. (Wis. Coop. Sur.). MISSOURI - Late corn in north central and in central areas 100 percent infested. Counts, 0-4 larvae per ear. Earworm counts in late sorghum ranged from 4 to over 300 per 100 heads over State. (Kyd, Thomas, Munson).

KANSAS - Infesting sorghum field in Riley County, about 15 percent of heads infested with less than 1 earworm per head. Very little damage evident. (Peters).

OKLAHOMA - Counts in most alfalfa fields surveyed in northwest area averaged 0.4 per sweep. (VanCleave, Owens). LOUISIANA - Larvae averaged 1.5 per head on grain sorghum in Caddo Parish. (Spink). ARIZONA - Light infestations on exposed heads of millet at Bowie in Cochise County. Counts averaged one per 15 heads. (Ariz. Coop. Sur.). IDAHO - Infestation on sweet corn in southwestern area becoming more severe. In one field near Parma, about 58 percent of ears infested. (Scott).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - DELAWARE - Egg masses abundant on field corn throughout State. Larvae mostly fifth instar, preparing to pupate. (Burbutis, Mason). WISCONSIN - Second-brood larval development is progressing rapidly, but adults are on the wane, according to light trap catches. Damage to untreated, late-planted sweet corn observed. (Wis. Coop. Sur.). SOUTH DAKOTA - No eggs, larvae, pupae or adults found in 4 corn fields in northwest area; however, 12 percent of corn plants showed signs of damage. (Mast). NEBRASKA - Second-brood infestations appear very light. Infestations average less than one percent in 40 corn fields checked in northeast, central and east central counties. (Webb).

HESSIAN FLY (*Phytophaga destructor*) - MISSOURI - Stubble survey for 1959 showed an increase in percent infestation in all districts. The northwest, northeast and west central districts were the highest in the State. The table below lists the percent infestation by districts, compared with those in 1958.

District	Average Percent Infestation	
	1958	1959
Northwest	4.3	11.9
North Central	2.3	8.1
Northeast	3.4	11.3
West central	3.3	10.5
Central	1.8	8.1
East central	1.2	2.0
Southwest	2.2	7.9
South central		1.5
State average	2.6	9.1

(Kyd, Thomas, Munson)

NEBRASKA - Samples taken from counties in south central and southwestern areas were about 75 percent infested with numbers ranging 2-34 per 50-stem sample. From 2-28 percent of stalks per sample were infested and parasites were present in about 70 percent of the infested samples. (Webb).

SUGARCANE BORER (Diatraea saccharalis) - TEXAS - Extremely heavy in late grain sorghum in Brazos River bottoms. (Randolph).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Counts in sorghum heads (still green) in west central and southwest ranged 0-4 larvae per head. Larvae observed as far north as central Randolph County. (Kyd, Thomas, Munson). KANSAS - Causing damage to sorghum in Crawford and Montgomery Counties. (Gates). OKLAHOMA - Counts averaged 2-3 per head in late-planted grain sorghum in Guthrie area (Henderson) and heavy infestations noted in grain sorghum fields checked in Choctaw and southern half of Pushmataha Counties (Bower). None found most grain sorghum fields checked in northwestern area. (VanCleave, Owens).

STALK BORER (Papaipema nebris) - KANSAS - Infesting sorghum fields in Finney and surrounding counties. Damage varies, but it has not been too serious. (DePew).

SORGHUM MIDGE (Contarinia sorghicola) - LOUISIANA - Heavy, localized infestations on grain sorghum in Caddo Parish. (Spink).

SOUTHERN GREEN STINK BUG (Nezara viridula) - TEXAS - Heavy infestations on late grain sorghum in Brazos River bottoms. (Randolph).

CHINCH BUG (Blissus leucopterus) - LOUISIANA - Heavy infestations on grain sorghum in Caddo Parish. (Spink).

A PLANTHOPPER (Sogatia orizicola) - LOUISIANA - Survey of 25 properties, consisting of 4,770 acres, in East Carroll Parish for this vector of hoja blanca disease of rice was completed, with negative results. (Spink).

WHEAT CURL MITE (Aceria tulipae) - KANSAS - At extremely low level throughout State. (Somsen).

A CHINCH BUG (Blissus sp.) - TEXAS - Heavy infestations on St. Augustine grass lawns in Smith County. (Texas Coop. Rpt., Aug. 21).

MITES - ARIZONA - Heavy populations of an eriophyid in Bermuda grass lawns in Maricopa County, probably helping to cause a rosette appearance of plants. (Ariz. Coop. Sur.).

A THRIPS - NEW MEXICO - Preventing formation of seed in blue gramma grasses on rangeland in Roy-Mosquero area, Harding County. (N. M. Coop. Rpt.).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Adults of D. longicornis have eaten emerging silks of corn in some localities, large numbers present. (Wis. Coop. Sur.). ILLINOIS - Large numbers of D. undecimpunctata howardi and D. longicornis adults present in clover and alfalfa fields. In one field, D. longicornis adults averaged over 100 per sweep. (Ill. Ins. Rpt.).

GRASSHOPPERS - INDIANA - Moderate numbers in Tippecanoe County. (Gould). MICHIGAN - Populations generally very low over Upper Peninsula. (Hutson). WISCONSIN - Adult survey has shown a general decline in populations where numbers were previously quite high. (Wis. Coop. Sur.). NEW MEXICO - Heavy infestations damaging alfalfa along margins and fence rows in fields in Cliff-Gila area, Grant County. (N. M. Coop. Rpt.). OREGON - Populations of grasshoppers, predominantly Melanoplus femur-rubrum and M. bilituratus, very low in Willamette Valley. No infestations of economic importance encountered during adult survey. (Every).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Few fields of susceptible varieties of alfalfa in central area have increased populations; but, in general, infestations over State remain very low. (Ariz. Coop. Sur.). NEW MEXICO - Building up in many alfalfa fields in Chaves and Eddy Counties. (N. M. Coop. Rpt.). NEVADA - Averaged 3 per sweep in alfalfa in Moapa Valley, Clark County. None found in alfalfa fields in Orovalde, Humboldt County, and trace present in Elko-Lamoille areas, Elko County. (Bechtel et al., Aug. 28). OREGON - Surveys in northern Umatilla County during week of August 24 of areas infested in September 1958 were negative. (Eppley). OKLAHOMA - Light to medium populations in most alfalfa fields in northwestern area. In fields in northern Alfalfa County where counts ranged 100-1,000 plus per sweep during week of July 25, counts now 2-3 per sweep, with plants in good condition. Controls used in most fields in area. (VanCleave, Owens). Counts averaged 40 per sweep in an alfalfa field in Comanche County (Hatfield) and in an alfalfa field in Johnston County (Vinson). KANSAS - Found in all alfalfa fields examined in northeast area. Counts ranged from less than one to about 100 per sweep. (Peters). NEBRASKA - Infestations 1-60 per sweep in alfalfa in McCook area. Populations remain low at North Platte. In eastern and central counties, 10-15 percent of fields checked had some aphids present, with numbers ranging from 1 to 60 per 100 sweeps. Infestations now general in eastern and central part of State, though spotted, with a high population found in Cedar County. (Hill, Webb, Pruess). MISSOURI - Counts in southwest ranged 0-5 per sweep. (Kyd, Thomas, Munson).

PEA APHID (Macrosiphum pisi) - DELAWARE - Colonies ranged from present to abundant in alfalfa. (Burbutis, Mason). MISSOURI - Counts 2-7 per sweep on older alfalfa in north central area. (Kyd, Thomas, Munson). NEBRASKA - Populations in alfalfa in eastern counties generally below midseason levels, with average counts about 7 per 10 sweeps. (Webb). WYOMING - Average 200 per 100 sweeps in alfalfa in Torrington area. (Davison). NEW MEXICO - Light to moderate in alfalfa in Dona Ana, Hidalgo, Grant and Eddy Counties. (N. M. Coop. Rpt.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - ARIZONA - Larvae and adults continue high in central and southwestern areas. In southeast, adults extremely abundant around fields, but larval counts not heavy, averaging 10 per 10 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Larvae averaged about 2 per 10 sweeps in alfalfa in Hidalgo, Grant and Dona Ana Counties. (N. M. Coop. Rpt.). OKLAHOMA - Very light in alfalfa in northwestern area. (VanCleave, Owens).

A CATERPILLAR (Nomophila noctuella) - OHIO - Continues to be destructive to summer seeded alfalfa. Additional infestations observed in Geauga and Ashland Counties. Many larvae now nearly full grown, although smaller specimens also observed. Some pupae and adults present in Wayne County. (Treece).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Larvae present in alfalfa in New Castle County, common on alfalfa in Sussex County and present on soybeans in Kent County. (Burbutis, Mason).

FALL ARMYWORM (Laphygma frugiperda) - DELAWARE - Larvae present in alfalfa in Kent County. (Burbutis, Mason). OKLAHOMA - Counts averaged 3 per sweep in one of 3 alfalfa fields in Choctaw County. (Goin). MISSOURI - Counts ranged 6-8 per square yard on rye in Laclede County and few noted in north central area. (Kyd, Thomas, Munson).

BEE T ARMYWORM (Laphygma exigua) - TEXAS - Average 4-5 per sweep on alfalfa in Brazos and Burleson Counties. Ragging of plants apparent. (Hawkins).

WEBWORMS (Loxostege spp.) - KANSAS - Counts 0-2 per sweep in alfalfa fields in northeastern area. (Peters). MARYLAND - Larvae of L. similalis abundant and doing considerable damage to alfalfa in Dorchester and Wicomico Counties. (U. Md., Ent. Dept.).

A LEAF MINER (Liriomyza sp.) - DELAWARE - Mines prevalent in alfalfa throughout State. (Burbutis, Mason).

CLOVER SEED CHALCID (Bruchophagus gibbus) - OKLAHOMA - Causing extensive damage to seed alfalfa in Roger Mills County. (Burns).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Very abundant in alfalfa in southern counties, often averaging as high as 6-10 per sweep. (N. M. Coop. Rpt.) TEXAS - Average 2 per sweep on alfalfa in Brazos and Burleson Counties. (Hawkins). OKLAHOMA - Very light in alfalfa in northwestern area. (VanCleave, Owens).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults and nymphs remain common on soybeans in Kent and Sussex Counties. (Burbutis, Mason). INDIANA - Extremely abundant on new growth of red clover in Jasper County. (Chandler). MISSOURI - Counts 12-40 adults and nymphs per sweep on older alfalfa in north central area. (Kyd, Thomas, Munson).

BLISTER BEETLES (Epicauta spp.) - DELAWARE - Adults of E. pennsylvanica remain present in alfalfa in New Castle and Kent Counties. (Burbutis, Mason). MINNESOTA - E. pennsylvanica populations high enough on alfalfa to cause concern to individuals in the west central district. Seed crop on older alfalfa being destroyed. (Minn. Ins. Rpt.). ARIZONA - Populations of E. fabricii increased in Greenlee County alfalfa. Counts average 40-50 per 100 sweeps. (Ariz. Coop. Sur.).

INSECTS ON ALFALFA - MISSOURI - Two counties in north central area had fall seeded alfalfa infested with following insects: Loxostege similalis, sod webworms, Laphygma frugiperda, Prodenia ornithogalli, Agrotis ypsilon, Feltia subgothica and Colias philodice eurytheme. Some of these fields completely destroyed; others defoliated but will recover. (Kyd, Thomas, Munson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - ALABAMA - Causing severe damage to soybeans in south Mobile County; both adults and larvae plentiful. (Seibels). Causing severe damage to soybeans in Henry County, averaging 16 per 3 sweeps and continues to cause severe damage to peanuts in Coffee, Houston, Geneva, Henry, Dale and Barbour Counties. (Grimes). LOUISIANA - Moths very numerous in soybean fields in Acadia Parish; however, larval infestations remain relatively light. (Spink).

GREEN CLOVERWORM (Plathypena scabra) - VIRGINIA - Fairly numerous on soybeans on Eastern Shore and fairly numerous in practically all soybean fields surveyed in eastern area. A disease is killing many larvae. (Hofmaster, Amos, Morris). MARYLAND - Larvae infesting soybeans over State. Populations declining. (U. Md., Ent. Dept.). DELAWARE - Larvae abundant in alfalfa throughout State and prevalent on soybeans in Kent and Sussex Counties. (Burbutis, Mason). MISSOURI - Counts on late soybeans in north central area ranged 0-2 per foot of row and 0-5 in west. (Kyd, Thomas, Munson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - VIRGINIA - Fairly numerous on soybeans on Eastern Shore and are fairly numerous in practically all soybean fields surveyed in eastern area. (Morris, Hofmaster). DELAWARE - Adults present on soybeans in New Castle and Sussex Counties. (Burbutis, Mason). MISSOURI - Counts in north central area on soybeans ranged 0-2 per foot of row and in northwest 0-4 per foot of row. (Kyd, Thomas, Munson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Caused serious damage to soybeans in several sections of southern area. Most extensive damage in Mobile, Baldwin and Escambia Counties. (Ruffin).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - Collected from showy partridgepea (Chamaecrista fasciculata) at Supply, where 13 out of 50 terminals were infested. (Manley).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - MICHIGAN - Hot weather has activated this pest in the Grand Rapids, Benton Harbor triangle. Eggs and young larvae readily found on unsprayed trees. (Hutson).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - MICHIGAN - Third brood on grapes in Lawton and Paw Paw, and on peaches, apples, plums and pears in Benton Harbor. (Hutson). OHIO - Injury to peaches light in northern and central areas. (Rings).

EUROPEAN RED MITE (Panonychus ulmi) - NEW JERSEY - Overwintering eggs appearing. (Ins. Dis. Newsl.). MICHIGAN - Passed a second peak population for the season around Benton Harbor, Coloma and South Haven. (Hutson). OHIO - Although declining rapidly, foliage shows much injury in orchards not receiving early season preventive sprays. (Rings).

SPIDER MITES (Tetranychus spp.) - IDAHO - Probably this group increasing on apples in Canyon County. (Scott). OREGON - T. telarius still showing up in economic numbers on pears in Medford area. Heavier than for some years. Noted drifting into orchards from nearby vegetation, possibly due to an abnormally dry year in this part of State. (Gentner). UTAH - Moderate damage to raspberry foliage in Lake Town-Lakota area of Rich County during late summer. In Utah-Cache County areas, damage developed about three weeks later than in 1958. Damage spotted and sometimes severe at present. Damage serious in apple orchards in many parts of State, especially home orchards. (Davis, Knowlton). OHIO - T. telarius still prevalent on peaches in Ashland and Licking Counties, and on cherries in Ashland County. (Rings).

PEAR PSYLLA (Psylla pyricola) - OREGON - Populations remain high in Willamette Valley orchards. Infestations heavier this year than anytime previously noted, except where vigorous control program followed. (Every).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - IDAHO - A few larvae occurring in peaches in Canyon County and causing quite a problem. (Bechtolt). OHIO - Fruit injury more severe than any year since 1948 in Franklin County. (Rings).

LESSER PEACH TREE BORER (Synanthedon pictipes) - OHIO - Second-brood emergence nearly complete in northern area. Heavy on older trees in Franklin, Mahoning, Columbiana, Licking and Wayne Counties. (Rings).

CATFACING INSECTS - OHIO - Injury to peaches higher than normal in northern fruit areas. (Rings).

FALL WEBWORM (Hyphantria cunea) - LOUISIANA - WEB on pecan trees in Tensas, Madison and East Carroll Parishes. (Spink).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Averaged 5 per 100 nuts on some pecan trees in Atoka County. (Bower, Meharg).

WALNUT BLISTER MITE (Aceria erinea) - OREGON - Heavily infesting early variety walnuts near Dundee, week of August 31. Determined by G.W. Krantz. (Jones).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Eggs from overlapping second and third-brood females easily found in the Paw Paw, Mattawan, Lawton, Coloma, Benton Harbor area. (Hutson).

LEAFHOPPERS - NEW MEXICO - Severely damaging foliage on grapevines at Las Cruces, Dona Ana County. (N.M. Coop. Rpt.).

Citrus Insect Situation, Lake Alfred, Florida, August 31, 1959 - PURPLE SCALE (*Lepidosaphes beckii*) activity held at the very low level of mid-August and will continue low through October. FLORIDA RED SCALE (*Chrysomphalus aonidum*) activity increased during the last two weeks but will decline during next two weeks. Infestations will remain near the present average level through September. CITRUS RED MITE (*Panonychus citri*) experienced a further decline in activity which resulted in infestations dropping to a record low level. An upward trend is expected in late September but populations generally will remain below average through October. CITRUS RUST MITE (*Phyllocoptura oleivora*) dropped sharply in activity since mid-August; infestations are below average levels. Activity will start to increase within the next two weeks and will again be abundant during October and November. (Simanton et al.).

TRUCK CROP INSECTS

POTATO APHID (*Macrosiphum solanifolii*) - PENNSYLVANIA - Building up rapidly on potato foliage in Cambria County. (Udine). UTAH - This species and *Myzus persicae* were generally light to moderate in potato fields this season throughout the State. (Knowlton).

LEAFHOPPERS - UTAH - *Empoasca filamenta* damaging potato foliage near Ogden. (Knowlton). MICHIGAN - *E. fabae* numerous in Upper Peninsula potato fields. (Hutsun). VIRGINIA - *E. fabae* abundant on fall potatoes in Accomack and Northampton Counties. (Greenwood, Hofmaster).

POTATO FLEA BEETLE (*Epitrix cucumeris*) - VIRGINIA - Abundant on fall potatoes in Accomack and Northampton Counties. (Greenwood, Hofmaster).

POTATO TUBERWORM (*Gnorimoschema operculella*) - VIRGINIA - Infesting nearly every plant of fall potatoes in one field near Craddockville and in field plots at Painter. (Hofmaster).

HORNWORMS (*Protoparce* spp.) - NEW JERSEY - *P. quinquemaculata* moth flights and eggs very numerous. (Ins. Dis. Newsl.). VIRGINIA - Heavy in localized pepper plantings on Eastern Shore. (Hofmaster). NEW MEXICO - A problem in improperly treated tomato and chili fields in Hidalgo, Luna and Dona Ana Counties. (N. M. Coop. Rpt.).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - NEW JERSEY - Moth flights at some traps are at peak, as high as first brood in late May. Late sweet corn and possibly peppers will take serious losses unless treated. (Ins. Dis. Newsl.). DELAWARE - Light in treated pepper fields and up to 100 percent infestations in untreated fields. (Burbutis, Mason).

TOMATO FRUITWORM (*Heliothis zea*) - NEW JERSEY - Larger number of moths trapped this year than in 1958, 1957 and 1956. Eggs and larvae very numerous on tomatoes, field corn and lima beans. (Ins. Dis. Newsl.). DELAWARE - Remains abundant in lima bean fields over State. (Burbutis, Mason). NEW MEXICO - Eggs very abundant on lettuce in Dona Ana County. (N. M. Coop. Rpt.). UTAH - Damage has been generally light throughout the State. Occasionally moderately severe in southern area. (Knowlton).

WESTERN SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata*) - OREGON - Larvae causing localized damage to tomatoes in Willamette Valley by entering fruits touching ground. (Every).

A WHITEFLY (*Trialeurodes* sp.) - DELAWARE - Adults common in lima beans, statewide, and squash in Kent and Sussex Counties. Prevalent on snap beans in Sussex County. (MacCreary, Burbutis, Mason).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - DELAWARE - Present on lima beans and very common on pumpkin squash in Sussex County, causing moderate feeding injury. (Burbutis, Mason).

MEXICAN BEAN BEETLE (Epilachna varivestis) - WYOMING - Continues to defoliate maturing bean plants in southeast area. (Davison).

FLEA BEETLES (undetermined) - INDIANA - Causing serious damage to turnips in Tippecanoe County. (Gould).

DIAMONDBACK MOTH (Plutella maculipennis) - OREGON - Relatively low numbers in Willamette Valley fields, but controls necessary. Slightly more abundant now than at this time in 1958. (Every).

CABBAGE APHID (Brevicoryne brassicae) - OREGON - Relatively low in numbers in Willamette Valley fields, but controls necessary. (Every).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - Larvae and pupae numerous on horseradish in Kent County, causing moderate feeding injury. (Burbutis, Mason). OREGON - Relatively light in Willamette Valley fields, but controls necessary. Slightly more abundant now than at this time in 1958. (Every).

A FIELD CRICKET (Acheta sp.) - ARIZONA - Moderate infestations damaging small lettuce along the edges of a few fields in Maricopa County. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - NEW JERSEY - Up to 10 eggs per leaf on crucifers and lettuce. (Ins. Dis. Newsl.). VIRGINIA - Continues to increase on cole crops. (Hofmaster). SOUTH CAROLINA - Damaging collards in Lee County. (Nettles et al.). NEW MEXICO - Larvae heavy on young lettuce in Dona Ana County; eggs also very numerous. (N. M. Coop. Rpt.). ARIZONA - Light on lettuce in Maricopa and Cochise Counties. (Ariz. Coop. Sur.). OREGON - Relatively low in numbers in Willamette Valley fields, but controls necessary. Populations much less than at this time in 1958. (Every).

A CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Damaging young lettuce plants in Dona Ana County. (N. M. Coop. Rpt.).

BEET ARMYWORM (Laphygma exigua) - ARIZONA - Light populations continuing on lettuce in Maricopa County. (Ariz. Coop. Sur.).

A PYRAUSTID (Diaphania sp.) - NEW JERSEY - Serious on cantaloup and winter squash in Gloucester County. (Ins. Dis. Newsl.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - MICHIGAN - Numerous over all the Upper Peninsula. (Hutson). VIRGINIA - Increasing in cucurbits. (Hofmaster).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - VIRGINIA - Increasing on cucurbits. (Hofmaster).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Sweetpotatoes were severely damaged by larvae in St. Martin, Lafayette, Acadia and St. Landry Parishes this year. (Spink).

A WHITEFLY (prob. Trialeurodes vaporariorum) - IDAHO - Infesting hops in Canyon County. (Scott).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - INDIANA - Caused serious damage to mint in Jasper and Starke Counties during mid-August. (Gould).

ALFALFA WEEVIL (Hypera postica) - NORTH CAROLINA - Adults feeding on fruit of strawberry in Orange County, May 12. Determined by R. E. Warner. (Barnes).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - LOUISIANA - Degree of infestation ranged medium to heavy in Richland and Caldwell Parishes, medium in Ouachita Parish and averaged 28 percent in Tensas Parish. (Spink). In Madison Parish, infestation ranged 11-97 percent and averaged 47 percent. (Smith et al.). TENNESSEE - Continued migration to the north, but are moving slower than in 1958. Where blooms can be found in southern counties, as many as 10 adults can be found in a single bloom. Some fields past damage stage, but others are losing cotton. (Locke). MISSOURI - Of 373 fields scouted, 43 were infested. Ranged 0-35 percent punctured squares. (Kyd, Thomas, Munson). OKLAHOMA - Averaged 60 percent infested squares in 4 fields in Muskogee and McIntosh Counties (Washum); 9 percent in three of 4 fields in Pontotoc County (Meharg); 70 percent in 3 fields in Choctaw County (Goin); and 17 percent in 14 of 18 fields in southwestern area (Hatfield).

BOLLWORMS (Heliothis spp., et al.) - LOUISIANA - Light to medium on cotton in Tensas, Richland, Ouachita and Caldwell Parishes. (Spink). Averaged 2 percent infested squares in 31 of 43 fields surveyed in Madison Parish. Moth population high and egg deposition heavy past 10 days, however control measures adequate. In 63 of 65 fields surveyed, counts averaged 8.18 eggs and 0.65 larva per 100 terminals. (Smith et al.). TENNESSEE - Continue to increase and are causing considerable damage over cotton-growing area. All larval instars can be found. (Locke). MISSOURI - Of 373 fields surveyed, 205 infested. (Kyd, Thomas, Munson) OKLAHOMA - Counts averaged 5 percent infested squares in four fields surveyed in Muskogee and McIntosh Counties (Washum); ranged 6-32 percent in 3 fields inspected in Choctaw County (Goin); averaged 5 percent in 8 of 18 fields in the southwestern area (Hatfield). ARIZONA - Increasing in cotton statewide with considerable damage in many fields. (Ariz. Coop. Sur.). NEW MEXICO - Generally light with occasional heavy spots in cotton-growing areas of State. (N.M. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Light trap surveys negative through August 26 in Clark and Nye Counties. (Parker, Aug. 28). ARIZONA - For this season up to September 5, 13 moths have been collected in light traps. Recently, 3 fields found infested with larvae near Safford in Graham County and 1 larva found on a lint cleaner near Gila Bend in Maricopa County. (Ariz. Coop. Sur.).

COTTON LEAFWORM (Alabama argillacea) - LOUISIANA - Considerable ragging to cotton in Acadia Parish. (Spink). OKLAHOMA - Ranged 5-150 per ten feet of row and averaged 52 in 6 fields surveyed in Tillman County. (Hatfield). NEW MEXICO - Occasional larva found in cotton fields in Hidalgo and Dona Ana Counties. Several heavy infestations found in Luna and Eddy Counties. (N.M. Coop. Rpt.) ARIZONA - Light in some Greenlee and Graham County fields. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Continuing heavy in a few fields northwest of Phoenix and in the Buckeye area. Light in some Yuma and Pinal County fields. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Continues to increase gradually in many Maricopa and Pinal County fields. Continues heavy in some Yuma County fields. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Continue heavy in many cotton fields over State. In many cases, they are moving out of dry alfalfa fields to cotton and causing heavy damage to top crop of squares. (Ariz. Coop. Sur.).

APHIDS - TENNESSEE - Present in a large number of fields and will probably increase. (Locke). NEW MEXICO - Aphis gossypii generally light in cotton fields in Luna, Hidalgo and Dona Ana Counties. (N.M. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

NANTUCKET PINE MOTH (Rhyacionia frustrana) - PENNSYLVANIA - Beginning to pupate in Chester County. Some larvae dead in shoots of red pine in same area, probably due to fungus. (Drooz).

A PINE MOTH (Rhyacionia adana) - MICHIGAN - Reported from Otsego, Kalkaska, Dickinson, Gogebic and Schoolcraft Counties on red pine. (Hutson).

PINE WEBWORM (Tetralopa robustella) - PENNSYLVANIA - Fairly heavy on a small plantation of Scotch pine in Union County. (Gesell).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ARKANSAS - Infestations increased in Bismarck-Sheridan-Arkadelphia triangle. Usually single trees, or small groups of trees, were affected. Controls applied in some cases. (Ark. For. Pest Rpt., August). ALABAMA - Activity increasing in Winston County. (Stewart).

COLLEY SPRUCE GALL APHID (Chermes cooleyi) - OHIO - Galls unusually abundant on ornamental spruce over the State. (R. B. Neiswander).

PINE SAWFLIES - ALABAMA - Increase in Neodiprion lecontei activity reported in 600 acres of slash pine in Mobile County. (Padgett). MINNESOTA - Second-brood populations of Diprion similis reported quite damaging to jack pine in Brainerd area. White pine also being damaged, but jack pine appears to have heaviest populations and feeding injury. (Minn. Ins. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - DELAWARE - Larvae abundant on sycamore trees along roadside in Kent County, and causing heavy defoliation. (Burbutis, Mason).

FALL WEBWORM (Hyphantria cunea) - OHIO - More abundant throughout eastern part of the State than for several years. (Polivka).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - Heavily infesting honeylocust at Frostburg, Allegany County. (U. Md., Ent. Dept.). DELAWARE - Larvae abundant on several honeylocust trees in Kent County and causing severe feeding injury. (Burbutis, Mason).

WEBWORMS - DELAWARE - Larvae of Salebria afflictella and Tetralopa melanogrammos common on sweetgum in New Castle and Sussex Counties and causing noticeable feeding injury. (Burbutis, Mason).

AILANTHUS WEBWORM (Atteva aurea) - DELAWARE - Larvae and pupae common on ailanthus in New Castle County. (Burbutis, Mason).

A GRACILARIID (Phyllonorycter sp.) - WYOMING - Severe on aspen in western half of the State, with an estimated 90 percent of leaves damaged. Det. J. F. G. Clarke. (Davison).

A NOCTUID (Ufeus sagittarius) - WYOMING - Specimens collected under bark of poplar in Riverton area, Fremont County, constitute a new record for the State. Det. H. W. Capps. (Davison).

A SATURNIID (Pseudohazis eglanterina) - NEVADA - Large numbers of adults present. Females laying eggs on big sagebrush (Artemisia tridentata) in Denio area of Humboldt County. (Bechtel, Kinginger, Lauderdale, Aug. 28).

ASIATIC OAK WEEVIL (Cyrtepidomus castaneus) - DELAWARE - Adults common on leaves of pin oak in New Castle and Sussex Counties, causing light feeding injury. (Burbutis, Mason).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Damage continued to be very heavy on elms in Tulsa. Approximately 90 percent of population now in pupal stage. (Stiles).

IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) - MASSACHUSETTS - Reported as very active on willows in many localities in the eastern portion of the State during July and August. (Perry, Lowry).

A CERAMBYCID (Crossidius sp.) - NEVADA - Adults numerous and damage to rabbit-brush (Chrysothamnus viscidiflorus) by larvae is heavy in northern Humboldt and eastern Elko Counties. (Bechtel, Kinginger, Lauderdale, Aug. 28).

AN APHID (Periphyllus populicola) - WYOMING - Abundant on cottonwood trees throughout the State; causing yellowing of leaves and minor defoliation. (Davison).

ORANGE-DOG (Papilio cressphontes) - TEXAS - Attacking citrus trees in Galveston County. (Texas Coop. Rpt.).

SCALE INSECTS - MARYLAND - Lepidosaphes ulmi heavy on lilac at Mountain Lake Park, Garrett County, and Diaspis carueli infesting junipers in Allegany County. (U. Md., Ent. Dept.). TEXAS - Icerya purchasi light to medium on pittosporum in Duval County. (Texas Coop. Rpt.).

SPIDER MITES - PENNSYLVANIA - Oligonychus newcomeri caused severe browning of foliage of shadblow (Amelanchier canadensis) in Perry County during August. Det. E. W. Baker. (Drooz). MINNESOTA - Tetranychus telarius populations have built up during hot weather and many ornamentals show feeding injury. (Minn. Ins. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NEW MEXICO - Heavy populations of unspecified species building up from water made available from recent rains. Very annoying in and around homes. (N.M. Coop. Rpt.).

HOUSE FLY (Musca domestica) - DELAWARE - Very abundant this year and extremely annoying. (Burbutis, Mason).

A MUSCID (Musca autumnalis) - NEW HAMPSHIRE - Collected for the first time in the State from the University herd at Durham, July 22, and again August 14. Det. C. W. Sabrosky. Found to be very abundant, generally, in Strafford County. Many complaints from dairymen over the State indicating that flies on cows in pastures during the summer were unusually troublesome. M. autumnalis may be responsible for many of these complaints. A limited survey is planned. (Conklin). VERMONT - Collections made at Alburg, Grand Isle County, and at Tunbridge, Orange County, are first reports from the State. Has also been found in Chittenden, Caledonia and Bennington Counties. Det. C. W. Sabrosky. (Scott). DELAWARE - Determinations of specimens submitted from State were positive for this species. Det. C. W. Sabrosky. This is the first record for the State. See CEIR 9(34) : 784. (PPC). NEW JERSEY - Specimens submitted have been determined as this species by C. W. Sabrosky. This is the first record from the State. See CEIR 9(34) : 784. (PPC). VIRGINIA - Averaged 50-150 per animal in some herds of cattle in Highland and Bath Counties; light at one locality in Montgomery County. (Turner). Also present in Bland and Giles Counties. (Mast). WEST VIRGINIA - Positive determinations have been made of specimens submitted. This is the first record from the State. See CEIR 9(35) : 810. (PPC). ILLINOIS - Averages per animal in 3-8 cattle herds in each section in northern half of the State were 22 in east, 8 in central, 10 in western, 13 in northwestern and 26 in northeastern sections. The range was 4-50 per head. (Ill. Ins. Rpt.).

HORN FLY (*Siphona irritans*) - NEW MEXICO - Populations heavy on range cattle in Grant and Hidalgo Counties. (N.M. Coop. Rpt.). OKLAHOMA - Counts averaged 250 per head on 4 calves, 300 per head on 14 cows and 600 on a bull in Johnston County (Vinson); 28 per animal on 24 untreated, lactating Holstein cows at Stillwater (Mount); 600 per animal on cattle checked in Vinita area, Craig County (Campbell); and averaged 1,000 per animal on 15 cows in Lahoma area, Garfield County, with much lighter counts on other cattle in surrounding area. (VanCleave, Owens). UTAH - Annoying cattle in Lakota-Garden City area of Rich County, with counts of 75-200 per animal. Common on cattle in Box Elder County. (Knowlton)..

FLIES - NEW MEXICO - Populations of several species have been extremely heavy around dairies, stockyards and corrals throughout the State. Controls have been effective in most cases. (N.M. Coop. Rpt.).

SCREW-WORM (*Callitroga hominivorax*) - LOUISIANA - Four authenticated cases reported in Madison Parish, involving 2 calves, one heifer and one dog. (Spink). OKLAHOMA - A yearling steer reported infested in Canadian County. (Howell).

TABANIDS - LOUISIANA - *Tabanus* sp. averaged 3 collected per 15-minute trapping period in Calcasieu, St. Landry, Caddo and Tensas Parishes. (Spink). OKLAHOMA - Averaged 15 per animal on 19 head of cattle checked in Johnston County. (Vinson).

CATTLE TAIL LOUSE (*Haematopinus quadripertusus*) - LOUISIANA - A heavy infestation observed in a small cattle herd in East Baton Rouge Parish. (Spink).

FLEAS - OKLAHOMA - *Ctenocephalides felis* and *Pulex irritans* causing a nuisance in some yards and homes in central and north central areas. (Howell).

A BROWN SPIDER (*Loxosceles reclusa*) - KANSAS - Three specimens collected in a home at the Garden City Experiment Station in Finney County. (DePew).

STORED-PRODUCT INSECTS

Stored-grain Insects in Alabama - INDIAN-MEAL MOTH (*Plodia interpunctella*), CADELLE (*Tenebroides mauritanicus*) and CONFUSED FLOUR BEETLE (*Tribolium confusum*) were extremely heavy in 2 warehouses in Mobile County, where grain is stored. CIGARETTE BEETLE (*Lasioderma serricornis*) and RICE WEEVIL (*Sitophilus oryza*) were common. Other grain insects found in light to medium numbers were *Tenebrio molitor*, *Araecerus fasciculatus*, *Alphitobius laevigatus* and sap beetles.

BENEFICIAL INSECTS

LADY BEETLES (*Hippodamia* spp.) - SOUTH DAKOTA - Averaged one per 10 sweeps in alfalfa in northwestern and west central areas. (Mast). KANSAS - Counts, primarily *H. convergens*, ranged 0-15 per sweep in alfalfa in northeastern area. Adults and larvae present. (Peters). OKLAHOMA - Counts of *H. convergens* ranged 0.1-1.5 per sweep in northwestern area alfalfa fields surveyed, with an average of about 0.5 per sweep in most fields (VanCleave, Owens); averaged 0.8 per sweep in a Comanche County alfalfa field, with an occasional adult noted in half of the cotton fields checked in southwestern area (Hatfield); and averaged 8 per sweep in an alfalfa field checked in Johnston County (Vinson).

NABIDS (*Nabis* spp.) - SOUTH DAKOTA - Averaged one per 10 sweeps on alfalfa in west central area of State. (Mast). KANSAS - Counts ranged 0-2 per sweep in northeastern area alfalfa. (Peters). OKLAHOMA - Counts averaged approximately 0.3 per sweep in most northwestern area alfalfa fields surveyed (VanCleave, Owens) and 0.5 per sweep in a Comanche County alfalfa field (Hatfield). IDAHO - Becoming very numerous in alfalfa and red clover seed fields in Canyon County, with as many as 40 per sweep being taken. (Waters).

LACEWINGS (Chrysopa spp.) - OKLAHOMA - Ranged 0-0.5 per sweep in alfalfa fields surveyed in northwestern area. (VanCleave, Owens). Eggs noted in a few cotton fields checked in southwestern area. (Hatfield). KANSAS - Counts ranged 0-2 per sweep in alfalfa in northeastern area. (Peters).

MISCELLANEOUS INSECTS

A KATYDID (Meconema thalassina) - NEW YORK - Specimens collected by J. K. Terres at Little Neck, Queens County, July 12 and 14, 1959, constitute a new United States record. Det. A. B. Gurney. The species inhabits nearly all of Europe, including England and Ireland. It is pale green in color and the body is about three-fourths of an inch long. It is not known to be of economic importance. It is said to live mainly on trees and to insert eggs into ridges of the bark, especially elms and oaks. (Muka).

A FIELD CRICKET (Acheta sp.) - RHODE ISLAND - Heavy populations entering homes and basements in Barrington and Narragansett. (Hansen, Mathewson). OKLAHOMA - Minor invasions of stores occurred in several central area towns. (Howell).

ANTS - FLORIDA - Aphaenogaster fulva collected in Levy County, March 14, 1958. Det. M. R. Smith. This species has not previously been reported from the State. Specimens of Prionopelta sp., collected in soil at Juniper Springs, Marion County, August 29, 1959, represent the first species of this genus to be found in the United States. Det. M. R. Smith. (Fla. Coop. Sur.).

A DAMPWOOD TERMITE (Zootermopsis angusticollis) - OREGON - Winged forms beginning to appear in abundance in western portion of the State. (Every).

ADDITIONAL NOTES

CALIFORNIA - CORN EARWORM (Heliothis zea) and COTTON SQUARE BORER (Strymon melinus) damaging hop pods in medium infestations in the Sacramento area, Sacramento County. BLACK-MARGINED APHID (Monellia costalis) heavy on pecan trees in Woodland and Davis, Yolo County. Sabulodes caberata heavy on avocado trees in the Leucadia area, San Diego County. Platynota stultana medium on citrus seedlings in Excondido, San Diego County. EUROPEAN EARWIG (Forficula auricularia) heavy in grass and damaging peach trees in Paradise, Butte County. RED-HUMPED CATERPILLAR (Schizura concinna) damaging walnut trees in Sonora area, Tuolumne County. Liriomyza munda lightly damaging melons in the Woodland area, Yolo County. TOBACCO FLEA BEETLE (Epitrix hirtipennis) medium and damaging beans in the Watsonville area, Santa Cruz County. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) damaging eggplant in Winters, Yolo County. A LEAFHOPPER (Balduius maidis) heavy on corn in the Hanford area, Kings County. Platynota stultana medium on sugar beets in the Tustin area, Orange County. CABBAGE LOOPER (Trichoplusia ni) heavy on cotton in the Pixley area and light in Poplar, Tulare County. Light to heavy on cotton over the San Joaquin Valley. LYGUS BUGS (Lygus spp.) very abundant and seriously damaging small cotton bolls; appear to be diminishing in Imperial County. Crambus sperryellus heavily damaging seedling lawns in Norco, Riverside County. Aleyrodes spiraeoides heavily damaging morning-glory at Knights Landing, Yolo County. WATERLILY APHID (Rhopalosiphum nymphaeae) occurring in heavy populations in the Watsonville area, Santa Cruz County. Oligonychus aceris medium to heavy on silver maple on nursery properties in Chino and Ontario, San Bernardino County. POTATO PSYLLID (Paratrioza cockerelli) heavy on Jerusalem cherry in San Francisco, San Francisco County. Agraulis vanillae heavy and defoliating passionvine in Woodland, Yolo County and light in Sacramento County areas. Pupating larvae of Litoprosopus coachellae causing household damage in many places over State. Medium damage to fur coats, books, floor coverings, clothing and fiberglass drapes in Riverside, Riverside County. (Cal. Coop. Rpt.)

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ALABAMA						
Auburn 8/26,9/2,4	60		57		14	128 1
COLORADO						
Greeley 8/19-25						1
Longmont 8/16-24						1
New Liberty 8/13-22						2
Rocky Ford 8/13-19						14
FLORIDA						
Gainesville 9/1						23
ILLINOIS						
Urbana 8/28-9/3	436	61	1	6	20	1005
INDIANA (Counties)						
Lawrence 8/27-9/2	32	1		4	25	85 178
Tippecanoe 8/28-9/3	100	32		4	8	15 528
KANSAS						
Garden City 8/26,27,31	10	25		10	1	1 53
Hays 8/29,9/1	6	9				11
Manhattan 8/29-9/3	44	20	7		2	352
LOUISIANA						
Baton Rouge 8/28-9/3	29	2	100			160
MARYLAND						
Upper Marlboro 8/26-9/2	12		4		25	19 30
MISSOURI						
*Columbia 8/29-9/4	156	95	147		35	650 535
NEBRASKA						
Concord 8/17-22	18	7		2	2	3 76
Kearney 8/17-21	19	1		11	5	3 3
Lincoln 8/18-29	211	495		59	4	19 203
North Platte 8/18-24	166	43	2	31	9	10 125 14
Scotts Bluff 8/14-9/3	50	59		146	6	29 5
SOUTH CAROLINA						
Clemson 8/29-9/4	159	15	78	11		13 134
TENNESSEE (County)						
Blount 8/25-31	9	6		7	2	69
TEXAS						
Brownsville 8/24-28			240		1	1 32
Waco 8/28-9/4	47	14		42		1606 29
UTAH						
Benjamin 8/24-31						2
Ogden 8/24-31						10
Spanish Fork 8/24-31						3

(Continued on page 854)

*Two traps - Columbia

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
WISCONSIN						
Antigo 8/24-30	22	4		1		49
*Arlington 8/25-31	1432	183		300		1049
Beaver Dam 8/25-31	688					474
Fox Lake 8/25-31	471					1332
Janesville 8/25-31	70					324
Johnsburg 8/25-31	117	24				112
Middleton 8/25-31	600	64		67		198
Platteville 8/25-31	600	63				800
Ripon 8/25-31						1737
Rosendale 8/25-31						610
Stevens Point 8/18-24	132	88		16		6
*Theresa 8/25-31	315					660

ADDITIONAL COLLECTIONS- VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - LOUISIANA, Baton Rouge (8/28-9/3) - 10. SALT-MARSH CATERPILLAR (Estigmene acrea) - TEXAS, Brownsville (8/24-28) - 67; Waco (8/29-9/4) - 9. COTTON LEAFWORM (Alabama argillacea)- LOUISIANA, Baton Rouge (8/28-9/3) - 2; TEXAS, Brownsville (8/24-28) - 2288.

* Two traps - Arlington; 3 traps - Theresa

1959 Infestation and Damage by the Meadow Spittlebug
to Alfalfa and Clover in Indiana

M. C. Wilson, R. T. Everly, and D. L. Mathew*

Purdue University, Lafayette, Indiana

During the past few years infestations by the meadow spittlebug (*Philaneus leucophthalmus* (L.)) have been increasing in Indiana. Although infestations in 1959 were high throughout all of eastern Indiana, they reached epidemic status in the southeastern counties, particularly in the areas south of New Castle and Richmond, and east of Shelbyville. These infestations are believed to be the highest on record for Indiana.

The Entomology Department conducted a survey to determine the extent of infestation and the amount of loss to the forage legume crop. Various members of the Department in their travels about the State obtained data from alfalfa and clover fields. With few exceptions every county was sampled, and in most cases three to five samples were obtained per county. Because of the number of samples from a single county, infestation data were combined and averaged in unit areas.

Losses were determined as follows: Spittlebug populations were converted from stem counts to populations per square foot by multiplying the average number of spittlebugs per stem by 40 which was estimated to be the number of stems per square foot. Damage was determined by using a figure of 10 pounds loss per acre for each spittlebug per square foot. This index for loss is based on research data from which R. T. Everly has shown a range in loss from 10 to 12 pounds acre loss per spittlebug per square foot. Although this figure would indicate considerably more loss than a ton per acre in the areas of intense infestation in the southeast, a ton per acre loss is the maximum estimated in this report. There is little doubt that losses will exceed a ton in many fields, but the index used for determining loss does not appear to be a straight line relationship under epidemic infestations.

Individual county losses have been calculated by applying the insect loss index to alfalfa and clover acreage estimate obtained from R. E. Straszheim, Agricultural Statistician. The value of the forage was determined at the rate of \$15 per ton.

In general, the cost of applying insecticides to control the meadow spittlebug has exceeded the benefits obtained when populations were less than 100 spittlebugs per 100 stems. In a large part of northwestern and southwestern Indiana, the 1959 infestations were generally too low to require treatment as is shown in figure 1. However, over a wide area, the accumulated loss from minor infestation was \$850,365. This was subtracted from the total State loss of over \$13,000,000 to show a preventable loss of \$12,191,880.

* Samples also obtained by G. E. Gould, J. M. Macklin,
and D. L. Schuder

Dollar Loss by Meadow Spittlebug
in Indiana in 1959

<u>Area</u>	<u>Loss</u>
Northwest Counties	448,455
North Central Counties	832,530
Northeast Counties	2,098,080
West Central Counties	750,180
Central Counties	869,955
East Central Counties	3,280,650
Southwest Counties	283,995
South Central Counties	270,990
Southeast Counties	4,207,410
State Total Loss	\$13,042,245
*Less noneconomic loss	850,365
Total preventable loss	\$12,191,880

* Losses resulting from infestations of less than one spittlebug per stem are not great enough to make preventive treatments economically feasible.

Figure 1 - 1959 Infestation

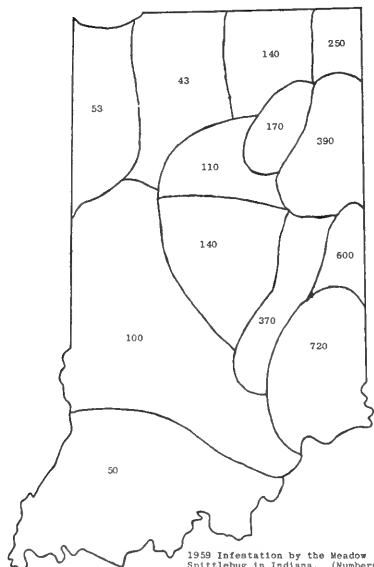
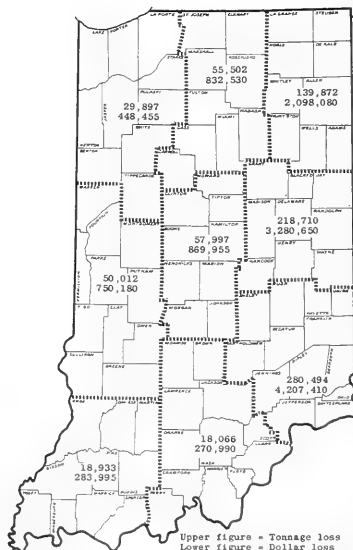


Figure 2 - 1959 Losses



STATUS OF SOME IMPORTANT INSECTS IN THE UNITED STATES

CATTLE GRUBS (Hypoderma bovis and H. lineatum)

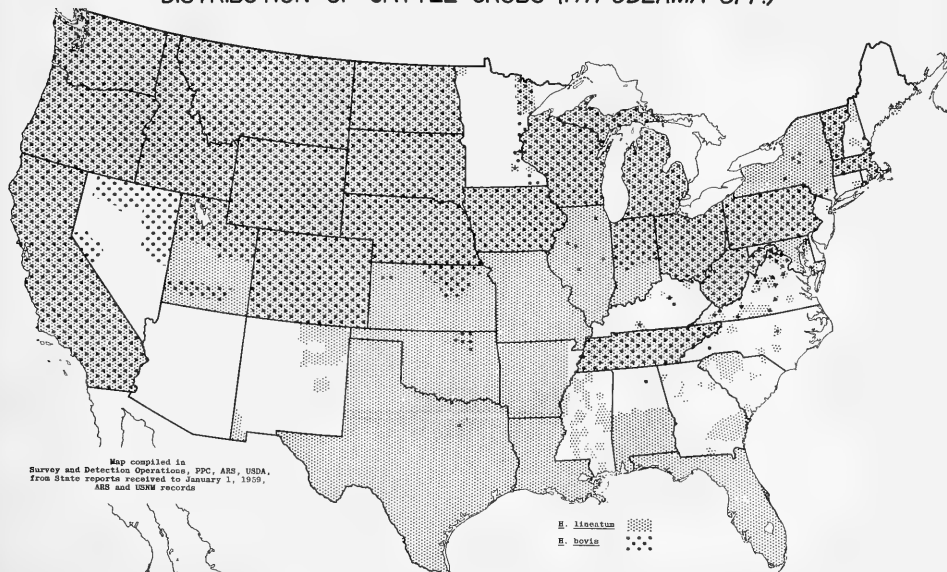
Economic Importance: Cattle grubs are highly injurious to cattle. During the period from 1940 to 1944, the average annual loss to cattle by these pests was estimated at 160 million dollars. Some of the losses to cattle caused by or attributed to cattle grubs are as follows: Reduced milk production, failure to gain properly, mechanical injury trying to escape attacks by flies, abortion, damaged hides and decreased value of carcass. Injury by H. lineatum is more severe than that of H. bovis, but H. bovis causes greater excitement to stock. Annoyance produced by penetration of newly hatched larvae is indicated by the violent licking of heels (hence another name, "heel fly"), and other places of penetration, accompanied by intermittent kicking and stamping. There are known cases of myiasis in man, sometimes being crippling or fatal, especially in children.

Distribution: Both species are widely distributed in Europe, Canada and the United States. In addition, H. bovis occurs in Africa and Japan, and H. lineatum in the Punjab region of India. H. bovis is essentially a northern form and is not as widespread as H. lineatum in the United States.

Hosts: Normal host for both species is cattle, occasionally man, but H. lineatum has also been recorded in American bison and in horses on occasion.

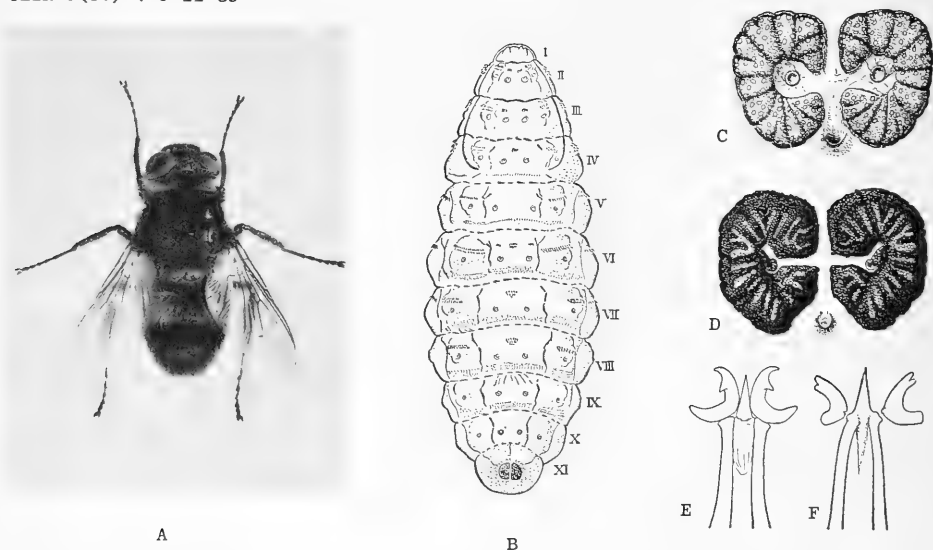
Life History and Habits: Eggs of H. bovis are laid singly, mainly on legs below the knee, while eggs of H. lineatum are laid in groups of 5 to 20, mainly on the heels. Eggs hatch in 2½ to 6 days. Young larvae burrow into the skin almost immediately upon hatching. Rather characteristic scabby and tender areas remain for several days after entrance. Five larval instars are passed in the host,

DISTRIBUTION OF CATTLE GRUBS (HYPODERMA SPP.)



mainly in the tissues between the mucous membranes and the muscular walls of the gullet. Grubs mature during the late fall, winter, spring and early summer in the subdermal tissues. The larva cuts through the skin on arriving there and within 2-6 days molts. A wall of tissue forms around the larva in the form of an encystment sac. The next molt takes place about 24 hours later. The last instar lasts about 30 days. Then the larva drops to the ground, seeks protection and pupates. The adult emerges 30-60 days later. Adults mate soon after emergence, and without feeding, begin to oviposit on cattle. There is one generation a year; the major portion of the life history is spent as a larva in the hosts body.

Description: EGG is dull yellowish-white, smooth and shining. LARVAE when newly hatched are about 0.65 mm. long and 0.18 mm. wide, creamy or dull white and densely covered with spines. In fifth instar, H. bovis differs from H. lineatum in that it is slightly larger and the posterior stigmal plates are deeply excavated or funnel-shaped toward the pseudostigmal orifice. Another outstanding difference is that in H. bovis the mouth hooks are well forked at the anterior end and more truncate at the posterior end. PUPAE almost black, the stigmal plates still separate the species. ADULT of H. bovis is larger and considerably stouter than H. lineatum. In H. bovis, the band of yellowish hairs across the prothorax dorsally is wider and slightly deeper in color. The thorax is much broader and tarsi less hairy. In both species, femora and tibiae are black and well covered with black and yellow hairs, tarsi brown. The terminal abdominal segment of H. bovis has a wider and more sharply defined band of lemon-yellow which is distinctly paler than in H. lineatum. In H. lineatum the body length is about 13 mm. and wing expanse about 25 mm. (Prepared in survey and detection operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 9(37) : 9-11-59



Figures of Hypoderma spp.: A, adult of H. lineatum; B, mature larva (dorsal view) of H. lineatum; C, posterior spiracles of mature larva of H. lineatum; D, same for H. bovis; E, mouth hooks and anterior part of cephalopharyngeal skeleton of first stage larva of H. lineatum; F, same for H. bovis.

Figures (except map) : Larval figures from M. T. James. USDA Misc. Pub. 631: pp. 105-112. Adult - USDA photograph.

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CORN EARWORM outbreak on soybeans in eastern and southeastern Virginia has decreased, but infestations are increasing on Eastern Shore of Maryland and stripping leaves off plants in Jones County, North Carolina. Moths numerous in Delaware. SORGHUM WEBWORM larvae heavy on sorghum in areas of several states. (p. 860). Heavy migrations of a GRASSHOPPER (*Trimerotropis pallidipennis*) occurring in Phoenix, Arizona, area and heavy egg deposition and damage to fall-sown grain by DIFFERENTIAL GRASSHOPPER anticipated in north central Texas. (pp. 861, 862). A CATERPILLAR (*Nomophila noctuella*) continues destructive to alfalfa in northern Ohio. (p. 862). VELVETBEAN CATERPILLAR moderate to heavy on soybeans in Georgia and stripping fields in Jones County, North Carolina. (p. 864).

VINEGAR FLIES extremely high in tomato fields in north central Indiana. (p. 865).

Heaviest late season BOLL WEEVIL buildup in several years observed in north central Texas and BOLLWORMS causing considerable loss of squares and bolls of cotton in central Arizona. Controls being applied for COTTON LEAFWORM in Mesilla Valley of New Mexico and defoliation occurring in Payne County, Oklahoma. COTTON LEAF PERFORATOR increasing and damaging in areas of California and Arizona. (p. 866).

INSECT DETECTION: European pine shoot moth recorded for first time in Washington. (p. 867).

CORRECTIONS (p. 871).

ADDITIONAL NOTES (p. 871).

INSECTS not known to occur in the United States. (p. 873).

Reports in this issue are for the week ending September 11, unless otherwise designated.

WEATHER OF THE WEEK ENDING SEPTEMBER 14

The first major outbreak of cool air of the fall season displaced hot, humid weather over most of the Nation east of the Rocky Mountains during this week. Unusually hot temperatures, averaging up to 10° or more above normal, and high humidities prevalent in the Northeastern States and the Midwest for the past 4 to 5 weeks, were replaced by cool, dry conditions after midweek, as a vast mound of high pressure moved from western Canada into the Great Lakes. Temperatures dropped 20° to 40° in a few hours and remained at cool levels during the rest of the week at many points, as the cold air moved rapidly across the Northern States. Average temperatures for the week were above normal over all northern sections of the country, however, and record or near record high temperatures were observed early in the week. Buffalo, New York, had 95° on Wednesday, the highest temperature ever observed there so late in the season, and throughout New York State the first 10 days of September were generally the warmest ever experienced. Maximum temperatures over the central and northern Great Plains exceeded 100° on Tuesday, with the highest 106° at Breien, North Dakota. By Wednesday, minimum readings dropped to near or below freezing over Montana and the Dakotas. Helena, Montana, reported 25°, the coldest in 80 years for so early in the season. As the cool air moved southward, minimum temperatures dropped to the low 40's as far south as the Panhandle and the Edwards Plateau in Texas. Several new low temperature records were reported from Kansas.

(Continued on page 871)

CEREAL AND FORAGE INSECTS

CORN EARWORM (*Heliothis zea*) - VIRGINIA - Outbreak on soybeans in eastern and southeastern areas of State has tapered off until only a few large larvae remain in untreated fields, generally speaking. Some fields of soybeans still have large populations of larvae (all sizes) present, but they are scattered and the exception instead of the usual. This change in infestations is probably due to heavy rains over weekend and to large scale control operations that have been used. Damage is heavy in most fields with the exception of a few where the pods and leaves were too tough to be attractive as food. No heavy reinfestations have been observed or reported recently. In some counties where soybeans are not one of the main crops, infestations and damage have been heavy, but only spotted. (Morris et al.). NORTH CAROLINA - Large numbers of larvae stripping leaves of soybeans in Jones County. (Franck, Farrier). MARYLAND - Building up on soybean pods on Eastern Shore. Some late fields heavily infested. (U Md., Ent. Dept.). DELAWARE - Adults abundant throughout State. Larvae feeding on soybean pods some fields. (Burbutis, Mason). WEST VIRGINIA - Very heavy on late sweet corn in Monongalia County. (W. Va. Ins. Sur.). GEORGIA - Light on grain sorghum in Jefferson, Jenkins, Bulloch, Sumter and Peach Counties. (Johnson, Sept. 8). NEW YORK - Moth flight during week of August 30 to September 5 was heaviest in years in Hudson Valley. On nights of September 1 and 2, catch totalled 300. Eggs on sweet corn silks increased sharply. Ears still in mid-silk had numerous tiny larvae present in silk throat. (N. Y. Wkly. Rpt.). ARKANSAS - Eggs being deposited on soybean plants and larvae beginning to feed on the pods. (Ark. Ins. Rpt.). MISSOURI - Earworms continue high in areas of western section where late sorghum is present. Counts in one field in Polk County ranged 180-190 per 100 heads. (Kyd, Thomas, Munson). KANSAS - Found in all late-planted sorghum fields examined in Crawford and Neosho Counties. Counts averaged about 1 larva per head. (Burkhardt, Buckley, Ratcliff, Peters). Larvae found in several sorghum fields in Dickinson, Marlon, Geary, Chase and Riley Counties. Counts averaged less than one per head. (Peters). OKLAHOMA - Counts averaged 27 and 66 percent infestations of heads in 2 sorghum fields checked near Marland. Grain in soft to medium dough stage. (VanCleave, Thomas, Drew). COLORADO - Larval counts per 100 ears were 30 in Sedgwick and Phillips Counties, 40 in Yuma County and 70 in Kit Carson County. (Colo. Ins. Sur., Sept. 8). NEW MEXICO - Heavily infesting corn in Torrance County. (N. M. Coop. Rpt.). UTAH - Infesting 12 percent of ears coming into Utah County canning factory. (Dorst, Knowlton). Counts lower farther north. Only 1-3 percent "wormy" in some Cache County corn fields. (Davis, Knowlton). IDAHO - Light larval infestation in late corn in early milk stage in Riverside area near Caldwell. Most damage is spotted, with minor damage occurring to tips of ears. (Bechtolt). OREGON - Adults appearing in light trap in Dayton area, 10-12 per day. Larval damage very light as of September 9. (Eppley). CALIFORNIA - Heavy on milo in Marysville, Yuba County, and light on field corn in Ione, Amador County. (Cal. Coop. Rpt.).

SORGHUM WEBWORM (*Celama sorghiella*) - GEORGIA - Moderate to heavy infestations present on millet and grain sorghum in Jefferson, Jenkins, Bulloch, Colquitt and Sumter Counties. (Johnson, Sept. 8). INDIANA - Causing severe damage in a sorghum field in Jasper County. (Everly). Serious damage reported in Daviess County. (Gould). MISSOURI - Damage continues on sorghum that is in bloom or soon after bloom in western section of State. (Kyd, Thomas, Munson). KANSAS - Counts of 150 larvae per head reported from Cowley County. (Gates). In Neosho and Crawford Counties, 6 fields of late-planted grain sorghum almost 100 percent infested with eggs and larvae. Larval counts as high as 225 per head. Moths evident in fields. Older, more mature sorghum showed little or no damage. (Burkhardt, Buckley, Ratcliff, Peters). Found in late-planted sorghum as far north as Riley County. Individual head counts as high as 4 larvae per head, with field average less than 1 per head. (Peters). OKLAHOMA - Counts averaged 68 and 73 percent infestation of seed heads in 2 grain sorghum fields near Marland. Larvae ranged 1-25 per infested head. Grain was in soft to medium dough stage. (VanCleave, Thomas, Drew). Populations light to heavy in 2 grain sorghum fields in Muskogee County; many seed heads completely destroyed in heavily infested field. Counts ranged

10-50 larvae per head. Practically no damage noted in lightly infested field. (Frazier et al.). Heavy populations in grain sorghum heads at Stratford (Davies) and counts ranged up to 200 larvae per head in some fields in Marshall County (Bower, Vinson). Counts ranged 1-81 larvae per head in 5 fields of grain sorghum in Choctaw and McCurtain Counties, averaging 31 per head. (Goin). TEXAS - Larval counts 3-4 per head in late grain sorghum in Johnson County. (Texas Coop. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEW YORK - In untreated sweet corn at Poughkeepsie, borers were unusually abundant, surpassing the corn earworm. Infestation of whole plants ranged up to 12 borers, mostly late instars. (N. Y. Wkly. Rpt., Sept. 5). VIRGINIA - Second-generation larvae medium to severe on corn in Loudoun County. (Brown). SOUTH DAKOTA - Thirty-three percent of corn plants show damage in Brookings County. (Mast). NEBRASKA - No evidence of infestation by second-generation borers encountered in 56 fields examined in eastern counties. (Webb). KANSAS - Found in some sorghum plants in southeastern area, causing heads to break over; however, less than one percent of plants infested. Infestation in field corn, in same area, less than one percent. Most larvae in fifth instar. (Burkhardt, Buckley, Ratcliff, Peters).

FALL ARMYWORM (Laphygma frugiperda) - NEW YORK - Moths appeared in trap at Stone Ridge in Hudson Valley. Percentage of damaged whorls rose sharply after September 1 in volunteer sweet corn plants. None found in ears as yet. (N. Y. Wkly. Rpt., Sept. 5). MARYLAND - Damaging late field corn in Montgomery and Talbot Counties. (U. Md., Ent. Dept.). GEORGIA - Moderate on grain sorghum in Jefferson, Burke, Jenkins, Bulloch and Sumter Counties. (Johnson, Sept. 8). ARKANSAS - Destroying few fields of small grains. (Ark. Ins. Rpt.). TEXAS - Light infestations in lawns and pastures in Brazos and Washington Counties. (Hawkins).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - KANSAS - Infestations found in corn in southeastern area, less than one percent of plants infested. (Burkhardt, Buckley, Ratcliff, Peters).

SPIDER MITES - NEW MEXICO - Corn and sorghum heavily infested in Torrance County. (N. M. Coop. Rpt.). WYOMING - Tetranychus telarius causing moderate damage to field corn in Wheatland area. (Davison).

A WEEVIL (Anacetrinus deplanatus) - TEXAS - Light infestation in grain sorghum stubble in McLennan County. (Randolph).

A WEEVIL (Listronotus appendiculatus) - CALIFORNIA - Infesting rice, degree undetermined, in South Dos Palos, Fresno County. (Cal. Coop. Rpt.).

HESSIAN FLY (Phytophaga destructor) - IOWA - Scattered, severe losses in winter wheat observed during the summer. These losses appear to be worse in western part of State where wheat was planted ahead of safe-seeding date the fall of 1958. Recent rains and cooler temperatures favor emergence and survival of adults. (Iowa Ins. Inf., Sept. 8). OREGON - Populations low in western area during 1959 with no appreciable crop damage observed. (Every).

CHINCH BUG (Blissus leucopterus) - KANSAS - Small nymphs observed in volunteer wheat in Ottawa, Dickinson and Marshall Counties. (Jones). Nymphs and adults observed in some corn and sorghum plants in east central and southeastern areas. (Peters).

GRASSHOPPERS - CALIFORNIA - Populations of Camnula pellucida and Melanoplus bivittatus, being attacked and reduced by a species of sarcophagid fly. Dead specimens collected along drainage ditches on Tulelake Game Refuge, Siskiyou County, found heavily infested. (Cal. Coop. Rpt.). ARIZONA - Heavy populations of M. bilituratus and M. lakinus on weedy rangeland in Peoples Valley, Yavapai County. The heaviest areas average 20-50 per square yard. Heavy migrations of Trimerotropis pallidipennis from desert to city of Phoenix beginning to occur.

These migrations occur at intervals on through the fall and winter. (Ariz. Coop. Sur.). NEW MEXICO - Grasshoppers remain heavy in spots in San Miguel and Mora Counties. (N. M. Coop. Rpt.). TEXAS - M. differentialis is dominant species present. Heavy numbers observed in several counties in north central area in roadside ditches and field margins. Anticipate heavy egg deposition and damage to fall-sown grain. (Hawkins). SOUTH DAKOTA - M. femur-rubrum is dominant species found in alfalfa fields in Brookings County. Counts low, with average of less than 2 per square yard. (Mast). COLORADO - Populations 10-30 per square yard on rangeland in localized areas of the foothills and plains in Larimer County. Counts 0-10 per square yard on rangeland field margins and in crop rows in Weld, Logan, Sedgwick, Phillips, Washington, Yuma, Kit Carson and Elbert Counties. Counts 0-5 in Cheyenne County. (Colo. Ins. Sur., Sept. 8). MISSOURI - Adult grasshopper survey completed, with no evidence of damage to crops being observed. Species found during survey were M. bilituratus, M. femur-rubrum, M. differentialis and M. bivittatus in order of numerical occurrence. (Kyd, Thomas, Munson). INDIANA - Noneconomic to light infestations of Melanoplus spp. observed in central counties. Populations averaged 85 percent M. femur-rubrum and 15 percent M. differentialis. Counts ranged 0.5-7 adults per square yard; heavier infestations occurring only in localized areas. (Matthew, Dobson). MICHIGAN - Survey in Lower Peninsula shows grasshopper populations normal in most areas. Only few stops showed as many as 5 per square yard; these being extremely localized. Species present mostly M. femur-rubrum, with some M. bilituratus. (Hutson). MARYLAND - Adults, principally M. differentialis, causing light to moderate injury to soybeans in southern areas. (U. Md., Ent. Dept.).

A HARVESTER ANT (Pogonomyrmex sp.) - NEW MEXICO - Averaged 10-30 hills per acre on rangeland near Corona, Lincoln County. (N. M. Coop. Rpt.).

NORTHERN MASKED CHAFER (Cyclocephala borealis) - OHIO - Causing severe injury to turf in Cincinnati suburbs. (Branstitter).

WHITE GRUBS (undetermined) - KANSAS - Damaging native pasture in Lyon County. (Gates).

CHINCH BUGS - NEW YORK - Very heavy in lawns in Nassau County. (N. Y. Wkly, Rpt., Sept. 8).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - TENNESSEE - Has caused some damage in Hardin County and damaged a corn field in Knox County. (Mullett). SOUTH DAKOTA - Counts low during season, only an occasional specimen found in sweeps of alfalfa. (Mast).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Larvae decreased in alfalfa and soybeans throughout State. (Burbutis, Mason). MARYLAND - Larvae light on alfalfa in Washington County. (U. Md., Ent. Dept.). VIRGINIA - Light to heavy on soybeans in Norfolk and Princess Anne Counties. (Thomas, Cockrell, Morris). ARKANSAS - Present on soybeans. (Ark. Ins. Rpt.). OKLAHOMA - Counts averaged 0.2 per sweep in alfalfa in north central area. (VanCleave, Thomas, Drew).

WEBWORMS (Loxostege spp.) - MARYLAND - Larvae abundant and injuring seedling alfalfa in Harford and Carroll Counties. Light to moderate numbers swept from alfalfa in Frederick, Washington and Montgomery Counties. (U. Md., Ent. Dept.). ARIZONA - L. similis is medium to heavy in many alfalfa fields in central area. (Ariz. Coop. Sur.).

A CATERPILLAR (Nomophila noctuella) - OHIO - Continues to be destructive to summer seeded alfalfa in northern area. In one field in Wayne County, approximately 10 larvae found per square foot of soil surface. All stages present on September 11. (Treece).

BLACK CUTWORM (Agrotis ypsilon) - MARYLAND - Heavy injury noted to seedling alfalfa locally in Harford County and injuring alfalfa in Carroll and Montgomery Counties. (U. Md., Ent. Dept.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - NEW MEXICO - Averaged about 2 per 10 sweeps in alfalfa in Mora County. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 0.1 per sweep in alfalfa in north central area. (VanCleave, Thomas, Drew). MARYLAND - Light on alfalfa in Washington County. (U. Md., Ent. Dept.).

BEE T ARMYWORM (Laphygma exigua) - ARIZONA - Populations continuing heavy some central area alfalfa fields. (Ariz. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Averaged 10 per sweep in alfalfa seed fields in Pahrump Valley, Nye County. (Parker, Sept. 4). NEW MEXICO - Light in alfalfa in Torrance County. (N. M. Coop. Rpt.). COLORADO - Counts 50 per 100 sweeps in alfalfa in Sedgwick County and 10,000 per 100 sweeps in Yuma County. (Colo. Ins. Sur., Sept. 8). OKLAHOMA - Populations light to medium, averaging 27 per sweep, in alfalfa in north central area. Numbers are building up. Counts averaged less than one per sweep in this area in late July. (VanCleave, Thomas, Drew). Counts continued very light, 0.1 per sweep, in alfalfa in Choctaw County (Goin) and averaged 2 and 35 per sweep in 2 alfalfa fields in Tillman and Comanche Counties respectively (Hatfield). KANSAS - Counts over 400 per sweep in alfalfa field in Chase County. Defoliation occurring in scattered areas within field, causing estimated 10 percent damage. (Peters). NEBRASKA - Populations highest in counties of the Republican Valley where counts ranged up to 150 per sweep and where most alfalfa fields examined are infested. Central counties along Platte River have smaller percentage of fields infested with counts 65-70 per sweep. Infestations in eastern counties spotted and generally light, with less than 20 percent of fields infested and no infested fields yet noted in extreme north-eastern counties. Damage appears minor except for some injury that is becoming apparent in few fields where populations highest. (Hill, Howe, Thompson, Andersen, Webb).

PEA APHID (Macrosiphum pisi) - NEVADA - Very light in alfalfa in southern part of State. (Parker, Sept. 4). NEW MEXICO - Light in alfalfa in Torrance County and moderately heavy near Mora and La Cueva, Mora County. (N. M. Coop. Rpt.). WYOMING - Averaged 1,000-2,000 per 100 sweeps in alfalfa at Torrington. (Davison). NEBRASKA - Less than half of alfalfa fields in eastern counties had populations of 0-60 per 10 sweeps. (Webb). DELAWARE - Colonies continue to decrease in alfalfa throughout State. (Burbutis, Mason).

A LEAFHOPPER (Baldulus maidis) - CALIFORNIA - Reported locally heavy on sweet corn in Madera, Madera County. (Cal. Coop. Rpt.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Populations continue medium to heavy in alfalfa, statewide. Counts in some blooming alfalfa in Graham County averaged 115 per 20 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Adults averaged about 2 per sweep in alfalfa in Mora County. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 0.1 per sweep in most fields in north central area. (VanCleave, Thomas, Drew). Counts 2-5 per sweep in 3 alfalfa fields in Choctaw County. (Goin).

LYGUS BUGS (Lygus spp.) - NEBRASKA - Populations of L. lineolaris ranged 0-5 per sweep in alfalfa in eastern counties. (Webb). OKLAHOMA - Counts averaged 0.9 per sweep in alfalfa in north central area. (VanCleave, Thomas, Drew). NEW MEXICO - Nymphs extremely abundant in alfalfa in Mora County. (N. M. Coop. Rpt.). NEVADA - Averaged 20 per sweep in some alfalfa seed fields in Pahrump Valley, Nye County. (Parker, Sept. 4).

PLANT BUGS (Adelphocoris spp.) - NEBRASKA - Counts of A. rapidus 0-2 and A. lineolatus 0-3 per 10 sweeps in alfalfa in eastern counties. (Webb). SOUTH DAKOTA - Counts per 10 sweeps in alfalfa in Brookings County averaged 19 A. lineolatus and 5 A. rapidus. (Mast). DELAWARE - Adults and nymphs of A. rapidus remain present on soybeans and alfalfa throughout State. (Burbutis, Mason).

VELVETBEAN CATERPILLAR (*Anticarsia gemmatalis*) - GEORGIA - Moderate to heavy on soybeans in Warren, Jefferson, Burke, Jenkins, Bulloch, Sumter, Macon and Peach Counties, and heavy on peanuts in Jenkins, Bulloch, Coffee, Colquitt and Sumter Counties. (Johnson, Sept. 8). NORTH CAROLINA - Large numbers of larvae stripping soybean fields in Jones County. (Franck, Farrier).

BEAN LEAF BEETLE (*Cerotoma trifurcata*) - MARYLAND - Moderate to heavy foliage injury noted on soybeans in St. Marys County. (U. Md., Ent. Dept.).

LEAF-FOOTED BUG (*Leptoglossus phyllopus*) - NORTH CAROLINA - Large numbers feeding on field peas and beans in Rockingham County. (Foil, Farrier). OKLAHOMA - Heavy on field peas in Stillwater area. (Bieberdorf).

FRUIT INSECTS

CODLING MOTH (*Carpocapsa pomonella*) - NEW YORK - Adults continue to appear in bait traps and some recent entries found in Niagara County. Apples mostly clean, but pears show considerable injury in some orchards. (N. Y. Wkly. Rpt., Sept. 8). MICHIGAN - Resurged as a result of hot weather during past 2 weeks at Coloma, Benton Harbor, Grand Rapids, Sparta, Shelby and Traverse City. Few larvae found in peaches and plums. (Hutson).

RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) - NEW YORK - Appearing again in bait traps in Niagara County and a newly laid egg mass was found August 31. (N. Y. Wkly. Rpt., Sept. 8). MICHIGAN - Injury tapering off at Shelby and Grand Rapids. (Hutson).

APPLE MAGGOT (*Rhagoletis pomonella*) - NEW YORK - Still found on fruit in unsprayed orchards in Niagara County, with 100 percent injury showing at present time. (N. Y. Wkly. Rpt., Sept. 8). MICHIGAN - Apples, chiefly from backyards, showing injury in Jackson, Lansing, Grand Rapids and Mason. One infestation in plums found in Sparta and one in apricots at Jackson. (Hutson).

ORIENTAL FRUIT MOTH (*Grapholitha molesta*) - TEXAS - Young larvae caused heavy twig infestation in old peach trees in Upshur County. (Garner, King). MICHIGAN - Infestation spotted in Benton Harbor area. (Hutson).

LESSER PEACH TREE BORER (*Synanthedon pictipes*) - TEXAS - Heavy infestation in old peach trees in Upshur County. (Garner, King).

PEACH TWIG BORER (*Anarsia lineatella*) - COLORADO - Damage to peaches ranged 1-5 percent in various orchards at completion of harvest in Mesa County. (Colo. Ins. Sur., Sept. 8).

HICKORY SHUCKWORM (*Laspeyresia caryana*) - TEXAS - Light on pecans in Nacogdoches County. (Texas Coop. Rpt.).

WALNUT CATERPILLAR (*Datana integerrima*) - OKLAHOMA - Causing some defoliation of walnut and pecan trees in the north central area. (Howell). TEXAS - Scattered infestations on pecans in Upshur County; larvae in last instar. (Garner, King). MICHIGAN - Defoliating walnut trees about Buckley, Wexford County, and Charlotte, Eaton County. (Hutson).

TRUCK CROP INSECTS

A HORNWORM (*Protoparce* sp.) - INDIANA - Locally severe on tomatoes in south central area. Parasitism by *Apanteles congregatus* extremely variable from field to field. (McCoy).

CORN EARWORM (Heliothis zea) - DELAWARE - Larvae in pepper pods in Kent County. Common on beans in Sussex County. (Burbutis, Mason). CALIFORNIA - Medium on tomatoes in Chula Vista district, San Diego County. (Cal. Coop. Rpt.).

VINEGAR FLIES (Drosophila spp.) - MARYLAND - Populations have been high around tomato canneries on the Eastern Shore. (U. Md., Ent. Dept.). INDIANA - D. melanogaster populations extremely high in tomato fields in north central area. Some fruit being rejected at canneries due to large egg loads. (McCoy).

EUROPEAN CORN BORER (Pyrausta nubilalis) - MARYLAND - Small larvae infesting pods of cowpeas in Dorchester County. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - DELAWARE - Adults and larvae numerous to abundant on lima beans in Kent and Sussex Counties, causing heavy feeding injury. Also common on beans in Sussex County. (Burbutis, Mason). RHODE ISLAND - Heavy on string beans at Smithfield, Providence County, September 9. (Mathewson).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Eggs and very young larvae common on broccoli and late-instar larvae and pupae common on pumpkin squash in Kent County. Remains numerous on untreated peppers in Sussex County. (Burbutis, Mason). MARYLAND - Larvae injurious to young cabbage and other cole crops in central and southern counties. (U. Md., Ent. Dept.). VIRGINIA - Larvae being infected with a polyhedrol virus on the Eastern Shore. (Hofmaster). TEXAS - Heavy on lettuce in Deaf Smith County. (Texas Coop. Rpt.). NEW MEXICO - Heavy on seedling lettuce in the Mesilla Valley, Dona Ana County. Most growers applying controls. (N. M. Coop. Rpt.). CALIFORNIA - Medium on tomatoes in the Chula Vista district of San Diego County. (Cal. Coop. Rpt.).

SQUASH BUG (Anasa tristis) - NEW MEXICO - Heavy on squash and pumpkins in the Fort Sumner area, De Baca County. (N. M. Coop. Rpt.).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults common on pumpkin squash in Kent County and on lima beans in Sussex County. (Burbutis, Mason).

A SERPENTINE LEAF MINER (Liriomyza sp.) - DELAWARE - Mines abundant in leaves of pumpkin squash in Kent County, with up to 50 mines in one leaf. (Burbutis, Mason).

ASPARAGUS BEETLE (Crioceris asparagi) - DELAWARE - Larvae causing moderate feeding injury to asparagus ferns in Sussex County. (Burbutis, Mason).

ONION MAGGOT (Hylemya antiqua) - OREGON - Renewed activity occurred in onion fields in Malheur County. No damage has been observed since spring brood in early June. (Crowell).

APHIDS - COLORADO - Macrosiphum solanifolii and Myzus persicae averaged 18.4 per 100 sweeps and 86.8 per 100 leaves on potatoes in Weld County. (Colo. Ins. Sur., Sept. 8). WASHINGTON - M. persicae damaged late potatoes at Quincy, but is generally scarce on this crop in eastern area of the State. (Landis). OREGON - M. persicae present on lower leaves of broccoli plants in upper Willamette Valley, but not an economic problem at present. (Hanna). MICHIGAN - M. persicae and Aphis abbreviata infestations generally distributed over Lower Peninsula. (Hutson). DELAWARE - Colonies of M. persicae on late potatoes in Kent County show slight increase. Present on pepper plants in Kent and Sussex Counties. (Burbutis, Mason).

POTATO TUBERWORM (Gnorimoschema operculella) - VIRGINIA - Infestation widespread in Northampton County. (Hofmaster).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Averaged 2.3 per 100 sweeps and 5 per 100 leaves on potatoes in Weld County. (Colo. Ins. Sur., Sept. 8).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - WASHINGTON - Damaging potatoes at Quincy, Grant County, and Sunnyside, Yakima County. (Landis).

GRAPE LEAF SKELETONIZER (Harrisina americana) - NORTH CAROLINA - Defoliating grapevines in Hoke County. (Williford, Farrier).

WHITE-LINED SPHINX (Celerio lineata) - ARIZONA - Medium to heavy populations of larvae damaging home plantings of grapes in Pinal County. (Ariz. Coop. Sur.).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - NORTH DAKOTA - Infestations in home plantings common in northwest area. (N. D. Ins. Rpt.).

TOBACCO INSECTS

CORN EARWORM (Heliothis zea) - MARYLAND - Heavy larval infestation on mature tobacco at Mutual, Calvert County. (U. Md., Ent. Dept., Sept. 4). VIRGINIA - Damaged leaves of tobacco in part of a 10-acre field in Greensville County. (Flippin).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Heavy on tobacco in the Bushwood area of St. Marys County. (U. Md., Ent. Dept.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults abundant on late tobacco in St. Marys and Calvert Counties. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Heaviest late season buildup observed in several years in north central area. Harvest in progress and heavy damage of new fruit and young bolls noted. (Hawkins). OKLAHOMA - Percent infestation ranged 88-100 in 7 cotton fields in McCurtain, Choctaw and Pushmataha Counties (Goin), 74-100 in 2 fields in Comanche County and 32 percent in field in Tillman County (Hatfield). ARKANSAS - Weevils feeding actively in squares and young bolls. Treatments being continued. (Ark. Ins. Rpt.).

BOLLWORMS (Heliothis spp., et al.) - ARIZONA - Medium to heavy infestations in central area, causing considerable loss of squares and bolls. In some fields, damage has been heavy. (Ariz. Coop. Sur.). OKLAHOMA - Counts ranged 10-70 percent infestation (averaged 30 percent) in 7 cotton fields in McCurtain, Choctaw and Pushmataha Counties (Goin) and averaged 4 percent infestation in cotton field near Lawton, Comanche County (Hatfield). ARKANSAS - Moths quite numerous in succulent fields. Eggs plentiful on green cotton. (Ark. Ins. Rpt.).

COTTON LEAFWORM (Alabama argillacea) - NEW MEXICO - Medium infestations in Mesilla Valley, Dona Ana County. Most growers applying control measures. (N. M. Coop. Rpt.). TEXAS - Scattered infestations observed in Johnson, Ellis and Kaufman Counties. (Texas Coop. Rpt.). OKLAHOMA - Heavy populations defoliating cotton in southeastern Payne County. (Stiles). ARKANSAS - Numerous in number of counties. (Ark. Ins. Rpt.). GEORGIA - Heavy on cotton in Wayne and Appling Counties. (Johnson, Sept. 8).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - CALIFORNIA - Populations increasing sharply, especially along west side and in southern end of Imperial Valley. Injury severe in many fields. (Cott. Lett.). ARIZONA - Infestations continuing to increase in some areas of central section with heavy foliage damage in some fields in Coolidge area of Pinal County. In Maricopa County, many fields heavily infested along edges, but are relatively free otherwise. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Populations increasing generally throughout Imperial Valley. (Cott. Lett.). ARIZONA - Adults increased and are now abundant in central area cotton fields. In most cases, however, larvae are in cluster stage and damage to foliage is not heavy. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Larval counts increased slightly in central and southeastern areas, but a disease is keeping numbers low. Egg counts decreased. (Ariz. Coop. Sur.).

BEE T ARMYWORM (Laphygma exigua) - ARIZONA - Increasing some cotton fields in Casa Grande area of Pinal County. (Ariz. Coop. Sur.).

BROWN COTTON LEAFWORM (Acontia dacia) - TEXAS - Light infestation found in Kaufman County. (Hawkins).

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Light trap surveys in Clark and Nye Counties were negative to September 11. (Bechtel, Parker). FLORIDA - One larva found on hibiscus in Monroe County. (Fla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEVADA - Averaged 6 per sweep in some cotton fields in Pahrump Valley, Nye County. Only a trace in fields in Moapa Valley, Clark County. (Parker, Sept. 4.). CALIFORNIA - Declining in San Joaquin Valley and Imperial Valley generally although damage to small bolls occurring in San Joaquin Valley and the bugs are remaining a problem in many fields in the Imperial Valley. (Cott. Lett.). ARIZONA - Populations appear to be down in many fields; however, percent punctured squares still averages between 20 and 60 percent over the State. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - WASHINGTON - Collected from red pine tips at Bellevue, King County, May 26, 1959, for a first record on the west coast. Det. J. F. G. Clarke and H. W. Capps. (Smith).

BARK BEETLES - WYOMING - Dendroctonus ponderosae killing scattered lodge pole pines in Crook County, where forest is suffering from extreme drought. (Davison). CALIFORNIA - D. brevicomis killing young ponderosa pines in vicinity of Big Creek, Fresno County. Infestation appears to be increasing. D. monticolae currently infesting an estimated 80 or more lodge pole pines in the Silver Lake Camp Ground, Plumas County. Some of the trees are being killed. (C. B. Eaton). Phloeosinus cristatus reported heavy in a spruce tree in Paso Robles, San Luis Obispo County. (Cal. Coop. Rpt.).

A PINE RESIN MIDGE (Retinodiplosis inopis) - CALIFORNIA - Attacking ponderosa pine along Highway 97, over Mt. Hebron in Siskiyou County. (C. B. Eaton).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Infesting elm and poplar trees in Mora and San Miguel Counties. (N. M. Coop. Rpt.). OKLAHOMA - Causing some defoliation of shade trees in north central area. (Howell). MICHIGAN - Numerous at Cassopolis, Cass County, and Stanton, Montcalm County. (Hutson).

MIMOSA WEBWORM (Homadaula albizziae) - WEST VIRGINIA - Very heavy on mimosa in various areas of the State. (W. Va. Ins. Sur.). INDIANA - Exceptionally heavy in southeastern areas. Honeylocust frequently completely brown from attack. (Schuder).

CATALPA SPHINX (Ceratomia catalpae) - MICHIGAN - Has been numerous for the last month in the lower tier of counties. (Hutson).

A LEAF SKELETONIZER (Stenoma humilis) - TEXAS - Caused heavy damage to leaves of live oak trees in College Station area. (Garner).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - MICHIGAN - Localized infestation found on oak at West Olive, Ottawa County. (Hutson).

AN AZALEA CATERPILLAR (Datana major) - ALABAMA - Light infestation on azaleas in Mobile County. (Seibels).

YELLOW-NECKED CATERPILLAR (Datana ministra) - SOUTH DAKOTA - Larvae feeding on shade trees and in shelter belt areas in the Lake Andes area, Charles Mix County. (Mast).

ELM LEAF BEETLE (Galerucella xanthomelaena) - COLORADO - Larvae caused severe defoliation of Chinese elms in Olathe, Montrose County. Larvae abundant, with few adults noted at time of examination of trees. Controls being applied. (Colo. Ins. Sur., Sept. 8). ARIZONA - Heavy and damaging elms in the St. Johns area, Apache County. (Ariz. Coop. Sur.). OKLAHOMA - Heavy on some elms at Lawton, Comanche County. (Hatfield). Continued heavy on elms at Duncan, Stephens County, with all stages present and severe defoliation of some trees noted. (VanCleave).

POPLAR AND WILLOW BORER (Sternochetus lapathi) - NEVADA - Present on Populus sp. and willow in the Sparks area, Washoe County. (Bechtel, Lauderdale, Keene).

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - Causing some damage to some persimmon and pecans trees in the Stillwater area. (Bieberdorf).

A CURCULIONID (Thysanocnemis sp.) - OREGON - Heavy infestations; approximately 40 percent infested ash seeds observed in vicinity of Corvallis. (Every).

BEECH BLIGHT APHID (Prociphilus imbricator) - DELAWARE - Remains abundant on beech in northern part of the State. (Burbutis, Mason).

SYCAMORE LACE BUG (Corythucha ciliata) - RHODE ISLAND - Extremely heavy locally in West Warwick, Kent County. (d'Andrea).

LEAFHOPPERS - NEVADA - Keonolla confluens and an unidentified species caused heavy damage to infested leaves of willow and poplar in Reno-Sparks area, Washoe County. (Bechtel, Lauderdale, Sept. 4.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Heavy on eucalyptus trees in central part of the State. Causing considerable damage, particularly to small trees, by ringing tender branches which became weakened and break off or become stunted. (Ariz. Coop. Sur.).

SCALE INSECTS - WEST VIRGINIA - Neolecanium cornuparvum very heavy on magnolias in various areas of the State. (W. Va. Ins. Sur.). OKLAHOMA - Aspidiotus perniciosus medium on some ornamental plum, peach and flowering quince in a nursery at Tulsa, and Lepidosaphes camelliae was light on lower leaves of some Buford holly. (Stiles). NORTH CAROLINA - Ceroplastes sp. infesting camellia in Bertie County and quince, camellia and holly in Martin County. (Simmon, Farrier). CALIFORNIA - A. perniciosus heavy on cotoneaster leaves in Auburn, Placer County. (Cal. Coop. Rpt.).

A SAWFLY - NEVADA - Feeding on leaves of Lombardy poplar in Reno-Sparks area, Washoe County. (Bechtel, Lauderdale, Sept. 4.).

A CARPENTER BEE (Ceratina sp.) - NORTH CAROLINA - Destroyed most of 80 rose bushes in a planting in Mecklenburg County. (Jones, Mitchell).

GIANT HORNET (Vespa crabro germana) - VIRGINIA - Stripping bark from lilac plants in Halifax County. (Amos, Hall).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - WYOMING - Heavy on Chinaberry trees in Buffalo, Johnson County. (Davison).

INSECTS AFFECTING MAN AND ANIMALS

A MUSCID (Musca autumnalis) - VIRGINIA - Flies, probably this species, heavy on some animals in Smyth County. (Eller). INDIANA - Observed in Howard, Grant, Blackford and Delaware Counties. Counts ranged 2-35 per animal. (Matthew, Dobson). IOWA - Reports of cattlemen indicate this species may be present in the State, although collections have not as yet verified its presence. (Iowa Ins. Inf.). MICHIGAN - Populations extremely variable from locality to locality. (Hutson).

HORN FLY (Siphona irritans) - NEW MEXICO - Heavy on untreated cattle in Torrance, Lincoln, San Miguel and Mora Counties. (N. M. Coop. Rpt.). OKLAHOMA - Averaged 200 per cow on 65 checked in Talihina area, Le Flore County. (Goin).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Populations increasing on cattle in Stillwater area. Averaged 5 per animal on untreated dairy cattle. (Howell).

NOSE BOT FLY (Gasterophilus haemorrhoidalis) - VIRGINIA - Present in nasal cavities of sheep in an Amelia County flock. Four found in a sheep that had died. (Watson, Holmes, Boozer).

BLACK HORSE FLY (Tabanus atratus) - OKLAHOMA - Averaged 2 per animal on 65 cows checked in Talihina area, Le Flore County. (Goin).

FLIES - NEW MEXICO - Very abundant around homes, adjacent to corrals and live-stock pens, in many areas of the State. (N. M. Coop. Rpt.). NORTH DAKOTA - Populations high around stables and houses in many localities. Frost over wide area of State on September 10, may have reduced populations to some extent. (N. D. Ins. Rpt.).

MOSQUITOES - NORTH CAROLINA - Aedes atropalpus larvae abundant and Culex territans larvae present in small numbers in rock holes along river in Haywood County. (Mead). OKLAHOMA - Psorophora spp. populations building up in north central area and becoming a nuisance to inhabitants. (Stiles, Howell, et al.). UTAH - Mosquito control has been particularly effective in Weber County during 1959, as compared with recent seasons. Culex tarsalis dominant species at present, with Culiseta inornata, Aedes nigromaculis and A. dorsalis, respectively, the more abundant species. Controls were applied to over 20,000 acres in the county this season, and populations were held at a lower-than-average level throughout the season in Weber County. (Fronk, Knowlton). Populations of unspecified species continue troublesome at Logan, Mendon and Smithfield, and several other areas in Cache County. (Knowlton).

HAG MOTH (Phobetrion pitheciium) - RHODE ISLAND - Urtication by larva caused serious reaction in a man in Smithfield, Providence County, requiring aid of a physician. (Mathewson).

A LEAFHOPPER (Deltocephalus flavicosta) - NORTH CAROLINA - Causing discomfort by biting people in houses in Wilson County. (Lewis, Young).

BROWN DOG TICK (Rhipicephalus sanguineus) - ARIZONA - Heavy and troublesome around homes in central and southwestern areas of the State. (Ariz. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES (*Hippodamia* spp.) - OKLAHOMA - Counts of *H. convergens* ranged 0-0.5 per sweep in alfalfa fields surveyed in north central area (VanCleave, Thomas, Drew); averaged 0.2 and 4 per sweep in 2 alfalfa fields in Tillman and Comanche Counties and was light in 3 cotton fields surveyed in same area (Hatfield). SOUTH DAKOTA - Counts averaged 2 per 10 sweeps in alfalfa in the east central area. (Mast).

A PREDATOR (*Collops* sp.) - OKLAHOMA - Counts ranged 0.1-1 per sweep in north central area alfalfa fields surveyed. (VanCleave, Thomas, Drew).

NABIDS (*Nabis* spp.) - OKLAHOMA - Ranged 0.3-2 per sweep in alfalfa fields surveyed in north central area. (VanCleave, Thomas, Drew). Averaged 0.3 and 2 per sweep in 2 alfalfa fields checked in Tillman and Comanche Counties. (Hatfield). NEBRASKA - Present in some eastern area alfalfa fields where populations ranged 0-3 per 10 sweeps. (Webb).

LACEWINGS (*Chrysopa* spp.) - OKLAHOMA - Counts ranged 0-0.8 per sweep in north central area alfalfa fields surveyed. (VanCleave, Thomas, Drew). Light numbers of eggs noted in a few cotton fields checked in southwestern area. (Hatfield). SOUTH DAKOTA - Averaged 2 per 10 sweeps in alfalfa in the east central area of the State. (Mast).

FLOWER BUGS (*Orius* spp.) - NEBRASKA - Present in many alfalfa fields in eastern counties in low numbers, ranging 0-6 per 10 sweeps. (Webb).

HONEY BEE (*Apis mellifera*) - TEXAS - Reports from areas producing vetch, citrus, cotton and native brush indicate 1959 has been a better-than-average year for honey production. European foulbrood was found for the second time in 2 years in Bastrop County, and caused considerable reduction in the honey crop in that area. Other isolated outbreaks have been noted during past years, but were of no economic importance. The organism, *Bacillus apiarius*, was recovered from some dead larvae in Hutchinson County. Its role in the hive has not been fully determined; however, there is some suspicion that it may be a pathogen for the honey bee. (Burgin).

ALKALI BEE (*Nomia melanderi*) - OREGON - Adult activity continued, but is limited in Nyssa-Adrian area. Recent emergence from very dry areas apparent. (Stephen).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (*Popillia japonica*) - INDIANA - Populations have been low in Newton County during summer of 1959. Larvae now in first and second instars. (Gould).

DRUG-STORE BEETLE (*Stegobium paniceum*) - VIRGINIA - Probably this species, very heavy in homes in an entire neighborhood in Danville. Probably coming from a large tobacco warehouse nearby. (Amos).

A CHRYSOMELID (*Lema californica*) - CALIFORNIA - Heavy on Jimsonweed datura (*Datura stramonium*) in Watsonville, Santa Cruz County. (Cal. Coop. Rpt., Sept. 4).

A BOSTRICHID (*Stephanopachys rugosus*) - NORTH CAROLINA - Severe infestation in a house in Iredell County. (Franklin, Weisman).

CRICKETS - DELAWARE - Undetermined species annoying in homes in New Castle County. (Burbutis, Mason). NEVADA - *Acheta* sp. migrating into homes in Lovelock, Pershing County, and Reno, Washoe County. (Bechtel, Lauderdale).

A FALSE CHINCH BUG (Nysius sp.) - NEVADA - Extremely numerous in the Lovelock area, Pershing County. (Lauderdale).

A SOLDIER FLY (Hermetia illucens) - NORTH CAROLINA - Larvae infesting earthworm beds in Surry and Halifax Counties and alleged to be causing larger-than-normal food consumption. (Shaw, Peeden, Farrier).

VESPIDES - RHODE ISLAND - Many inquiries have been received from Providence, Kent and Bristol Counties regarding control of hornets and yellow jackets. (Mathewson, Hansen, Sept. 4). IDAHO - Vespula maculata and V. arenaria extremely abundant and annoying at several locations in northern part of the State. (Portman, Sept. 4). V. arenaria extremely abundant in several areas and more abundant than in many years. (Manis).

A CARPENTER BEE (Xylocopa sp.) - RHODE ISLAND - Extensive infestation in rough board siding of buildings in boy scout camp at Hopkinton, Washington County, September 9. Primary complaint is fecal streaking of siding. (Hansen).

BLACK WIDOW SPIDER (Latrodectus mactans) - NEVADA - Migrating into buildings and causing concern to home owners in Lovelock, Pershing County, and Reno, Washoe County. (Bechtel, Lauderdale).

CORRECTIONS

CEIR 9(36):833 - OLD-HOUSE BORER (Hylotrupes bajalus) should read (Hylotrupes bajulus).

CEIR 9(37):849 - COLLEY SPRUCE GALL APHID should read COOLEY SPRUCE GALL APHID.

CEIR 9(37): 857 and 858 - References to five larval instars or to fifth instar larva should be changed to read three larval instars and third instar larva (only three larval instars are known to occur in Hypoderma bovis and H. lineatum).

ADDITIONAL NOTES

WISCONSIN - Examinations made during week ending September 11 in Columbia County sweet corn, planted the last of June, indicated that at least 50 percent of the ears suffered severe CORN EARWORM (Heliothis zea) damage in untreated fields. In same plantings, EUROPEAN CORN BORER (Pyrausta nubilalis) larvae (fourth and fifth instars) were present in fair numbers, in the ears. Both species appear related to favorable flight weather indicated in previous light trap reports. (Wis. Coop. Sur.).

(Weather continued)

Precipitation with the cold front was generally light. Some locally heavy amounts were recorded in the southern Plains, Great Lakes region, Ohio Valley, and New England. A disturbance, formed in the Gulf of Mexico along the cold front, late in the week produced excessive rains in the East Gulf States, Florida, and parts of Georgia and the Carolinas. Weekly precipitation totals ranged up to more than 4 inches in a large area of the Southeast, while Pensacola and Apalachicola, Florida, both reported over 11 inches during the week. Almost 10 inches of the rain fell at Pensacola during a 24-hour period on Saturday and Sunday. West of the Rockies, temperatures were generally above normal. Cloudy and cool weather with some heavy precipitation predominated along the coastal areas of the Pacific Northwest, while the cool weather in interior sections, where light frost and freezing temperatures were reported on Wednesday morning, was followed by a rapid rise in temperature. Maxima in the 80's and 90's extended from eastern Washington and Oregon across the mountains to Wyoming, Montana, and the western Dakotas late in the week.

(Continued on page 872)

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ILLINOIS						
Urbana 9/4-10	231	35	2	6	13	945
INDIANA (Counties)						
Lawrence 9/5,8	17	5		4	3	14 53
Tiptecanoe 9/4-10	84	63	2	6	4	4 2307
KANSAS						
Garden City 9/2,4,8-9	9	22	2		3	127
Hays 9/5,8,10	13	16				47
Manhattan 9/4-11	4	4	1	2	1	52
Wathena 8/31,9/2-9	11	28		1	28	69 313
MARYLAND						
Fairland 9/5-10	9	5	3	2	3	3 4
MISSOURI						
Columbia 9/7-12	18	34	94		16	177
NEBRASKA						
Lincoln 8/30-9/8	55	236		68	7	13 3755 8
North Platte 9/1-7	69	71	1	25	8	7 408 12
OREGON						
Salem 8/21-9/10		42		39		71
SOUTH CAROLINA						
Charleston 8/31-9/13	26	14	68		41	619 1
Clemson 9/4-11	159	50	91	13	2	9 111
TENNESSEE (Counties)						
Blount 9/1-7	146	128	26		10	10 210
Cumberland 9/1-7	50	1			14	18 55
Greene 9/1-7	442	82	16		30	24 300
Johnson 9/1-7	1864	168	98	16		4 818
Madison 9/1-7	1722	66	72		20	24 696
Maury 9/1-7	472	24	8	4	112	24 620
Robertson 9/1-7	104	32			24	384
TEXAS						
Waco 9/5-11	232	12		66		795 27
VIRGINIA						
Painter 9/6	26,000					

ADDITIONAL COLLECTIONS - COTTON LEAFWORM (*Alabama argillacea*) - TENNESSEE (Counties) Blount (9/1-7) - 2; Cumberland (9/1-7) - 1; TEXAS - Waco (9/5-11) - 776. SALT-MARSH CATERPILLAR (*Estigmene acrea*) - Waco (9/5-11) - 18. VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) - SOUTH CAROLINA, Charleston (8/31-9/13) - 336.

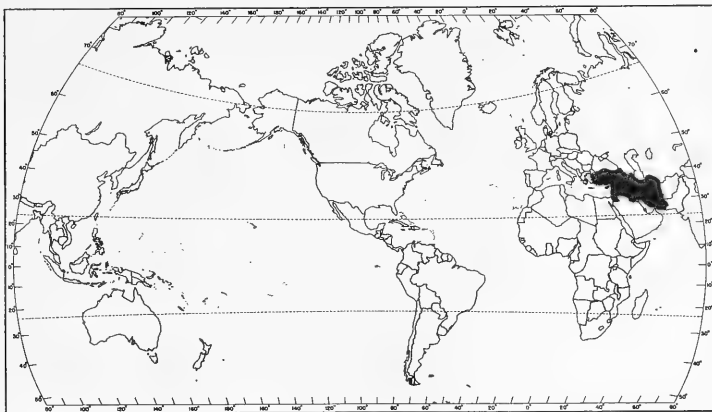
(Weather continued)

Temperatures in the Far Southwest were much above normal early in the week, but fell somewhat on the 11th over Arizona, Nevada, and Utah as moisture from a tropical storm over Baja California produced general clouds and a few scattered showers and thunderstorms. Easterly winds, also caused by the tropical storm to the south, brought desert heat to the southern California coast on Friday, when San Diego recorded 102° and Los Angeles 103°. On the 15th, a new surge of cool air from Canada spread into the Northern States east of the Rocky Mountains and snow was reported in the northern Appalachians, where Whiteface Mountain, in northern New York, had 2 inches. (Summary supplied by U. S. Weather Bureau).

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

CEREAL LEAF MINER* (Syringopais temperatella (Led.))

Economic Importance: This scythruid has been known as a major pest of cereal crops in the Middle East for some time, although there seems to be very little in the economic literature on it until recent years. Complete destruction of small grains has been recorded in many areas of the Middle East, Asia Minor and on Cyprus during dry years. The annual loss to wheat in Jordan is estimated at 15 to 20 percent. In heavily infested fields, as many as 30 larvae may be found on a single leaf blade and over 100 on a single plant. Infested leaves turn light brown and are very conspicuous during dry seasons. Rainfall has considerable bearing on the intensity of infestations, though it is not so much the abundance of rain but rather its distribution which is important. If early rains fail, the infestations will be negligible, even if heavy rains occur later in the season. Heavy rains in November and December cause heavy infestations to develop. Cultural practices have considerable effect on populations. Deep spring plowing, crop rotation and clean crop cultivation are most beneficial though they may not all be practical to apply in the more arid regions.



General Distribution of Syringopais temperatella

Distribution: Recorded in Cyprus, Turkey, Lebanon, United Arab Republic (Syria), Jordan, Iraq, Israel and Iran.

Hosts: Wheat, barley and oats are the preferred hosts, although 28 additional host plants including clovers, nasturtium, glorybind and plantain have been recorded.

Life History and Habits: Moths first appear in April, becoming abundant the latter part of the month. Egg laying begins soon after emergence and continues for about 10 days, the adults dying soon afterward. Each female will lay about 50 eggs, in small batches or singly on the leaf blade. Eggs hatch in 5 to 7 days,

young larvae descend almost immediately to the soil where they build webby cocoons and enter a long diapause which lasts until the following winter. Larvae may leave their cocoons if the relative humidity changes; however, if this change takes place after the larvae enter diapause they may be rapidly killed by turgidity or desiccation. About the first of January, larvae begin to emerge from the soil to attack young leaves. The mining becomes conspicuous during February and March. They mine the leaves, feeding on cells and internal tissues, leaving the epidermis transparent. They usually enter the leaf from the tip and work downward towards the base. Larvae pass through 6 instars, becoming darker after each stage. When mature, the larvae enter the soil to pupate, constructing cocoons at a depth of 2-3 cm. Adults emerge in 2 weeks or less.

Description: EGG citron-yellow, oval, surface notched, about 0.5 mm. long. LARVA black at hatching but becomes brown, the last instar being grayish-yellow. Head brilliant black and plate of last abdominal segment also black. Sides covered with soft hairs. Mature larvae will vary from citron-yellow to clear brown to mahogany-brown. COCOON round, about 2 mm. to 3 mm. in diameter, covered with grayish-white web. ADULT with brown forewings, thorax and abdomen black and covered with yellowish soft hairs. Wing expanse 12-18 mm. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 9(38):9-18-59



Female and Male of Syringopais temperatella

Adults - USDA photograph

Principal references:

1. Georghiou, G. P. and Thiakides, T. 1958. Soc. Ent. d'Egypte Bul. 42:229-231.
2. Hussein, S. Y. 1953. FAO Plant Protect. Bul. 2(2):22-23.
3. Rivnay, E. 1956. Ktavim (Records Agr. Res. Sta., Israel) 7(1):5-23.

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Damaging infestations of CORN EARWORM and VELVETBEAN CATERPILLAR in soybeans reported in Alabama, Georgia and South Carolina. SOYBEAN CYST NEMATODE found for first time in Illinois. (p. 877). MEADOW SPITTLEBUG survey in Illinois found the outlook to be lighter than in 1958, but areas of heaviest infestation about the same as in 1958. (p. 879). SORGHUM WEBWORM causing heavy damage to late sorghum in areas of Missouri, Kansas and Oklahoma. (p. 879). EUROPEAN CHAFER surveys in New Jersey during August were negative. (p. 880).

PURPLE SCALE infestations at lowest point on record at Lake Alfred, Florida, but FLORIDA RED SCALE at high level. One MEXICAN FRUIT FLY and one WEST INDIAN FRUIT FLY trapped in Baja California, Mexico, during August. (p. 882).

BANDED CUCUMBER BEETLE was especially abundant in fall cucumber plantings in Barnwell County, South Carolina, during August. (p. 882). CABBAGE MAGGOT destroyed large acreages of crucifers in Washington. (p. 883).

Heavy, late BOLL WEEVIL buildup in South Carolina caused extensive treatment program. (p. 884). Number of SPRUCE BUDWORM egg masses increased about 3 times, compared with 1958, on about 600,000 acres in northern New Mexico. (p. 884).

MOUNTAIN PINE BEETLE potential for serious damage later in fall indicated in many areas of California. Summary of 1959 GYPSY MOTH trapping in Michigan and New Jersey. (p. 885).

No KHAPRA BEETLE infestations now known to exist in the Republic of Mexico. (p. 887).

New JAPANESE BEETLE infestations in Illinois, Indiana, Kentucky, Michigan, Missouri and Ohio reported. (p. 888).

CORRECTIONS (p. 889)

ADDITIONAL NOTES (p. 889)

INSECT DETECTION: A bostrichid (Sinoxylon conigerum) is reported as established in Dade County, Florida. A new United States record (p. 886). New state records reported were soybean cyst nematode in Illinois (p. 877) and a webworm (Tetralopha militella) in Florida (p. 886). New county records were white-fringed beetles in Macon County, Alabama, and Meriwether, Randolph and Terrell Counties, Georgia (p. 880); and soybean cyst nematode in Ballard County, Kentucky. (p. 877).

Keeping an eye out for INSECTS. USDA Picture Story No. 120. Separates are available without cost from Survey and Detection Operations. (After page 882).

Reports in this issue are for the week ending September 18, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-SEPTEMBER TO MID-OCTOBER 1959

The Weather Bureau's 30-day outlook for the period mid-September to mid-October calls for temperatures to average below seasonal normals over the eastern half of the Nation except for near normal along the Gulf Coast. The coldest areas are expected to be the Great Lakes, Ohio Valley and Northeast. Temperatures over the western half of the country are predicted to average near normal except for below normal over the Southern Plateau and above normal in Montana, Wyoming and coastal California. Precipitation is expected to be subnormal over the northeastern quarter of the Nation. Above normal amounts are predicted for the southeast quarter, the Central Plains, the Rocky Mountain States and California. In unspecified areas about normal amounts are indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING SEPTEMBER 21

An unusually large high pressure area covered the Nation east of the Rocky Mountains most of this week. The center of this large mass of cold, dry air moved slowly from central Canada to the Middle Atlantic States, and the clockwise flow of air around the High pushed deep into the Southeastern States. West of the Rocky Mountains cool Pacific air covered most areas throughout the week. These large surges of cold air served to keep temperatures much-below-seasonal levels over all the Nation, with the exception of a portion of the southern Great Plains and Rocky Mountains and small sections along the immediate Pacific coast. Record-breaking cold temperatures were recorded in large numbers from the Great Lakes and Ohio Valley to New England, as minima in the 30's were general at midweek in New York and New England, the Great Lakes States, and the northern Great Plains, falling below 20° at higher elevations in New York and New England. As the high pressure area moved eastward, strong, gusty, southerly winds swept across the Great Plains returning 80° and 90° temperatures, which continued from Texas to the desert Southwest through the week, to the lower Great Lakes, and upper Ohio and Mississippi Valleys.

Precipitation was heavy over parts of the Southeastern States, the central Great Plains, most of the Pacific Northwest, central California, and in scattered areas in the Plateau States, the central Great Lakes, and New England. Continuing thunderstorms in Florida again left scattered excessive precipitation totals, up to 8-10 inches in scattered locations of the northwestern Peninsula. The first rain of consequence in Kansas in 2 weeks left from 1/2 to 3 inches over most of the State. Generous totals extended into other areas of the central and northern Great Plains. A large low pressure area brought abnormally heavy September rainfall over central California, totaling 2 to 4 inches locally, with larger totals and heavy snow at higher elevations in the Sierras. Heavy thunderstorms over the Central and Northern Plateau States improved moisture conditions. The September total of 1.90 inches so far at Boise, Idaho, is the second highest there in 61 years. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (*Heliothis zea*) - ALABAMA - Moderate infestation on soybeans in St. Clair County. (Grimes). GEORGIA - Heavy infestations on soybeans in Baldwin County. (Johnson). SOUTH CAROLINA - A major problem in soybean fields in Richland, Calhoun, Orangeburg, Florence, Clarendon and Darlington Counties. (Nettles et al., Sept. 9). Became very serious on soybeans in Allendale County. (Nettles et al.). VIRGINIA - Infestations generally light in soybeans, few heavy infestations present. Reinfestations, if they occur, will probably not be sufficiently heavy to necessitate control measures in most cases. (Morris et al.). MARYLAND - Several heavy larval infestations noted on soybeans in St. Marys County. (U. Md., Ent. Dept.). MISSOURI - Damage to late grain sorghum throughout the State continues. Larval counts range 5-45 per 100 heads in northern area and 100-105 per 100 heads in central area. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 1 per sweep in alfalfa in southeastern area. (VanCleave, Goin, Drew). In field of peanuts in Payne County, counts averaged 25 infested terminals per 100 terminals examined. (Manley, Walton). CALIFORNIA - Causing severe damage to alfalfa in El Centro area, Imperial County. (G. D. Peterson). OREGON - Damaging sweet corn in Corvallis area, with 50-75 percent infestation appearing. Damage greater than in past years at this time. (Crowell, Sept. 14).

VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) - ALABAMA - Heavy infestations on soybeans in Chilton and St. Clair Counties. (Grimes). GEORGIA - Heavy infestations on soybeans in Baldwin County. (Johnson). SOUTH CAROLINA - Marked increase in activity over previous week on soybeans. Severe stripping of leaves observed. (Nettles et al., Sept. 9). Causing more damage to soybeans in Dorchester County than previously observed and are unusually abundant in Orangeburg County. Also damaging soybeans in several other counties. (Nettles et al.). NORTH CAROLINA - About 50 percent of soybean pods damaged in Lenoir, Johnston and Wayne Counties. (Scott, Farrier). VIRGINIA - Heavy in one field of very late soybeans in Middlesex County. (Settle). An occasional larva observed on soybeans in New Kent, James City, Gloucester and Middlesex Counties. (Morris et al.).

GREEN CLOVERWORM (*Plathypena scabra*) - ARKANSAS - Peak of infestation on soybeans occurred about a week ago. Considerable acreage has been treated for *P. scabra* and *Heliothis zea* on soybeans. Ranged 10-20 per 10 sweeps in alfalfa on University of Arkansas farm at Lafayette. (Ark. Ins. Sur.). MISSOURI - Larval counts in late soybeans in northeast area ranged 0-5 per square foot. (Kyd, Thomas, Munson). OKLAHOMA - Counts ranged 0.1-1.5 per sweep in alfalfa in southeastern area. (VanCleave, Goin, Drew).

SOYBEAN CYST NEMATODE (*Heterodera glycines*) - ILLINOIS - Found for first time in State on a farm at Mounds, Pulaski County. Collections confirmed September 18. Delimiting surveys being conducted. (Ill. Dept. Agr., PPC). KENTUCKY - Ballard County found infested for first time. Infestations total 50 acres on 2 properties. As of August 31, 16 properties representing 1,055 acres known to be infested in Ballard and Fulton Counties. MISSOURI - Additional infestations found on 19 properties. As of August 31, 204 properties representing 6,928 acres, known to be infested in the State. (PPC, Cent. Reg., Aug. Rpt.). NEW JERSEY - Symptom surveys conducted on 1,077 properties representing 2,302 acres over State. Results negative. VIRGINIA - Symptom surveys begun in 11 eastern counties, with a total of 2,378 properties being checked on which 305 soil samples were taken from 177 properties. MARYLAND - Fifteen properties representing 227 acres surveyed, with negative results. (PPC, East. Reg., Aug. Rpt.).

BEAN LEAF BEETLE (*Cerotoma trifurcata*) - MARYLAND - Adults continue to cause moderate to heavy damage to soybean foliage in St. Marys County. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - NEW MEXICO - Damage to foliage severe in pinto bean fields in San Juan and Bernalillo Counties. (N. M. Coop. Rpt.).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - ARKANSAS - Infestations built up in alfalfa in northwestern area. Counts 200-300 per 10 sweeps on University of Arkansas farm at Lafayette. (Ark. Ins. Sur.). **OKLAHOMA** - Counts 0-4 per sweep in alfalfa fields in extreme southeastern area. Populations slightly increased, compared with past few weeks. (VanCleave, Goin, Drew). **NEBRASKA** - Counts in Deuel County ranged 20-40 per sweep in alfalfa left for seed. Numbers lower in Cheyenne County, ranging 8-15 per sweep. (Andersen). **NEW MEXICO** - Generally light on alfalfa in San Miguel, Quay, Colfax, Rio Arriba and San Juan Counties. (N. M. Coop. Rpt.). **COLORADO** - Counts per 200 sweeps in alfalfa were 750 in Garfield County, 200 in Fremont County, and ranged 0-200 in Pueblo, Crowley, Bent, Otero and Prowers Counties. (Colo. Ins. Sur., Sept. 15). **UTAH** - Generally light, reported as far north as Weber County. (Knowlton, Sept. 10).

PEA APHID (*Macrosiphum pisi*) - NEBRASKA - Averaged 20 per 10 sweeps most alfalfa fields in southeastern area. (Webb). **OKLAHOMA** - Limited numbers present in alfalfa in extreme southeastern area. (VanCleave, Goin, Drew). **NEW MEXICO** - Appears to be building up in alfalfa in Mora and San Juan Counties. (N. M. Coop. Rpt.). **UTAH** - Populations moderate in alfalfa throughout Uintah Basin in Uintah and Duchesne Counties. (Knowlton).

Adult Meadow Spittlebug Survey in Illinois - 1959



MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) - ILLINOIS - Survey conducted from August 17 to September 11. Average number of adults per sweep was 1.01 for the State, compared with 1.48 in 1958. Outlook is better than in 1958, but the areas of heaviest infestations remain the same as in previous years (see map for population ratings). In northern area of State, where populations were rated moderate, average counts per sweep were 3.11 in Stephenson County, 3.66 in Boone County, 2.75 in Lake County, 4.44 in Ogle County, 2.44 in Kane County and 3.24 in Whiteside County. (Ill. Ins. Rpt.).

TARNISHED PLANT BUG (*Lygus lineolaris*) - ARKANSAS - Averaged 10-12 per 10 sweeps in alfalfa on University of Arkansas farm at Lafayette. (Ark. Ins. Sur.). **NORTH DAKOTA** - Counts in alfalfa in eastern area ranged 2-21 per 25 sweeps. (N. D. Ins. Rpt.). **NEBRASKA** - Counts in most alfalfa fields in southeastern counties averaged 20 per 10 sweeps. Counts ranged 2-4 per 10 sweeps in eastern counties. (Webb).

LYGUS BUGS (*Lygus* spp.) - SOUTH DAKOTA - Averaged 5 adults per 10 sweeps on alfalfa in southeastern area. (Hantsbarger). **NEW MEXICO** - Nymphs very abundant in alfalfa in Mora, Quay and San Juan Counties. (N. M. Coop. Rpt.) **OREGON** - Adults abundant in alfalfa fields, gardens and flower beds in Pendleton vicinity. No serious damage noted. (Chinn, Sept. 11). **OKLAHOMA** - Counts averaged 1 per sweep in alfalfa fields in southeastern area. (VanCleave, Goin, Drew).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Populations continue common in alfalfa in southeastern area, counts ranging 1-3 per sweep. (VanCleave, Goin, Drew). NEW MEXICO - Averaged 2-3 per sweep in alfalfa in Mora, Quay and San Juan Counties. (N. M. Coop. Rpt.). SOUTH CAROLINA - In some alfalfa fields, 5 percent of stems turned yellow from attacks by this insect. (Nettles et al.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - SOUTH DAKOTA - Larval counts 15-20 per 10 sweeps in alfalfa in southeastern area. (Hantsbarger). ARKANSAS - Averaged 2-3 per 10 sweeps in alfalfa on University of Arkansas farm at Lafayette. (Ark. Ins. Sur.). OKLAHOMA - Counts averaged 0.1 per sweep in alfalfa fields in southeastern area. (VanCleave, Goin, Drew). NEW MEXICO - Averaged about 2 per 10 sweeps in alfalfa fields in Mora, Quay, Colfax, San Juan and Bernalillo Counties. (N. M. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Counts averaged 1.1 per sweep in alfalfa fields in southeastern area. (VanCleave, Goin, Drew).

A CATERPILLAR (Nomophila noctuella) - OHIO - Mostly in pupal and adult stages in Wayne County on September 16. There was apparently a high degree of parasitism of larvae. Parasitic wasps emerged from cocoons within one hour after being brought into the laboratory. (Treece).

WEBWORMS (Loxostege spp.) - CALIFORNIA - Causing severe damage to alfalfa in El Centro area, Imperial County. (G. D. Peterson).

PEA WEEVIL (Bruchus pisorum) - WASHINGTON - Adults moving into hibernation during first two weeks in September in Palouse region; becoming a minor household pest. Observations indicate that this insect is becoming harder to control with current program, also that it has been considerably more abundant in 1958 and 1959 than during preceding years. (Johansen).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Averaged about 3 per sweep in alfalfa in Bernalillo County. (N. M. Coop. Rpt.).

THRIPS (undetermined) - UTAH - Very numerous in alfalfa seed crops at Lapoint and in Ouray Valley in Uintah County. (Knowlton).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Counts in late sorghum in central area averaging 700 larvae per 100 heads. Some sorghum heads in Scotland County (extreme northeast) completely devoid of grain because of damage caused by this pest. (Kyd, Thomas, Munson). KANSAS - Damaging late maturing grain sorghum in Elk and Montgomery Counties. (Gates). OKLAHOMA - Heavy damage noted in several fields of grain sorghum in southeastern area. Most larvae in late instars, with pupae and adults common most fields. (VanCleave, Goin, Drew). Counts averaged 15 larvae per seed head in sorghum field in Marshall County (Vinson) and 30 per seed head in sorghum field in Muskogee County (Bower, Washum).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - KANSAS - Few larvae found in corn plants in few fields in southeast and east central areas. (Peters). NEW MEXICO - Corn in Quay County heavily infested, causing severe lodging of stalks. (N. M. Coop. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEBRASKA - Corn fields in southeastern counties contained very low populations of second-brood larvae. An occasional larva found in sorghum in eastern counties. (Webb). KANSAS - Percent infestation in corn ranged 0-80, with 0-170 larvae per 100 plants in southeast and east central areas. (Peters).

A SKIPPER (Lerodea eufala) - CALIFORNIA - Light infestation of milo occurred, scattered over plantings in Hamilton City area of Glenn County. (Dr. W. H. Lange).

WHEAT JOINTWORM (Harmolita tritici) - ILLINOIS - Percent of tillers infested in 1959 averaged 5.11, compared with 6.13 in 1958. (Ill. Ins. Rpt.).

GRASSHOPPERS - INDIANA - Noneconomic to light populations of Melanoplus spp. observed in alfalfa, clover and corn fields in Tippecanoe, Montgomery, Putnam, Owen, Clay and Park Counties. Populations averaged 98 percent M. femur-rubrum and 2 percent M. differentialis. Counts ranged 0.2-6 per square yard, but averaged less than 3 per square yard, generally. (Matthew). NEBRASKA - Populations of Melanoplus spp. low in southeastern counties, counts less than 1 per square yard in alfalfa and field margins. (Webb). NEW MEXICO - Heavy grasshopper populations causing minor damage to alfalfa in Maxwell-Springer area, Colfax County. Also heavy in corn and grain sorghum near Farley, Colfax County. Very little apparent damage. (N. M. Coop. Rpt.). COLORADO - Grasshopper counts per square yard by counties are as follows (rangeland counts first, crop rows and borders second): El Paso 3-5, 5-15; Lincoln 0-3, 0-5; Kiowa 0-1, 4-20; Crowley 0-2, 0-5; Prowers 0-1, 1-5; Baca 0-2, 1-5; Las Animas 0-1, 1-5; Huerfano 0-1, 0-5; Pueblo and Otero 0-1, 0-5; Custer and Fremont 0-1, 1-2. (Colo. Ins. Sur., Sept. 15).

WHITE-FRINGED BEETLES (Graphognathus spp.) - Infestations found for first time during August in Macon County, ALABAMA, and Meriwether, Randolph and Terrell Counties, GEORGIA. (PPC, So. Reg.). NEW JERSEY - Surveys conducted in Vineland area and at sites in Atlantic, Cumberland and Gloucester Counties were negative. VIRGINIA - Observations in 24 counties were negative. (PPC, East. Reg., Aug. Rpt.).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - Last adult recoveries in research traps at Phelps were made on August 4 and 17. Cooperative controls started on September 8 at 3 isolated infestations at Southport, Chemung County, and at Niagara Falls and Lockport in Niagara County. CONNECTICUT - No adults were taken in traps at Meriden nor were they observed during evening flight during the past season. NEW JERSEY - Seasonal survey work completed. Total of 108 sites at major approaches to Brooklyn and Staten Island were visually surveyed and statewide evening surveys were made at 76 area nurseries. Three traps in Hudson County were operated, with negative results. No infestations found in the State. (PPC, East. Reg., Aug. Rpt.).

FALL ARMYWORM (Laphygma frugiperda) - GEORGIA - Heavy infestations on Coastal Bermuda grass in Jasper and Baldwin Counties and on soybeans in Baldwin County. (Johnson, Milner).

ARMYWORM (Pseudaletia unipuncta) - GEORGIA - Heavy infestations on Coastal Bermuda grass in Baldwin County, 12-15 per square foot. (Johnson).

A GRASSWORM (Mocis sp.) - GEORGIA - Heavy infestations on Coastal Bermuda grass in Baldwin County. (Johnson).

A SPITTLEBUG - GEORGIA - Heavy infestations on Coastal Bermuda grass in Brooks County. (Robertson).

A MITE (Oligonychus gramineus) - NEW MEXICO - Heavy infestations damaging Bermuda grass at Las Cruces, Dona Ana County. (N. M. Coop. Rpt.).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - OHIO - Good control obtained by most growers. Most injuries due to second-brood attack. (Cutright). NEW MEXICO - Percentage of "wormy" apples very high in many unattended and improperly treated orchards in Rio Arriba, Sandoval, Bernalillo and San Juan Counties, with 75-100 percent of fruit infested in many orchards. (N. M. Coop. Rpt.). COLORADO - Injury to apples being harvested averaged 0-1 percent in Delta and Mesa Counties. (Colo. Ins. Sur., Sept. 15). OREGON - Infestations lower than normal in treated pear and apple orchards at Hood River. (Ellertson).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - OHIO - Third-brood larvae hatching and threatening in some orchards. Injury in northeastern area to date less than one percent. (Cutright). NEW MEXICO - Second generation appears to be very light in Albuquerque area, probably because of adequate control measures. (N. M. Coop. Rpt.).

APPLE MAGGOT (Rhagoletis pomonella) - SOUTH DAKOTA - Infestations heavy on untreated apples in the Brookings vicinity, Brookings County. Up to 100 percent of fruit is infested. (Severin). OHIO - Adults have been taken in traps continuously since early July to September 14. (Cutright). WISCONSIN - Apples taken in Burnett, Douglas, Washburn, Sawyer and Ashland Counties were infested with this species. (Wis. Coop. Sur.).

PLUM CURCULIO (Conotrachelus nenuphar) - SOUTH DAKOTA - Infestations reported in untreated plums in vicinity of Spearfish, Lawrence County. (Hantsbarger). OHIO - Fall feeding frequently noted on apples. (Cutright).

SHOT-HOLE BORER (Scolytus rugulosus) - ALABAMA - Severe infestation in 60 acres of young peach trees in Blount County. (Bagby). SOUTH CAROLINA - Damaging buds of peaches and apples in Orangeburg County. (Nettles et al.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Generally light to moderate on apple trees in San Juan, Santa Fe, Taos, Rio Arriba, Sandoval and Bernalillo Counties, with several extremely heavy infestations found in apple orchards in Albuquerque area. (N. M. Coop. Rpt.).

SAN JOSE SCALE (Aspidiotus perniciosus) - OREGON - Populations heavy enough in neglected cherry orchards near The Dalles, Wasco County, to cause bronzing of leaves. (Ritcher).

PEAR-SLUG (Caliroa cerasi) - SOUTH DAKOTA - Caused heavy defoliations of cherry trees in Lake County. (Hantsbarger).

GIANT HORNET (Vespa crabro germana) - NORTH CAROLINA - Feeding on apples in Yancey County and present in Halifax County. (Dillingham, Hardee, Farrier).

SPIDER MITES - OHIO - Panonychus ulmi still present in orchards, but doing little damage. Tetranychus telarius infestation is generally quite light. (Cutright). NEW MEXICO - Tetranychus spp. damaged foliage in many apple orchards in Bernalillo, Sandoval and San Juan Counties; leaves brown and covered with webbing. Also damaged prune trees in Rio Arriba County. (N. M. Coop. Rpt.). UTAH - Damage by unspecified species, especially on raspberries, has been less severe in Box Elder, Weber, Utah and Davis Counties this season, than in 1958. Undetermined species have severely discolored foliage in several apple orchards northeast of Provo and at Park City. (Knowlton). OREGON - Tetranychus sp. populations heavy enough to cause bronzing of leaves in neglected cherry orchards near The Dalles, Wasco County. (Ritcher).

AN ERIOPHYID MITE - NEW MEXICO - Heavy infestations damaging prune orchards near Espanola, Rio Arriba County; caused considerable defoliation and fruit to drop or not develop properly. (N. M. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Larvae averaged 5 per 50 pecans checked in Carter County (Meharg) and were heavy on pecans checked at Stigler, Haskell County (Bower, Washum).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Heavy on some pecan trees at Lawton. (Hatfield).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Light infestation reported in Howard County. (Texas Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Severely damaging English walnuts at Ogden. Less severe on black walnuts in the same area and at Provo. (Knowlton).

Citrus Insect Situation, Lake Alfred, Florida, Mid-September, 1959 - PURPLE SCALE (Lepidosaphes becklii) activity decreased and will continue to be low through the fall in all districts. Infestations at lowest point on record; only one-tenth as heavy as the average of previous years. FLORIDA RED SCALE (Chrysomphalus aonidum) activity increased from a low to a high level and will continue high through September. Although infestations are now about average, many groves may be expected to show a rapid increase to high population level in October. An upward trend in activity of CITRUS RED MITE (Panonychus citri) began in early September and will continue through October. CITRUS RUST MITE (Phyllocoptura oleivora) activity increased slightly and marked the beginning of an upward trend which will accelerate in October. TEXAS CITRUS MITE (Eutetranychus banksi) is increasing and APHID infestations are much more prevalent than usual. (Simanton, Thompson, Johnson).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - In chemical and free zones of States of Tamaulipas, Nuevo Leon, Sonora and Baja California, 117,133 citrus trees were inspected on 2,528 properties during August. Four trees with 13 infested leaves found on 3 properties in municipio Hidalgo, Tamaulipas. In Linares, Nuevo Leon, 7 trees found infested on property reported in July. Treatment of all known infestations at Allende, Nuevo Leon, completed during August. Citrus blackfly is reported generally controlled by parasites in biological control zone in Tamaulipas. (PPC, Mex. Reg.). TEXAS - Surveys conducted during August in Cameron, Hidalgo and Webb Counties were negative. (PPC, So. Reg.).

MEXICAN FRUIT FLY (Anastrepha ludens) - Trapping activities continued throughout August in Nogales area of ARIZONA and in San Diego County, CALIFORNIA, with negative results. (PPC, West. Reg.). MEXICO - Trapping operations continued in Ensenada, Tecate and Tijuana, Baja California. Total of 1,894 traps in use on 905 properties and 7,902 trap inspections were made. One A. ludens and one A. mombinpraeoptans caught during August. Both specimens were female and nongravid. (PPC, Mex. Reg.).

LEAFHOPPERS - NEW MEXICO - Undetermined species damaging foliage of grapevines and apple orchards in many areas of the State. (N. M. Coop. Rpt.). IDAHO - Populations of Erythroneura sp. on grapes in the Filer area, Twin Falls County, were greater during 1959 than during 1958. (Portman).

TRUCK CROP INSECTS

TOMATO FRUITWORM (Heliothis zea) - ALABAMA - Causing 5-10 percent damage to fall tomato crops in St. Clair County. (Grimes). NEW MEXICO - Light in several lettuce fields in northern Dona Ana County. Minor problem in tomato fields in Luna, Valencia and Bernalillo Counties. (N. M. Coop. Rpt.). COLORADO - Eggs on tomato plants averaged 15.7 per 100 leaves in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur., Sept. 15).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - SOUTH CAROLINA - Has been especially abundant in fall cucumber plantings during late August and September in Barnwell County. (Nettles et al.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - WISCONSIN - A delayed report indicates that in a previously infested, relatively isolated and extremely localized area of Shorewood Hills in Madison, this species was more abundant than it has been for several years. (Wis. Coop. Sur.).

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) - VIRGINIA - Probably this species, heavy on snap beans on the Eastern Shore. (Hofmaster).



N-27708—Reports about insects may come from farmers, county agents, or from Federal or State specialists. Here a survey entomologist examines catch of grasshoppers in his sweep net. The number caught help him to estimate degree of infestation.

Keeping an eye out for INSECTS

Throughout the nation volunteer and professional entomologists — some 700 strong — are keeping an eye out for enemy insects and reporting on insect activities. They are part of Insect Survey and Detection, a cooperative State-Federal "intelligence" system as vital to the defense of our crops and livestock as Army Intelligence is to the defense of our country.

About 30 States have cooperatively financed survey entomologists. These, together with scientists in Land-grant colleges, researchers at State and U. S. Department of Agriculture experiment stations, Extension Service specialists, county agricultural agents, and representatives of industry, funnel reports of insect activities along with specimens of insects to State clearing houses. The State clearing officer analyzes the reports and identifies any accompanying insect specimens. When necessary, he warns county agents and local control and regulatory officials of the presence of some insect new to the particular area or new to the United States and of the buildup of economic insect infestations.

The State officer then sends a weekly report of insect conditions to national headquarters — the Plant Pest Control Division of the Agricultural Research Service in Washington D. C. Here the

reports are condensed and included in a weekly publication, the Cooperative Economic Insect Report. The information is organized under headings, such as Cereal and Forage, Fruit, Truck Crops, Forest and Ornamental, Stored Products, and Insects That Affect Man and Animals. Additional information, including informative articles on foreign insects, is also carried in the publication.

The Cooperative Economic Insect Report now reaches about 3,000 persons in Federal and State agencies, industries, farm editors, and other interested individuals. It alerts farmers and pest control officials to possible population increases of destructive insects and enables them to plan insecticide spraying or dusting, and other protective measures. Early detection can lead to early control, before extensive damage has been done, with minimum amounts of control chemicals and at the lowest possible cost.

The surveys and warnings that the reports contain, enable manufacturers to plan equipment and chemical inventories to meet farmer's insecticide needs. Research and education centers also find the data helpful in their work.

These photographs describe how the insect survey and detection system works.

U. S. DEPARTMENT OF AGRICULTURE
Office of Information

Picture Story No. 120
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Magazines and newspapers may obtain glossy prints of any of these photographs from the Photography Division, Office of Information, U. S. Department of Agriculture, Washington 25, D. C. Others may purchase prints (8 x 10) at \$1.00 each from the same address.



BN-8675-X

- This farmer examines the roots of soybean plants for damage from soil pests. He may find maggots, nematodes, or rootworms. Such pests are often hard to identify so he may ask the aid of his county agent. If the agent does not recognize the pest, he refers samples to specialists for positive determination.



N-33052 - Field observers estimate insect numbers and forecast the degree of infestation following methods outlined in this publication "Survey Methods." USDA's plant pest control experts have developed standardized survey methods for about 60 of the economically important insect pests.



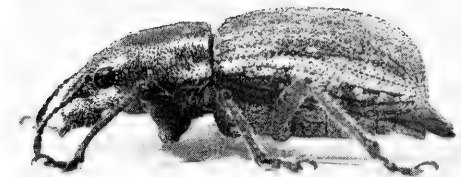
N-18509 - Traps baited with chemical attractants are one way of detecting certain insects. Thousands of traps like this one are being used in Florida to protect our citrus industry against the Mediterranean fruit fly.



N-33174 - Growth of international travel and fast transportation increases the danger of entry and spread of pests new to this country. USDA's plant pest control specialists prepared this publication "Insects Not Known to Occur in the United States" to help entomologists and others to recognize newly introduced pests.



N-21934 - The male gypsy moth, a forest insect, is lured to traps like this by an attractant prepared from the abdominal tips of female gypsy moths. Traps are also used in surveys of the Mexican fruit fly, the Japanese beetle, and other pests.



TX-606 - Detection of this insect -- the white fringed beetle -- requires careful search of plant foliage for the beetle, or signs of its feeding. To locate the larvae of the beetle, survey scouts examine the soil around roots of preferred host plants.

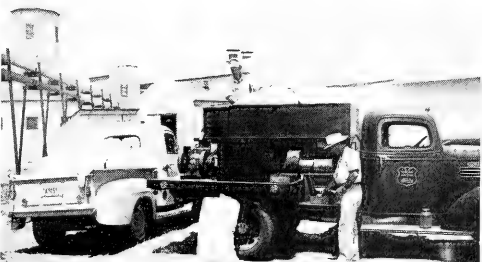
N-14848 - Moth catches in light traps placed in strategic places throughout several southern States tell what may be expected from such migrating pests as armyworm, corn earworm, fall armyworm, tobacco hornworm, and related insects.



N-14427 - The seams of burlap bags are a favorite hideout for the khapra beetle, a destructive stored grain pest. The pest also hides in cracks and crevices in grain storage buildings, which must be carefully searched by survey crews.



N-9192 - To locate infestations of golden nematode of potato and soybean cyst nematode, soil samples are collected at mapped intervals. The samples are then taken to a laboratory where they are washed, screened, and examined under a microscope for presence of cysts. (Note: nematodes are tiny worms -- not insects)



BN-8674-X
 - Cotton gin trash is screened through this machine and inspected for pink bollworm larvae. This is an important method of detecting the pest. Light traps are used in surveys for pink bollworm moth.



N-14841—Survey scouts collect a two-square yard sample of woods trash containing hibernating boll weevils. Counts of hibernating insect stages per lineal or area unit are used for estimating next season's infestations of European corn borer, grasshoppers, beet leafhopper, as well as boll weevil.



BN-33048—Information on insect conditions collected in these many ways reaches the Survey and Detection Operation of the Plant Pest Control Division in Washington, D. C. Here the reports from all parts of the United States are edited and summarized. Additional informative material on important domestic and foreign pests is also included.



N-10712—Populations of insects may be estimated by visible damage to host plants. Here the amount of defoliation of trees by gypsy moth larvae tells the trained survey entomologist the severity of the infestation.



N-33051—The weekly issue of the Cooperative Economic Insect Report is the end product of this effort. It contains information important to the defense of our food and fiber crops and livestock against destructive insects.



N-33173—Correct identification of collected specimens is important. The aid of highly trained State and Federal insect taxonomic specialists is frequently needed to identify unusual specimens, and the less known life stages of many of our common pests.



N-32948—Reports from field entomologists are abstracted and added to this permanent file, which contains information on over 40,000 domestic and foreign insect pest species. These records furnish valuable data on economic importance, distribution, biology, and the general history of a pest.

APHIDS - COLORADO - On potatoes, Macrosiphum solanifolii and Myzus persicae averaged 23.6 per 100 sweeps and 86.5 per 100 leaves in Weld County. (Colo. Ins. Sur., Sept. 15). NEW MEXICO - Aphis gossypii heavy on melons and cucumbers in Bernalillo and Valencia Counties. (N. M. Coop. Rpt.). ALABAMA - Heavy infestation of unspecified species on tomatoes in St. Clair County. (Grimes).

BEEET ARMYWORM (Laphygma exigua) - NEW MEXICO - Few light, spotty infestations damaging lettuce in Dona Ana County. (N. M. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - A polyhedrosis virus has completely controlled infestations on Eastern Shore. The virus is widespread over this area. (Hofmaster). NEW MEXICO - Serious in Dona Ana County lettuce fields; eggs and larvae very abundant. (N. M. Coop. Rpt.).

CABBAGE MAGGOT (Hylemya brassicae) - MISSOURI - Damaging commercial turnip field in Jackson County. (Kyd, Thomas, Munson). WASHINGTON - Large acreages of turnips, rutabagas, cabbage and cauliflower, totally destroyed in Redmond-Woodlinville area despite soil treatments and multiple sprays with chlorinated hydrocarbon insecticides. Tremendous adult populations present. Preliminary results indicate a high level of resistance to the chlorinated hydrocarbons. (Howitt).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Averaged 7.2 per 100 sweeps and 1.1 per 100 leaves on potatoes in Weld County. (Colo. Ins. Sur., Sept. 15).

POTATO TUBERWORM (Gnorimoschema operculella) - VIRGINIA - Another brood of moths present on Eastern Shore and some new field infestations have been observed. (Hofmaster). UTAH - Was not encountered in the State during the 1959 season. (Knowlton, Sept. 10).

FALL ARMYWORM (Laphygma frugiperda) - OKLAHOMA - Larvae averaged 2 per plant on sweetpotatoes in Greer County. (Hatfield).

HORNWORMS - OKLAHOMA - Larvae of an unspecified species averaged 3 per plant on sweetpotatoes in Greer County. (Hatfield). NEW MEXICO - Protoparce sp. has been a problem in untreated chili and tomato fields in Quay, Rio Arriba, Bernalillo and Luna Counties. (N. M. Coop. Rpt.).

FLEA BEETLES - MARYLAND - Phyllotreta sp. abundant on turnips at College Park. (U. Md., Ent. Dept.). OKLAHOMA - Counts of Chaetocnema confinis averaged 2.7 per linear foot of row in a field of sweetpotatoes surveyed in McCurtain County. (Goins).

TOBACCO INSECTS

CORN EARWORM (Heliothis zea) - MARYLAND - Larvae abundant and boring into tobacco leaves and stubble at several localities in Anne Arundel and St. Marys Counties. (U. Md., Ent. Dept.).

COTTON INSECTS

COTTON LEAFWORM (Alabama argillacea) - NORTH CAROLINA - Caused complete defoliation of cotton locally in Jones County and 4-5 larvae on tops of leaves in fields in Wayne County. (Franck, Jones, Farrier). SOUTH CAROLINA - Considerable defoliation of cotton occurring in Clarendon, Dorchester, Colleton and Florence Counties. (Nettles et al., Sept. 9). OKLAHOMA - Counts averaged 3 larvae and 4 pupae per 10 plants in cotton field in Garvin County (Meharg) and 0.5-1 per leaf in field in Pawnee County (Young).

CABBAGE LOOPER (*Trichoplusia ni*) - CALIFORNIA - Heavy infestations in cotton in Shafter and Delano areas of Kern County. (Cal. Coop. Rpt.).

COTTON LEAF PERFORATOR (*Bucculatrix thurberiella*) - CALIFORNIA - Heavy breeding continues in cotton plantings in Imperial County. (G. D. Peterson).

SALT-MARSH CATERPILLAR (*Estigmene acrea*) - CALIFORNIA - Infestations on cotton in Imperial County still increasing. Proper timing of treatment giving good control. (G. D. Peterson).

BOLLWORM (*Heliothis zea*) - CALIFORNIA - Heavy infestations in cotton in Shafter and Delano area of Kern County. (Cal. Coop. Rpt.).

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - On September 12, one female moth was caught in light trap in thurberia along Rincon Mountains in Pima County. This is second moth collection in this location during 1959, the first was on July 3. On September 14, one larva found in gin trash from farm one mile south of 1958 infestation at Mesa, Maricopa County. (PPC). Inspections in ALABAMA, GEORGIA and MISSISSIPPI during August were negative. Number of sites inspected and acres involved are as follows: Alabama - 254 sites and 109,821 acres; Georgia - 147 sites and 69,048 acres; Mississippi - 470 sites and 5,086 acres. Inspections in OKLAHOMA were limited to Garvin, Kiowa and Tillman Counties. In Tillman County, one lint cleaner inspection was found to be positive and represents 7,002 acres of initial infestation in that county. In TEXAS, 461,201 acres at 927 locations were inspected and 288,481 acres at 208 locations found infested. (PPC, So. Reg., Aug. Rpt.). MEXICO - Within the regulated area in states of Tamaulipas, Coahuila, Durango, Chihuahua and Nuevo Leon, 191 locations involving 138,932 acres of cotton in 24 municipios inspected. Of these, 153 locations involving 130,406 acres in 21 municipios found infested. Repeat inspections made at 41 locations in 5 municipios. Heaviest infestations found in La Laguna region of Coahuila and Durango, being higher than in recent years. Some fields in Municipio Matamoros, Coahuila, have 78 percent of green bolls infested while average for municipio is 37 percent. Some other municipios in La Laguna have up to 25 percent infestation. Outside regulated area in states of Sinaloa and Sonora, 45 locations involving 269,100 acres in 8 municipios inspected with negative results. In eastern area, stalk destruction is progressing normally, but in Culiacan zone in western area, rains prevented complete stalk destruction and have caused stubbed stalks to sprout. Plowup is 95 percent complete in this zone, however. (PPC, Mex. Reg., Aug. Rpt.).

BOLL WEEVIL (*Anthonomus grandis*) - OKLAHOMA - Counts averaged 95 percent infestation of squares in field of late cotton in McCurtain County (VanCleave, Goin, Drew); 17 percent in irrigated cotton field in Tillman County; and 85 percent in field in Greer County (Hatfield). SOUTH CAROLINA - Heavy infestation caused one of the most extensive late treatment programs ever experienced in McCormick County and buildup was tremendous in late July and early August in Orangeburg County. (Nettles et al.).

LYGUS BUGS (*Lygus* spp.) - CALIFORNIA - Continue to damage small cotton bolls in San Joaquin Valley. (T. Leigh).

APHIDS - CALIFORNIA - Continue to increase many cotton fields in Kerman-Kearney Park area of Fresno County. (L. A. Ruud).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SPRUCE BUDWORM (*Choristoneura fumiferana*) - NEW MEXICO - Survey indicates an approximate 3-fold increase in number of egg masses in 1959 as compared to 1958 on about 600,000 acres in the northern part of the State. (N. M. Coop. Rpt.).

PINE TIP MOTHS - VIRGINIA - High populations continue in coastal areas and are widespread and increasing throughout the southeast portion of the State on loblolly pines and on slash pines in Norfolk. In Accomack County, activity is reported in 4 separate areas ranging in size from 5 to 50 acres, infesting 20-80 percent of trees. (Va. Div. For., Aug. Summ.).

A FIR CONE MOTH (*Barbara colfaxiana*) - CALIFORNIA - In combination with a chalcid, is locally damaging Douglas-fir cones in the Hyampom district, Shasta-Trinity forest. Observations show damage to be spotty and progressively more severe east of Orleans, Humboldt County. (K. M. Estes, T. W. Koerber).

BARK BEETLES - VIRGINIA - *Ips* spp. active throughout Mecklenburg County, killing individual and small groups (up to 3) of shortleaf & loblolly pines. Larvae and adults present as of September 1. (Va. Div. For., Aug. Summ.). **ARKANSAS - *Ips* spp.** infesting young pine stands in south Logan County. Appear to be result of too thick stands. (Warren, Barnes). *Ips* spp., *Platypus* spp. and *Dendroctonus terebrans* damaging pines in Calhoun County. This infestation may be the result of spraying to kill hardwoods for timber improvement which resulted in weakening pine trees. (Warren). **OKLAHOMA - *D. terebrans*** damaged 2 trees and *Ips* sp. damaged 3 trees in an 80-acre grove of 15-year-old pine trees checked in Pushmataha County. (Goin). **NEW MEXICO** - Moderate to heavy infestations of *D. englemanni* present on about 10,000 acres of private land near Chama, Rio Arriba County. (N. M. Coop. Rpt.). **CALIFORNIA - *D. monticolae*** causing serious damage to lodgepole pine in a 15-acre camp ground in Silver Lake area, Plumas County. Many trees already dead with considerably more affected in this high usage area. (G. Ingco). Potential serious damage later in fall is indicated in many areas. Drought conditions are weakening many trees to point where they are becoming attractive to insect damage. (Cal. Coop. Rpt.).

A FLATHEAD BORER (*Buprestis aurulenta*) - CALIFORNIA - Damaging diagonal sheathing and studs in a 25-year-old house by honey-combing old Douglas-fir boards in Big Bar Ranger Station, Trinity County. This is an interesting record of the long period of development of this species in well-seasoned wood. (J. O'Keefe, C. B. Eaton).

AN APHID (*Pineus* sp.) - WASHINGTON - All stages infesting boles of 10-12 inch grand and Pacific silver firs at Centralia and Curtis, August 25. (Johnson).

A FIR SEED CHALCID (*Megastigmus spermotrophus*) - CALIFORNIA - This species, in combination with a fir cone moth, locally damaging Douglas-fir cones in the Hyampom district, Shasta-Trinity forest. Observations show damage to be spotty and progressively more severe east of Orleans, Humboldt County. (K. M. Estes, T. W. Koerber).

GYPSY MOTH (*Porthetria dispar*) - NEW JERSEY - At Jockey Hollow National Park, Morris County, 2 additional male moths were caught after moth captures were made in the same vicinity during July. To date, a total of 5 male moths were caught in 5 traps within and adjacent to the park. A male moth was taken in a trap at Minisink Island, Montague, July 31, and another on an island in the Delaware River, August 26, about one and one-half miles south of Montague. **VERMONT** - Two male moths were caught in a trap at Stowe and one at Walcott. **MAINE** - No moths were caught in Aroostook and Penobscot Counties. **CONNECTICUT** - One tree found with over 200 egg clusters. (PPC, East. Reg., Aug. Rpt.). **MICHIGAN** - During the week ending August 11, 91 egg masses were found 100 yards north of the trap collection in Windsor Township, Eaton County. Female moths were still emerging and egg laying continued. A recap of the total of 43 moths caught in the State during this season shows 39 were caught in Eaton County and 4 in Calhoun County. (PPC, Cent. Reg., Aug. Rpt.).

FALL WEBWORM (*Hyphantria cunea*) - OKLAHOMA - Common on a wide variety of native trees throughout central and southeastern areas. Some small trees completely defoliated. (Goin, VanCleave, Drew). **VIRGINIA** - Widespread on elm and birch in Fauquier and Loudoun Counties, causing light defoliation. (Va. Div. For., Aug. Summ.).

APPLE LEAF SKELETONIZER (Psorosina hammondi) - KANSAS - Larvae, probably this species, causing considerable damage to elm trees in Leavenworth County. Approximately 75 percent of the leaves are at least 50 percent skeletonized. (Thompson).

WEBWORMS (Tetralopa spp.) - MARYLAND - Larvae of Tetralopa sp. injuring sugar maple at Oakland. (U. Md., Ent. Dept.). FLORIDA - T. militella reared from American planetree in the Gainesville area, Alachua County, May 1959. Det. C. P. Kimball. This is a new State record for this species. (Fla. Coop. Sur.).

AILANTHUS WEBWORM (Atteva aurea) - MARYLAND - Larvae infesting ailanthus at Laurel, Prince Georges County. (U. Md., Ent. Dept.).

A BOSTRICHID (Sinoxylon conigerum) - FLORIDA - Collected boring in sapodilla (Achras sapota) at Miami, Dade County, August 10, 1959. Det. T. J. Spilman. The tree is 8-10 feet tall with emergence holes spaced about 10 inches apart in the top part of the stem. This insect appears to be the only cause of death. The species is common in India and is widespread in the tropics. It has been intercepted many times at ports of entry, but this report appears to be the first record of the establishment of the species in the United States. (Fla. Coop. Sur.).

LOCUST LEAF MINER (Chalepus dorsalis) - VIRGINIA - Active in northern portion of State, particularly in Loudoun, Fauquier and Rappahanock Counties. (Va. Div. For., Aug. Summ.).

POPLAR AND WILLOW BORER (Sternochetus lapathi) - SOUTH DAKOTA - Heavy infestations present on cottonwoods in the Potter County area. (Hantsbarger).

SYCAMORE LACE BUG (Corythucha ciliata) - OKLAHOMA - Medium on some sycamore trees in Duncan. (Hatfield, Brown). SOUTH CAROLINA - Causing yellowing of foliage in various parts of the State. (Nettles et al.).

SCALE INSECTS - MARYLAND - Unaspis euonymi heavy on euonymus at several localities in Prince Georges County and at Baltimore. Males abundant. (U. Md., Ent. Dept.). CALIFORNIA - Targionia dearnessi medium on big sagebrush (Artemisia tridentata) in Jess Valley, Modoc County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

A MUSCID (Musca autumnalis) - OHIO - Populations on cattle have decreased sharply with onset of cool weather. Numbers moderate at Wooster, Wayne County, on September 14, but very few remained by September 17. (Treece). INDIANA - Counts ranged 3-22 per head of beef cattle on pasture in northern Putnam County. (Matthew). None observed in southern third of State. (Dobson). ILLINOIS - Infestation apparently extends from a line through the southern limits of Greene, Montgomery, Jasper and Crawford Counties, northward. As previously reported, the infestation is heavier in the eastern portion of the State. (Ill. Ins. Rpt.). WISCONSIN - This species has not been found present thus far in collections of flies made in areas where cattle have had pink eye. (Wis. Coop. Sur.).

HOUSE FLY (Musca domestica) - OKLAHOMA - Counts averaged 2 per square foot in sunny areas checked in downtown areas of some towns in southeastern part of the State. (VanCleave, Drew, Goin).

MOSQUITOES - NORTH CAROLINA - Psorophora confinnis biting in Moore County and larvae of Anopheles punctipennis and Aedes vexans collected in a road rut in the same county. (Mead). OKLAHOMA - Psorophora sp. continued to cause annoyance to residents in Stillwater. (VanCleave). CALIFORNIA - Populations of unspecified species remain unchanged. A few cool nights apparently decreased activity, but residents in many areas are again being annoyed. (Vector Control).

EYE GNATS (Hippelates spp.) - SOUTH CAROLINA - Have been at peak abundance in Darlington County for the past 6 weeks. (Nettles et al.).

HORN FLY (Siphona irritans) - INDIANA - Counts ranged to highs of 300 per animal on unsprayed beef animals on pasture in Dubois County. (Dobson). OKLAHOMA - Counts averaged 175 per animal on range cattle checked throughout the southeastern area (Goin, VanCleave, Drew) and ranged 50-100 per animal on 2-year-old steers and cows checked in Pawnee County (Young). NEW MEXICO - Has been very annoying to cattle throughout the State. (N. M. Coop. Rpt.).

SCREW-WORMS (Callitroga spp.) - NEW MEXICO - Numbers of infested animals appear to be lower than in 1958. Most counties report only an occasional infestation. (N. M. Coop. Rpt.).

SHEEP KED (Melophagus ovinus) - IDAHO - Heavy on large flocks of sheep in the Kimama area, Minidoka County, with up to 60 engorged individuals per sheep. (Priest).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Populations heavy on dairy cattle checked in Pawnee County. (Young).

TABANIDS - OKLAHOMA - Populations of Tabanus sulcifrons, T. atratus and T. lineola complex caused a nuisance to range cattle throughout southeastern area. Counts ranged 0-12 per animal (averaged one per animal) on cattle. (Goin, VanCleave, Drew). T. sulcifrons ranged 1-4 per beef animal in lowland pastures in Pawnee County. (Young).

FLIES - NORTH DAKOTA - Reported as being numerous in many localities. (N. D. Ins. Rpt.). NEW MEXICO - Populations of several species very annoying in and around homes throughout the State. (N. M. Coop. Rpt.). UTAH - A serious problem in parts of Carbon, Washington, Iron, Kane, Wasatch and Emery Counties. (Knowlton, Sept. 10).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Populations decreasing in southeastern area. (Goin).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - MEXICO - Surveys were conducted during August in states of Baja California, Sonora, Jalisco and Chihuahua. No positive determinations were received during August. Since the completion of eradication fumigations in June, there have been no known khapra beetle infestations in the Republic of Mexico. Extensive surveys and inspections continue in progress. (PPC, Mex. Reg., Aug. Rpt.). TEXAS - Surveys continued during August in State. No new infestations found in El Paso. (PPC, So. Reg.). ARIZONA - Two new infestations found during August, one each in Pinal and Yuma Counties. (PPC, West. Reg.).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - NORTH CAROLINA - Infestation present in 1,000 bushels of wheat in Wake County. (Scott, Weisman). SOUTH CAROLINA - Infesting several stored-products in homes in Aiken County. (Nettles et al.).

BENEFICIAL INSECTS

LADY BEETLES - NORTH DAKOTA - Unspecified species averaged one per 25 sweeps in alfalfa fields checked. (N. D. Ins. Rpt.). NEBRASKA - Undetermined species averaged 2 per 10 sweeps in most southeastern counties. (Webb). ARKANSAS - Primarily Hippodamia spp., averaged 15-20 adults and 5-6 larvae per 10 sweeps in alfalfa in the northwest part of the State. (Ark. Ins. Sur.).

OKLAHOMA - Populations very light (up to 0.3 per sweep) in alfalfa fields surveyed in southeastern area. *Coleomegilla maculata* was most common species, with *Hippodamia convergens* found only occasionally. (VanCleave, Goin, Drew). TEXAS - Pupal cases of unspecified species reported in Midland County. (Texas Coop. Rpt.).

A BIG-EYED BUG (*Geocoris punctipes*) - ARKANSAS - Averaged 20-25 per 10 sweeps in northwest area alfalfa. (Ark. Ins. Sur.)

FLOWER BUGS (*Orius* spp.) - ARKANSAS - *O. insidiosus* averaged 5-10 per 10 sweeps on alfalfa in northwest area. (Ark. Ins. Sur.) NEBRASKA - *Orius* spp. averaged 2 per 10 sweeps in southeastern counties in alfalfa fields. (Webb).

NABIDS (*Nabis* spp.) - NORTH DAKOTA - Populations ranged 0-2 per 25 sweeps. (N.D. Ins. Rpt.). NEBRASKA - Counts averaged 4 per 10 sweeps in most southeast counties. (Webb). ARKANSAS - Present in small numbers (2-3 per 10 sweeps) in northwest area alfalfa. (Ark. Ins. Sur.). OKLAHOMA - Counts averaged 0.8 per sweep in alfalfa fields surveyed in southeastern area (VanCleave, Goin, Drew) and 0.6 in a Jackson County alfalfa field (Hatfield).

LACEWINGS (*Chrysopa* spp.) - NORTH DAKOTA - Counts averaged 1-2 per sweep in eastern area alfalfa fields. (N. D. Ins. Rpt.). ARKANSAS - Larvae averaged 2-4 and adults 6-8 per 10 sweeps in alfalfa in northwest part of the State. (Ark. Ins. Sur.). OKLAHOMA - Light numbers (up to 0.4 per sweep) present in approximately one-half of alfalfa fields surveyed in southeastern area. (VanCleave, Goin, Drew).

A GORSE WEEVIL (*Apion ulicis*) - OREGON - Population about four times as numerous as at this time in 1958 at the release point 8 miles north of Bandon on Seven Devils Road. Population now occurs in total area of about one and one-half square miles. Numbers at original release point southwest of Bandon, near old airport, not markedly increased over those of 1958. (Eppley).

A TACHINID (*Trichopoda pennipes*) - NORTH CAROLINA - Caused marked reduction in squash bug population in Duplin County in a two-week period. (Daugherty).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (*Popillia japonica*) - Adults were trapped or collected in 32 localities in 13 counties of western NEW YORK located outside the regulated area. Heavy beetle flight was reported in the western regulated area at Rochester and South Buffalo. Surveys revealed heavy concentrations in Bristol and Appalachia, VIRGINIA, and along the Kanawha River, northwest of Charleston, WEST VIRGINIA. A total of 46 beetles were caught in nonregulated areas of MAINE and 30 in VERMONT. (PPC, East. Reg. Aug. Rpt.). The total number of new infestations in the Central Region involves 16,385 acres at 69 locations, as follows: ILLINOIS, 1,625 acres at 12 locations; INDIANA, 65 acres in 16 localities; KENTUCKY, 684 acres in 5 localities; MICHIGAN, 12,304 acres at 10 locations; MISSOURI, 65 acres in 2 locations; and OHIO, 1,642 acres in 23 locations. (PPC, Cent. Reg., Aug. Rpt.). Found established for first time in TENNESSEE during August in Johnson County, at Bloomery and Sutherland. Infestations rather serious. (PPC, So. Reg.).

OLD-HOUSE BORER (*Hylotrupes bajulus*) - MARYLAND - Larvae infesting floor joists in a home at Landover, Prince Georges County. (U. Md., Ent. Dept.).

A SCOLYTID (*Monarthrum fasciatum*) - PENNSYLVANIA - Heavy infestation reported in mahogany lumber at York, August 27. Country of origin and degree of seasoning of lumber not known. This species was reported from the same area in February 1951. (Balsbaugh).

AQUATIC INSECTS - RHODE ISLAND - Mainly Chironomidae, with some Trichoptera, causing costly economic damage to fabrics in a large textile mill. Attracted by lights, insects get on cloth and rollers. Those with green body fluids cause stains that cannot be removed from the cloth. (Mathewson, Sept. 1).

A SOLDIER FLY (Hermetia illucens) - NORTH CAROLINA - Larvae, probably this species, infesting poultry feed in Wake County. (Scott, Farrier).

VESPID - MARYLAND - Yellow jackets continue to be annoying around homes in central counties. (U. Md., Ent. Dept.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - Treatments during August were as follows: ALABAMA - 14,219 acres; FLORIDA - 5,406 acres; GEORGIA - 1,128 acres; LOUISIANA - 2,885 acres; MISSISSIPPI - 573 acres; TEXAS - 5,564 acres. No new counties found infested during August. (PPC, So. Reg.).

AN EARTHWORM MITE (Fuscuropoda agitans) - NORTH CAROLINA - Infesting an earthworm bed in Sampson County. (Scott, Farrier).

CORRECTIONS

CEIR 9(36):819 and 832 - A TICK, Ornithodoros coriaceus, should read Ornithodoros coriaceus.

CEIR 9(36):832 - A REDUVID (Rasahus throacicus) should read A REDUVID (Rasahus thoracicus).

CEIR 9(37):852 - A KATYDID (Meconema thalassina) should read A KATYDID (Meconema thalassinum). This correction also applicable under INSECT DETECTION on "highlight" page.

ADDITIONAL NOTES

ARIZONA - SPOTTED ALFALFA APHID (Therioaphis maculata) is medium in a few central area alfalfa fields, but infestations are generally low over State. ALFALFA CATERPILLAR (Colias philodice eurytheme) infestations in southeastern area alfalfa are continuing heavy, with some larval counts averaging up to 60 per 10 sweeps. Infestations decreased in central and southwestern areas. THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) infestations in alfalfa are medium to heavy, statewide. YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) infestations medium in some alfalfa fields in central area; counts 12 larvae per 10 sweeps. SALT-MARSH CATERPILLAR (Estigmene acrea) infestations in cotton have increased, but biological control is sufficient to prevent heavy migration. Adults and egg masses are abundant in cotton in central and southwestern areas. COTTON LEAF PERFORATOR (Bucculatrix thurberiella) infestations in central and southwestern area cotton remain medium to heavy in many fields; however, most populations beginning to decline. Infestations of LYGUS BUGS (Lygus spp.) are decreasing in many cotton fields, particularly in southeastern area where most cotton has "cut out". Fields still squaring heavily in central and southwestern areas of State show high percentage of punctured squares, counts averaging 40-50 percent. COTTON LEAFWORM (Alabama argillacea) infestations medium in few Graham County fields, but are generally light in southeastern area. Light to medium BOLLWORM (Heliothis zea) infestations continue in cotton statewide, with some damage still occurring in late fields. Light CABBAGE LOOPER (Trichoplusia ni) infestations continue to trouble lettuce plantings in Maricopa and Cochise Counties. RHODES-GRASS SCALE (Antonina graminis) is heavy on some St. Augustine grass lawns and THRIPS are heavy in Bermuda grass lawns in Maricopa County. BROWN DOG TICK (Rhipicephalus sanguineus) populations heavy and troublesome around homes in central area. Heavy migration of PAINTED-LADY (Vanessa cardui) adults observed near Superior in Pinal County. (Ariz. Coop. Sur.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ALABAMA						
Auburn 9/8,11	6		25		4	60 4
ARKANSAS						
Fayetteville 8/27-9/16	72	56				1240
Hope 8/27-9/16	66	84		30		400
Kelso 8/27-9/16	19	17				190
Morrilton 9/2-17	76	66				511
COLORADO						
Longmont 9/2-8						7
FLORIDA						
Gainesville 9/8	3					
Quincy 8/24,31,9/8	3	6			13	126 6
ILLINOIS						
Urbana 9/11-17	3	4	6	14		23
MARYLAND						
Upper Marlboro 9/3-11	16	8	4	2	23 10	18
MISSOURI						
Columbia 9/14-19	9	14	17			42
SOUTH CAROLINA						
Charleston 9/14-20	2	4	4			3 1
Clemson 9/12-18	86	42	31	1	2	11 2
TEXAS						
Brownsville 8/31-9/4, 9/8-11		7	131		15	
Waco 9/12-18	643	9		276		291 11
UTAH						
Ogden 9/1-9						12
Spanish Fork 9/1-9						2


ADDITIONAL COLLECTIONS - COTTON LEAFWORM (Alabama argillacea) - SOUTH CAROLINA, Charleston (9/14-20) - 1; Clemson (9/12-18) - 1; TEXAS, Brownsville (8/31-9/4) - 156; Waco (9/12-18) - 1909. SALT-MARSH CATERPILLAR (Estigmene acrea) - TEXAS, Brownsville (8/31-9/4,9/8-11) - 112; Waco (9/12-18) - 8. VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - Charleston (9/14-20) - 15.

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Cooperative
ECONOMIC INSECT
REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Heavy GREENBUG infestations reported on small grain in northern Alabama. (p. 893). ARMYWORMS and a GRASSWORM are moderate to heavy in Georgia. (p. 895).

SPOTTED ALFALFA APHID found in Oregon on September 22 for second consecutive year and was collected in Indiana for the first time in two years. Some controls being applied in Oklahoma. (pp. 895,896). In Arizona, ALFALFA CATERPILLAR causing considerable damage to alfalfa in some southeastern fields (p. 896), and YELLOW-STRIPED ARMYWORM damage evident in Maricopa County. (p. 897). CLOVER SEED CHALCID damage to alfalfa considerably higher than in 1958 in Pahrump Valley of Nevada. VELVETBEAN CATERPILLAR larvae found for first time this year in Delaware. (p. 897). LESSER CORNSTALK BORER caused some serious damage to peanuts in Frio County, Texas. (p. 898).

APPLE MAGGOT severe on apples in Rhode Island and infestations 100 percent in untreated orchards in western Pennsylvania. (p. 898). WALNUT CATERPILLAR defoliating pecan trees in Goliad County, Texas, and Baton Rouge Parish, Louisiana. (p. 899).

PEPPER WEEVIL infesting pepper fields in Orange County, California, for first time in about 10 years. (p. 899).

BOLLWORM infestations in cotton bolls about 3 times greater than previous years in Nevada and some controls necessary in Imperial County, California. COTTON LEAF PERFORATOR populations remain high in some cotton fields in Arizona and California. Severe SALT-MARSH CATERPILLAR injury to cotton noted in Imperial County, California. (p. 901)

SOUTHERN PINE BEETLE is epidemic in eastern Texas. A dangerous IPS BEETLE potential exists in Ozark National Forest in Arkansas and high concentrations exist in some National Forests in eastern Texas. (p. 902).

INSECT DETECTION: First records for several states were as follows: Western grape leaf skeletonizer in Clark County, Nevada. (p. 900); mimosa webworm in Webster Parish, Louisiana. (p. 903); European fruit scale in Ventura County, California (p. 903); and a face fly (Musca autumnalis) in Dane County, Wisconsin. (p. 904). New county records for several insect species were European corn borer in Garland, Hot Springs, Ouachita, Little River, Sevier and Pike Counties, Arkansas, and in Lee County, Alabama (p. 893); walnut husk fly in Weber County, Utah (p. 899); and a planthopper (Sogata orizicola) in St. Landry, Iberville, Ascension, St. John the Baptist, Terrebonne, La Fourche and Assumption Parishes, Louisiana (p. 893).

CORRECTION (p. 906).

Distribution of MORMON CRICKETS (p. 894).

Changes in family names in DIPTERA (p. 908).

INTERCEPTIONS of special interest at U. S. ports of entry. (p. 908).

INSECTS not known to occur in the United States. (p. 909).

Reports in this issue are for the week ending September 25, unless otherwise indicated.

WEATHER OF THE WEEK ENDING SEPTEMBER 28

Summer-like weather, with temperatures much above seasonal levels, returned to most areas east of the Rocky Mountains this week, while cool and cloudy conditions predominated in the Western States. Excessive precipitation, high winds, and severe local storms dotted the Nation's midsection from Texas to the northern Great Plains and the Great Lakes States, and weekly precipitation totals of 1 to 3 inches were common over a large area, bringing relief from dry conditions over the northern Great Plains. Local amounts of more than 10 inches in west central Oklahoma, 6 inches in south Texas and Kansas, and 5 inches in Iowa, Minnesota, Illinois, and Michigan were recorded. Several tornadoes struck in Missouri, Wisconsin, Illinois, Kansas, and Iowa on Saturday and again on Sunday in Missouri and Illinois. Strong local straight line winds of 50 to 60 mph (up to 100 mph in Iowa), were associated with many of the severe thunderstorms. Crop damage was locally heavy from wind and flooding. Generally fair, warm, and dry weather was the rule from Ohio, Tennessee, and Louisiana eastward. Scattered showers occurred over this region, but very few significant totals were recorded, except in southern Florida and along the Alabama coast. In the Northeastern States little or no rain has fallen in the past 3 weeks, in eastern Kentucky in the past 4 weeks, and large areas of Ohio have received less than 2 inches since July.

Cool, moist air swept over the Pacific Northwest and the Plateau States on strong, gusty winds which reached 40 to 50 mph at many places from the Pacific coast to the Rocky Mountains. Locally heavy rains over the Plateau States left weekly totals of more than 2 inches in Utah and Idaho. The September total, 2.39 inches to date, at Boise, Idaho, is the largest there since records began in 1864. No significant precipitation was recorded in agricultural areas from New Mexico to northern California. Very cold air moved southward and eastward over the Rockies and northern Plains from Canada late in the week, bringing snow over the weekend from Montana to northern New Mexico, ranging up to more than 3 feet at higher elevations in Colorado. Hurricane Gracie developed early in the week east of the Bahamas and after moving slowly along an erratic path, began moving steadily toward the South Carolina coast early on Sunday. By Tuesday morning the storm center was just off the coast near Charleston, South Carolina, and heavy rains were occurring over eastern South Carolina and extreme southeastern North Carolina. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - DELAWARE - Larvae common in alfalfa, New Castle and Kent Counties, averaging 3 per 10 sweeps; and remains on soybeans in Kent County. (Burbutis, Mason). ALABAMA - Light to moderate numbers present in grain sorghum in several central counties. (Grimes). MICHIGAN - Extremely abundant on corn in all of the area south of a line from Muskegon to Saginaw. (Hutson). OHIO - Nearly 100 percent infestation in untreated sweet corn at Marietta. (Triplehorn). INDIANA - Infesting alfalfa in Harrison County. (Wilson). MISSOURI - Continues to feed on late grain sorghum. Counts in Cooper County ranged 0-25 larvae per 100 sorghum heads. Larvae, all stages, present on late corn in southeast. (Kyd, Thomas, Munson). NEBRASKA - Moths extremely abundant in alfalfa in Red Willow County. Counts estimated at 200-1,000 per acre in those fields in blossom. (Pruess). ARKANSAS - Infestations averaged 1-2 per sweep in alfalfa fields. (Ark. Ins. Sur.). OKLAHOMA - Counts averaged 0.7 per sweep in alfalfa in central and south central areas. (VanCleave, Washum, Vinson). TEXAS - Infestations averaged 2 per head in late grain sorghum in Comanche County. Averaged 1 per 5 heads of late sorghum in Lubbock County and 3 per 10 sweeps in alfalfa in Deaf Smith County. (Hawkins). COLORADO - Larval counts 30-40 per 100 ears in corn in Mesa County. (Colo. Ins. Sur., Sept. 21). ARIZONA - Medium infestations in stalks of grain sorghum in Yuma County and in the central counties. Also infesting heads of sorghum in Yuma County, with considerable grain damage in some cases. (Ariz. Coop. Sur.). UTAH - Infesting up to 40 percent of sweet corn ears at Logan, but infestations generally much lower in Cache County. (Thornley, Knowlton).

A PLANTHOPPER (Sogatia orizicola) - LOUISIANA - This vector of hoja blanca disease of rice was recently collected for the first time in St. Landry, Iberville, Ascension, St. John the Baptist, Terrebonne, La Fourche and Assumption Parishes. Parishes previously reported infested were St. Tammany and St. James. (Spink).

GREENBUG (Toxoptera graminum) - TEXAS - Observed on large clumps of volunteer wheat near irrigation ditches in Potter, Deaf Smith, Castro and Randall Counties. Found only in small numbers. (Daniels). ALABAMA - Heavy infestations on small grain in Tennessee River Valley area. (Eden).

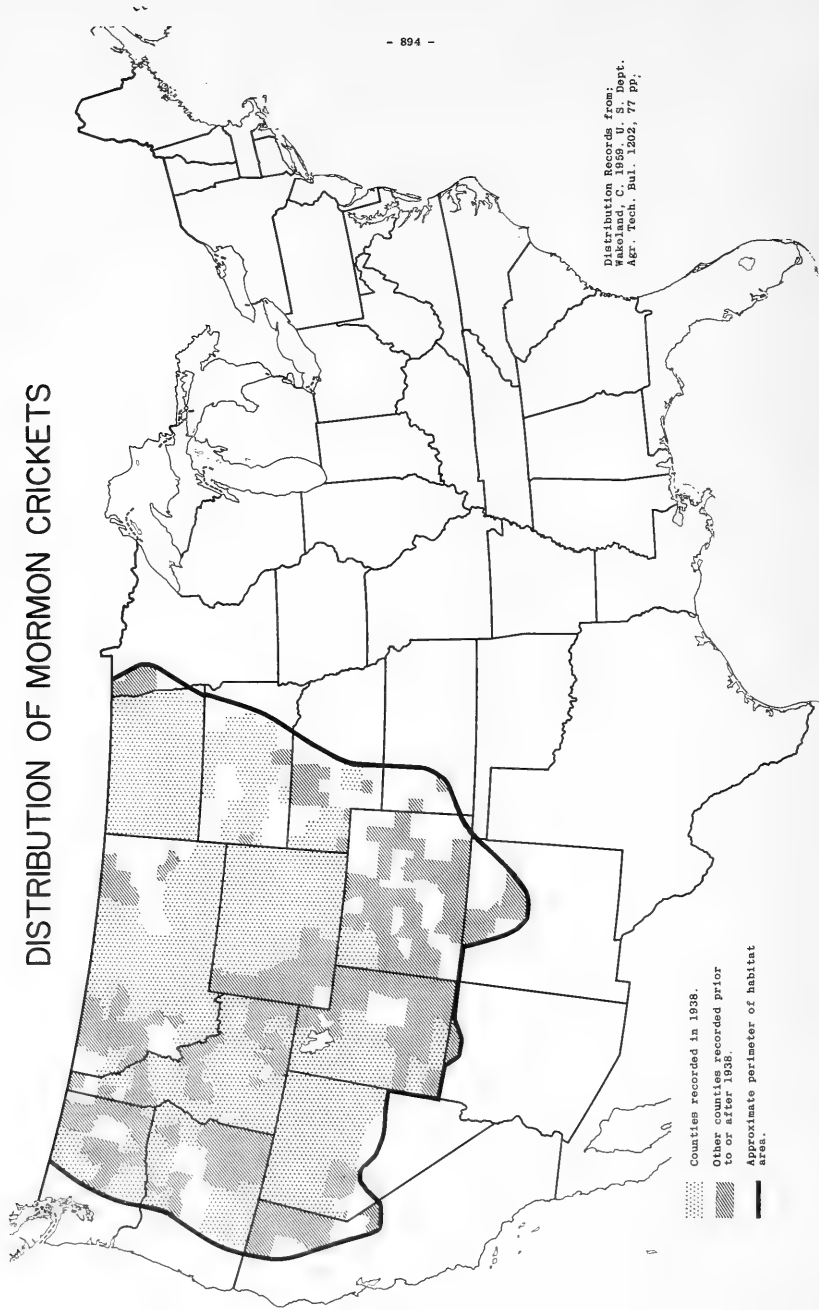
HESSIAN FLY (Phytophaga destructor) - COLORADO - Ranged 2-4 "flaxseed" per 20 stems in Logan County. Trace numbers found in Sedgwick, Phillips, Yuma and Washington Counties. Drought conditions delayed time of planting and amount of volunteer wheat is not sufficient to maintain a high population of hessian fly. (Colo. Ins. Sur., Sept. 21).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Continues to feed on late grain sorghum. (Kyd, Thomas, Munson). OKLAHOMA - Larval counts in late grain sorghum averaged 15 per head in field in Marshall County and 189 per head in field in Drumright area. (Vinson, Henderson, Kinzer). TEXAS - Averaged 1 per 3 heads on late grain sorghum in Comanche County. (Hawkins).

FALL ARMYWORM (Laphygma frugiperda) - ARIZONA - Infesting 35-40 percent of sorghum stalks in fields in Yuma County along with Heliothis zea. (Ariz. Coop. Sur.). INDIANA - Completely destroyed late garden sweet corn in Lafayette area. (Chandler). ALABAMA - Moderate infestations on grain sorghum in several central counties. (Grimes). GEORGIA - Moderate infestation on alfalfa in Putnam County; heavy on Coastal Bermuda grass in Baldwin, Pulaski, Wilcox and Turner Counties; and moderate on millet in Twiggs County. (Johnson).

EUROPEAN CORN BORER (Pyrausta nubilalis) - ARKANSAS - Found for first time in the following southwestern counties: Garland, Hot Springs, Ouachita, Little River, Sevier and Pike. This species has now been found in all 75 counties in the State. Infestations are very light. Larvae difficult to find in most instances. (Ark. Ins. Sur.). ALABAMA - One specimen found in grain sorghum at Auburn, Lee County; first record for the county. (Grimes).

DISTRIBUTION OF MORMON CRICKETS



..... Counties recorded in 1938.
// Other counties recorded prior to or after 1938.
— Approximate perimeter of habitat area.

Distribution Records from:
Mormon Crickets, U. S. Dept.
Agr. Tech. Bul. 3202, 77 pp.

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Continuing to increase in sorghum, statewide. In Yuma County, infestations extremely heavy some fields, with heavy honeydew deposits in the heads. (Ariz. Coop. Sur.). ALABAMA - Heavy infestations on grain sorghum in Lee and Pike Counties. (Grimes).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - TEXAS - Two grain sorghum plants found infested in Lubbock County. Reports indicate this pest is becoming serious to grain sorghum in that area. Corn fields in Lamb, Deaf Smith and Hale Counties found to be 100 percent infested. (Hawkins). LOUISIANA - Heavy infestations noted on corn in Claiborne Parish. (Spink).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - Heavy infestations noted on late corn in Grant Parish. (Spink).

ARMYWORM (Pseudaletia unipuncta) - GEORGIA - Heavy infestations on Coastal Bermuda grass in Baldwin, Bleckley, Pulaski, Wilcox and Turner Counties. (Johnson).

A GRASSWORM (Mocis sp.) - GEORGIA - Moderate infestation on alfalfa in Franklin County (Jordan); heavy infestations on Coastal Bermuda grass in Baldwin, Bleckley, Pulaski, Wilcox and Turner Counties; and heavy on millet in Twiggs County. (Johnson).

A SPITTLEBUG (undetermined) - GEORGIA - Moderate to heavy infestations on Coastal Bermuda grass in Twiggs, Mitchell, Brooks and Jenkins Counties. (Johnson).

GRASSHOPPERS - UTAH - Moderate populations present in 15,000 acres in Blue Creek area and 20,000 acres in Snowville area of Box Elder County, also in 35,000 acres in Levan Ridge area south of Nephi in Juab County. Populations largely came from weedy soil bank lands. Thirty-five acres of alfalfa seed stripped and 150 acres of new fall wheat had to be replanted at Blue Creek. (Thornley, Knowlton).

OKLAHOMA - Counts ranged 3-8 per square yard in roadside margin checked in Kiowa County and from 1-4 per square yard in pasture area surveyed in Greer County. (Hudson). NORTH DAKOTA - Adult survey indicates a buildup in grasshopper numbers in several areas of State. Light to moderate cropland infestations exist in much of the eastern half of the State, which had little or no infestations in 1958. Melanoplus femur-rubrum and M. bivittatus are dominant species in eastern section of State. Light to moderate populations, predominantly M. femur-rubrum, M. bivittatus and M. bilituratus, occur in cropland in southwestern and north-western areas. (N. D. Ins. Rpt.). TEXAS - Damaging fall sown grain in Deaf Smith County. Several species observed damaging outside rows of grain sorghum in Lamb County. (Hawkins).

WHITE GRUBS (Phyllophaga spp.) - INDIANA - Seriously damaging lawns in Peru, Miami County. Larvae one-half to two-thirds grown. (Matthew).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OREGON - Adults and nymphs found in Morrow, Wheeler and Umatilla Counties on September 22 for the second consecutive year. Total distribution may be more extensive as soon as present surveys are completed. In 1958, the aphid was found in Wasco, Sherman and Gilliam Counties, as well as Morrow and Umatilla Counties. The Wheeler County record is new. Numbers are relatively light, counts per sweep ranged 2-5 in Umatilla County, 1-5 in Morrow County and 1-2 in Wheeler County. Winged adults were noted and occasional colonies of newly deposited nymphs evident most areas. (Eppley). UTAH - Now infests all western counties of State. Populations numerous as far north as Brigham City. Detected in Cache, Duchesne and Uintah Counties. (Knowlton). COLORADO - Populations ranged 0-200 per 100 sweeps in alfalfa in Delta, Mesa, Otero, Crowley, Bent, Prowers and Pueblo Counties. (Colo. Ins. Sur., Sept. 21). NEBRASKA - Counts in Red Willow County ranged 0-50 per sweep in established alfalfa stands. Three fields of fall seeding alfalfa averaged 200-1,000 aphids per square foot, but no serious damage noted. A fungus infested 0-50 percent of alfalfa, but showed no apparent correlation with aphid populations. Counts ranged 0-15 per sweep in alfalfa fields in east, south and southeastern areas. One field in western Lancaster County averaged

30 per sweep. (Simpson, Pruess). OKLAHOMA - Counts averaged 27 per sweep in alfalfa in Bryan and Carter Counties, with no damage apparent, and averaged 150 per sweep in most untreated alfalfa fields in Murray, Garvin, McClain, Cleveland and Grady Counties. Plants in most fields checked in latter-named counties covered with honeydew and were showing effects of heavy feeding. Some controls being used in a few fields. Populations increased rapidly in these areas during past month. (VanCleave, Washum, Vinson). TEXAS - Averaged 10 per sweep in alfalfa in Deaf Smith County and 6 per sweep in Floyd County. (Hawkins). ARKANSAS - Present on alfalfa in Howard and Little River Counties. Counts averaged 4-5 per sweep on 2-3 inch plants and 30-40 per sweep on 10-12 inch plants. (Ark. Ins. Sur.). INDIANA - First specimens collected in State in 2 years on September 22. Found in Ohio and Wabash River Valleys only. Counts per 100 sweeps were as follows: Knox County 2; Gibson County 20; Posey County 75; Vanderburg, Warrick, Spencer and Perry Counties 20-40; Harrison County 150-250; Floyd County 50; and Clark County 30. (Wilson).

PEA APHID (Macrosiphum pisi) - UTAH - Moderately numerous, occasionally causing light damage to alfalfa in Uintah, Duchesne, Summit, Wasatch, Salt Lake and Utah Counties. (Knowlton). TEXAS - Averaged 5 per sweep in alfalfa in Deaf Smith County and 10 per sweep in Floyd County. (Hawkins). MARYLAND - Averaged 50-150 per sweep on alfalfa at Middletown, Frederick County. (U. Md., Ent. Dept.). RHODE ISLAND - Moderate populations on alfalfa; no alates found per 100 sweeps. (Hansen).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - ARIZONA - Infestations medium to heavy in southeast, with considerable damage noted in some fields. Medium infestations in Parker area of Yuma County averaged 12 per 10 sweeps. (Ariz. Coop. Sur.). UTAH - Populations light, but persist in alfalfa fields in Uintah, Duchesne, Summit, Wasatch, Utah and Millard Counties, 1-3 per 10 sweeps. (Knowlton). OKLAHOMA - Light in alfalfa in central and south central areas. (VanCleave, Washum, Vinson). DELAWARE - Common, 3-10 per sweep, in alfalfa in New Castle County and present in Kent County. (Burbutis, Mason).

BEEET WEBWORM (Loxostege sticticalis) - CALIFORNIA - Light infestations on alfalfa in Lancaster area, Los Angeles County. (Cal. Coop. Rpt.).

GARDEN WEBWORM (Loxostege similalis) - TEXAS - Averaged 1 per 5 sweeps in alfalfa in Deaf Smith County and 3 per 5 sweeps in Floyd County. (Hawkins). INDIANA - This species and Caenurgina crassiuscula ranged 1-3 per sweep on alfalfa and clover in counties along the Ohio River. (Wilson).

A SOD WEBWORM (Crambus sp.) - RHODE ISLAND - Moths abundant in South Kingstown. (Kerr).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Larvae present on soybeans in New Castle and Kent Counties. (Burbutis, Mason). ARKANSAS - Light in alfalfa fields, averaged 1 per 10 sweeps. (Ark. Ins. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - TEXAS - Averaged 2 per sweep in alfalfa in Deaf Smith and Floyd Counties. (Hawkins). OKLAHOMA - Counts averaged 0.8 per sweep in alfalfa in central and south central areas. Heaviest populations noted in south central area. (VanCleave, Washum, Vinson). ARKANSAS - Averaged 2-3 per sweep in short, recently-cut alfalfa, while infestations ranged 15-18 per sweep in fields with taller plants. (Ark. Ins. Sur.). MISSOURI - Counts ranged 0-3 per foot of row in soybeans in southeastern area. (Kyd, Thomas, Munson). DELAWARE - Larvae numerous, 2-3 per sweep, in alfalfa in New Castle County and prevalent, with one per sweep, in Kent County. Larvae present on soybeans over State. (Burbutis, Mason).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Causing severe damage to alfalfa in El Centro area, Imperial County. (G. D. Peterson, Sept. 18).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ARIZONA - Heavy infestations in some Maricopa County alfalfa fields, with considerable foliage damage evident. Counts averaged 12-20 larvae per 10 sweeps. (Ariz. Coop. Sur.). DELAWARE - Present in alfalfa in New Castle and Kent Counties. (Burbutis, Mason). PENNSYLVANIA - Destroying a new seeding of alfalfa in Lancaster County. (Gesell).

CLOVER SEED CHALCID (Bruchophagus gibbus) - NEVADA - Damage to alfalfa seed fields considerably heavier than in 1958 in Pahrump Valley, Nye County. Adults extremely numerous in this area at present. (Bechtel, Lauderdale, Zoller).

ALFALFA WEEVIL (Hypera postica) - RHODE ISLAND - One adult and 5 nearly mature larvae collected in 100 sweeps in South Kingstown field. Populations remained negligible all season. (Hansen).

A WEEVIL (undetermined) - NEBRASKA - Found in alfalfa, averaging 2 per sweep in Lancaster County. (Simpson).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NEBRASKA - Adults ranged from less than one to one per sweep in alfalfa in eastern, southern and southeastern areas. (Simpson, Pruess). DELAWARE - Adults present on soybeans and alfalfa throughout the State. (Burbutis, Mason).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - RHODE ISLAND - One adult per 100 sweeps in alfalfa at Kingston. (Hansen).

LYGUS BUGS (Lygus spp.) - UTAH - All stages still numerous in alfalfa in Cache, Box Elder, Weber, Davis and Salt Lake Counties. (Knowlton). NEBRASKA - L. lineolaris averaged 7 per 10 sweeps in alfalfa in east, south and southeastern areas. (Simpson). DELAWARE - L. lineolaris adults ranged from present to prevalent in alfalfa in Kent and New Castle Counties. (Burbutis, Mason).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - NEBRASKA-- Fields averaged 1 per sweep in Red Willow County. (Pruess).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Counts averaged 2 per sweep in alfalfa in central and south central areas. Heaviest populations noted in south central area. (VanCleave, Washum, Vinson). TEXAS - Infestations averaged 2 per 5 sweeps in alfalfa in Deaf Smith County and 4 per 5 sweeps in Floyd County. (Hawkins). ARKANSAS - Averaged 1.8 per sweep in alfalfa fields with short plants and 2.5 per sweep in fields with taller plants. (Ark. Ins. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - RHODE ISLAND - Third generation heavy in forage legumes and grasses in South Kingstown. (Kerr).

LEAF MINERS - UTAH - Present, but very light, in Millard County alfalfa seed fields. (Knowlton).

GRAY GARDEN SLUG (Deroceras reticulatum) - IDAHO - Abundant in red clover field at Middleton. Counts ranged 10-20 per plant, averaging 3 per plant. Eggs averaged 10 per plant, but ranged to above 100 per plant. (Waters).

GARDEN SPRINGTAIL (Bourletiella hortensis) - NORTH CAROLINA - Numerous in an alfalfa field in Wake County. (Gast, Wray, Apr. 21).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - DELAWARE - One larva found in alfalfa field in New Castle County, the first record in the State this year. (Burbutis, Mason). GEORGIA - Moderate infestation on alfalfa in Putnam County. (Johnson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSOURI - Counts ranged 1-4 per foot of row in soybeans in southeastern area. (Kyd, Thomas, Munson).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults and nymphs numerous on soybeans and present on alfalfa over the State. (Burbutis, Mason).

GREEN STINK BUG (Acrosternum hilare) - MISSOURI - Nymphs becoming common in soybeans in southeastern area. (Kyd, Thomas, Munson).

A WHITEFLY (Trialeurodes abutilonea) - MARYLAND - Heavy on soybeans at Easton, Talbot County, on September 10. Det. L. M. Russell. (U. Md., Ent. Dept.).

LEAF-FOOTED BUG (Leptoglossus phyllopus) - LOUISIANA - Heavily infesting field peas in Webster, Ouachita and Claiborne Parishes. (Spink).

SOUTHERN GREEN STINK BUG (Nezara viridula) - LOUISIANA - Heavily infesting field peas in Webster, Ouachita and Claiborne Parishes. (Spink).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Larval damage to pegs and nuts on peanut plants ranged 3-51 percent in Frio County; some fields seriously damaged. (Harding).

GRANULATE CUTWORM (Feltia subterranea) - CALIFORNIA - Heavy populations occurring in dichondra lawns in Riverside, Riverside County. (Cal. Coop. Rpt.).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - PENNSYLVANIA - In apple orchards in western area where proper sprays were not applied, infestations were 100 percent. (Udine). RHODE ISLAND - Especially severe in home fruit plantings, many trees producing no maggot-free fruit. (Hansen).

PACIFIC FLATHEADED BORER (Chrysobothris mali) - OREGON - Larvae found locally infesting apple nursery stock (40 percent infestation) close to a wooded area near Keizer. (Jones). Chrysobothris sp., probably mali, found destroying young prune trees and apple seedlings around Milton-Freewater. About 10 to 20 percent of seedlings in one young apple orchard show damage. (Brown).

RED-HUMPED CATERPILLAR (Schizura concinna) - PENNSYLVANIA - Defoliating untreated apple trees in Bedford County. (Udine).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Outbreak on apples in Delta County; 40-60 per leaf. (Colo. Ins. Sur., Sept. 21).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Larvae damaged plums and prunes rather severely in Milton-Freewater area; present in about 20 percent of harvested fruit. (Brown). CALIFORNIA - Light on peaches in Banning, Riverside County. (Cal. Coop. Rpt.).

LESSER PEACH TREE BORER (Synanthedon pictipes) - LOUISIANA - Heavy infestations in peach trees in Lincoln Parish. (Spink).

PEACH TREE BORER (Sanninoidea exitiosa) - LOUISIANA - Heavy infestations in peach trees in Lincoln Parish. (Spink).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MISSISSIPPI - Several cases of damage reported from West Point, Shelby and Gunnison. (Hutchins).

SAN JOSE SCALE (Aspidiotus perniciosus) - LOUISIANA - Heavy infestations on peach trees in Lincoln Parish. (Spink).

PEAR PSYLLA (Psylla pyricola) - CALIFORNIA - Medium infestation on pears in Atherton, San Mateo County. (Cal. Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Damaging black walnuts in Ogden-Plain City area of Weber County. Detected for first time in Davis County, at Farmington. (Knowlton).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Some pecan trees have been completely defoliated in Goliad County. (Jones, PPC). LOUISIANA - Heavy infestations in East Baton Rouge Parish on pecans. (Spink).

APHIDS - ARIZONA - An undetermined species is medium to heavy on pecan trees, statewide. (Ariz. Coop. Sur.). NEW MEXICO - Monellia costalis and Melanocallis caryaefoliae light to moderately heavy on pecans near Las Cruces, Dona Ana County. (N. M. Coop. Rpt.).

COTTONY-CUSHION SCALE (Icerya purchasi) - CALIFORNIA - Medium on citrus in Mokelumne Hill, Calaveras County. (Cal. Coop. Rpt.).

GRAPE BERRY MOTH (Paralobesia viteana) - RHODE ISLAND - Much damaged fruit, especially in inadequately treated home plantings. (Hansen).

RASPBERRY ROOT BORER (Bembecia marginata) - OREGON - Began laying eggs during first 10 days of September in Willamette Valley. (Rosenstiel).

TRUCK CROP INSECTS

TOMATO FRUITWORM (Heliothis zea) - DELAWARE - Larvae present in one large planting of turnips in New Castle County. (Burbutis, Mason). MICHIGAN - Young larvae attacking late tomatoes about stem end of fruit, south of a line from Muskegon to Saginaw. (Hutson). COLORADO - Eggs on tomato plants averaged 14.7 per 100 leaves on September 15, and 8.8 on September 19 in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur.) NEW MEXICO - Occasional larvae found damaging lettuce in Dona Ana County fields. (N. M. Coop. Rpt.). CALIFORNIA - Numerous in tomato fields during September where control measures were inadequate. (R. E. Campbell).

BEE T ARMYWORM (Laphygma exigua) - CALIFORNIA - Became numerous in tomato fields during September. (R. E. Campbell). Caused severe damage to asparagus ferns in Solano County. (R. D. Carter).

TOBACCO HORNWORM (Protoparce sexta) - CALIFORNIA - Numerous tomato fields infested in Orange County, especially where control measures have been poor or too few. (R. E. Campbell).

POTATO TUBERWORM (Gnorimoschema operculella) - CALIFORNIA - Present in tomato fields in Orange County, with heavy infestations in a few fields. (R. E. Campbell).

TOMATO RUSSET MITE (Vasates lycopersici) - UTAH - Damaging more than one acre of tomatoes at Syracuse, Davis County. (Dorst, Knowlton).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Colonies very heavy in some pepper fields in Sussex County. (Burbutis, Mason).

PEPPER WEEVIL (Anthonomus eugeni) - CALIFORNIA - Infesting pepper fields in central Orange County for the first time in about 10 years. (R. E. Campbell).

COWPEA CURCULIO (Chalcodermus aeneus) - MARYLAND - Adults emerging from soil near blackeyed peas at Lexington Park, St. Marys County. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MICHIGAN - Second-generation larvae unusually abundant in the "colored" bean area about Stanton, Montcalm County. (Hutson);

LIMA-BEAN POD BORER (Etiella zinckenella) - CALIFORNIA - Damage is general in Orange County and running very high in some fields. (R. E. Campbell).

A LEAF MINER (Liriomyza sp.) - CALIFORNIA - Heavy infestations on red kidney beans in Ione, Amador County. (Cal. Coop. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Adults present on lima beans, beets and turnips in New Castle County and common on lima beans in Kent County. (Burbutis, Mason).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Larvae fairly common in one large turnip planting in New Castle County. (Burbutis, Mason). VIRGINIA - Still present and causing damage in Northampton County. Considerable disease present and is gradually spreading. A polyhedrosis virus has almost completely controlled infestations in Exmore area. (Hofmaster). TEXAS - Light on cabbage in Zavala and Dimmit Counties. (Harding, Hawkins). Eggs light and scattered on lettuce leaves in Deaf Smith County. Constant controls holding infestation in check. (Hawkins). NEW MEXICO - Larvae continue to be a problem in Dona Ana County lettuce fields. (N. M. Coop. Rpt.). CALIFORNIA - Damaging cantaloups in the Antelope Valley by feeding on surface of melons and producing unsightly scars. (R. E. Campbell).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Active in turnips and beets in Lee County. (Ruffin).

CABBAGE WEBWORM (Hellula rogatalis) - CALIFORNIA - Larvae heavy on radishes in National City, San Diego County. (Cal. Coop. Rpt.).

PICKLEWORM (Diaphania nitidalis) - MARYLAND - Infesting garden squash at Brinklow in Montgomery County. (U. Md., Ent. Dept.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - DELAWARE - Adults common on pumpkin squash in Kent and Sussex Counties and present on lima beans in Kent County. (Burbutis, Mason).

MELON APHID (Aphis gossypii) - DELAWARE - Colonies numerous on leaves of pumpkin squash in Kent County and showing a buildup in numbers. (Burbutis, Mason).

POTATO APHID (Macrosiphum solanifolii) - DELAWARE - Colonies numerous on pumpkin squash leaves in Kent County, with many alate forms present. Colonies prevalent on same host in Sussex County. (Burbutis, Mason).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults and nymphs remain common on pumpkin squash in Kent and Sussex Counties. (Burbutis, Mason).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Adults and nymphs prevalent on pumpkin squash leaves in Kent and Sussex Counties, with a general increase in numbers noted. (Burbutis, Mason).

POTATO PSYLLID (Paratrioza cockerelli) - UTAH - Adults ranged 1-3 per 100 sweeps on blossoming rubber rabbitbrush (Chrysothamnus nauseosus) in Delta-Fillmore area of Millard County. (Knowlton).

SUGAR-BEET ROOT APHID (Pemphigus betae) - NORTH DAKOTA - Scattered light to heavy infestations reported in sugar beet fields in northern Red River Valley counties. Root injury severe in a few fields. (N. D. Ins. Rpt.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - TEXAS - Fields of carrots in Deaf Smith County estimated to be 25 percent damaged in some cases by virus of aster yellows, transmitted by this species. (Hawkins).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - NEVADA - Light infestation in a one-acre vineyard in Las Vegas, Clark County. This is the first record for the State. (Bechtel, Lauderdale, Lee).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OREGON - Found in strawberries, infesting 2 new fields in Salem area. Buildup less than at this time in 1958. (Larson).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - LOUISIANA - Percent infestation ranged 8-56 and averaged 21 in 70 cotton fields in Ouachita Parish; ranged 14-38 and averaged 27 in 11 fields, Franklin Parish; and ranged 4-53 and averaged 21 in 68 fields in Tensas Parish. (Spink).

COTTON LEAFWORM (Alabama argillacea) - ALABAMA - An extremely heavy infestation observed on cotton in Houston County. (Grimes).

BOLLWORM (Heliothis zea) - CALIFORNIA - Continues to occur in some late cotton fields in the San Joaquin Valley. (T. F. Leigh). Hatching continues and control necessary in some areas in Imperial County. (G. D. Peterson). NEVADA - Number of bolls infested by this species is approximately 3 times greater than in previous years. (Coop. Rpt.). ARIZONA - Light to medium in cotton statewide, with some damage occurring, especially in late-planted fields. (Ariz. Coop. Sur.). LOUISIANA - Infestations light in Ouachita, Franklin and Tensas Parishes. (Spink).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Infestations remain heavy in some central area cotton fields, with severe foliage damage in some cases. In Yuma County, infestations decreasing rapidly and are low most cases. (Ariz. Coop. Sur.). CALIFORNIA - Numbers remain high, particularly in the south end of Imperial County. Some fields severely damaged due to delayed treatment. (G. D. Peterson).

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Light trap and green boll surveys were negative in Pahrump Valley, Nye County. Light trap surveys remain negative in Moapa Valley, Clark County, with green boll survey still to be conducted. (Coop. Rpt.). ARIZONA - Two larvae collected off lint cleaners in short staple gin in Graham County on September 20. One larva found and traced to a field near Florence in Pinal County, where larval exit holes were found in bolls. (Ariz. Coop. Sur.). One larva found September 24 in gin trash from 33 acres of cotton in Arizona State Prison Farm, 2-1/2 miles northeast of Florence, Pinal County, one mile northwest of 1958 infestation. (PPC). NEW MEXICO - Few fields in southeastern corner of Dona Ana County heavily infested, averaging about 75 percent. Some spots near 100 percent infested with 2-8 larvae per boll. Infestations much lighter in adjoining fields north of this area. (N. M. Coop. Rpt.). OKLAHOMA - Inspections in lint cleaners in cotton gins indicated infestations present in Tillman, Jackson, Harmon, Caddo and Grady Counties and very light populations present in Lincoln, Okfuskee, Okmulgee, Hughes, Wagoner and Muskogee Counties. (PPC, State Dept. of Agr.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Light to medium infestations in cotton statewide. Some fields in Parker area of Yuma County are heavily infested with migration occurring between fields. (Ariz. Coop. Sur.). CALIFORNIA - Heavy hatching continues, with severe injury noted in some fields in Imperial County. (G. D. Peterson).

A SPIDER MITE (Tetranychus cinnabarinus) - ARIZONA - Light infestations on cotton in Yuma County. (Ariz. Coop. Sur.).

APHIDS - CALIFORNIA - Present most cotton fields, some honeydew deposits on lint. Control has been necessary in the San Joaquin Valley. (T. F. Leigh). NEW MEXICO - Light to heavy infestations of Aphis gossypii in Dona Ana County cotton fields. Honeydew becoming a serious problem in several fields. (N. M. Coop. Rpt.).

STINK BUGS - CALIFORNIA - Damaging levels persist in many fields, but reproduction appears to be dropping off in Imperial County. (G. D. Peterson).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

NANTUCKET PINE MOTH (Rhyacionia frustrana) - ALABAMA - Caused moderate damage on 50 acres of a 3-year-old loblolly plantation in Lee County. (Anderson).

PINE WEBWORM (Tetralopha robustella) - WISCONSIN - Remains active but generally light throughout Polk County and southern Burnett County. No serious defoliation has been found. (Wis. Coop. Sur.).

A GELECHIID (Battaristis vittella) - PENNSYLVANIA - Reared from dead shoot of Table-Mountain pine in Franklin County, September 24. Det. J. F. G. Clarke. (Drooz).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ARKANSAS - Small, localized infestations in cutting areas slowly increasing. TEXAS - Continues a problem in many cutting areas in eastern part of the State. LOUISIANA - Remains a problem in many cutting areas. MISSISSIPPI - A continuing problem in many cutting areas. ALABAMA - In many cutting areas, this species is still a problem. (So. For. Pest Rpt., Sept. 16). Activity reported to have increased in Winston and Lawrence Counties. (Emery).

TURPENTINE BEETLES - TEXAS - Activity has increased in Hardin, Liberty, Polk and Tyler Counties. (Young).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Has continued to increase on industrial lands in Hardin County and has appeared in Liberty County. Now occurs over larger and less accessible area in southeast portion of State than in 1958. (So. For. Pest Rpt., Sept. 16). Continued in epidemic proportions; 19 new spots located by aerial reconnaissance during August. Fewer trees per spot being found than formerly. Abundant rain hampers control; 24 spots lack control. (Young). ALABAMA - Relatively unimportant but potentially dangerous. (So. For. Pest Rpt., Sept. 16).

IPS BEETLES (Ips spp.) - ARKANSAS - A dangerous potential exists in windthrown trees and logging slash in sale areas on the Ozark National Forest. Possibility of beetle dispersal to standing timber will depend largely on rainfall, residual stand vigor and the rapidity of salvage of infested wind-damaged material. TEXAS - High concentrations on some National Forests in eastern part of State; otherwise light. LOUISIANA - Less active than usual. MISSISSIPPI - Not as active as usual. ALABAMA - More prevalent than in 1958, but not as serious. (So. For. Pest Rpt., Sept. 16). Activity increased in Winston and Lawrence Counties. (Emery).

INTRODUCED PINE SAWFLY (Diprion similis) - WISCONSIN - Parasitism and disease appear to be exerting a considerable amount of control on populations of this species in Polk and Burnett Counties. Defoliation of white pine is barely noticeable as yet this year. (Wis. Coop. Sur.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - ARKANSAS - Infestations scattered, with negligible damage. TEXAS - In eastern portion of the State, this species is moderately severe in many young plantations and natural reproduction. LOUISIANA - Severe in young plantations and required control. (So. For. Pest Rpt., Sept. 16). DELAWARE - Larvae feeding on white pine in New Castle County. (Burbutis, Mason).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - INDIANA - Activity continues at La Porte, La Porte County. (Schuder).

A PINE SAWFLY (Neodiprion exitans) - TEXAS - By July, stands of loblolly pines, severely defoliated in the fall of 1958, were again threatened. Approximately 17,000 acres of the more heavily infested timber were treated during July and August. A larval disease, probably a virus, spread rapidly through the treated and untreated areas. The dual action of controls and disease should reduce the population to a low level, but the area should be watched for a possible buildup again in the fall and in 1960. (So. For. Pest Rpt., Sept. 16).

LOCUST LEAF MINER (Chalepus dorsalis) - PENNSYLVANIA - Activity noted on black locust in Beaver County. (Yackley). Common on chestnut and scarlet oaks in Perry County. Larvae have been attacked by a tachinid that oviposits near the head of its host. (Drooz). Heavy on black locust in Washington County. (Slesman).

MAPLE TRUMPET SKELETONIZER (Epinotia aceriella) - INDIANA - Common on sugar maples in La Porte County. (Schuder). PENNSYLVANIA - Damage to sugar maples causing concern to producers in Somerset County. (Udine). Heavy on same host in Bedford, Erie and Somerset Counties. (Jeffery).

FALL WEBWORM (Hyphantria cunea) - PENNSYLVANIA - Heavy on deciduous trees in Beaver County. (Yackley). ALABAMA - Light infestation present on pecan and persimmon trees throughout central part of State. Larvae approximately half-grown. (Grimes). MISSISSIPPI - Second generation apparently failed to develop into a normally serious occurrence in the State. (Hutchins). TEXAS - Heavy on cottonwood trees in Dickens County. (Hawkins). OREGON - Large numbers of mature larvae falling to ground from trees seeking pupation chambers in the Willamette Valley. Numbers attracting attention of many homeowners. (Larson).

MIMOSA WEBWORM (Homadaula albizziae) - LOUISIANA - Heavy infestations of mimosas at Minden, Webster Parish, is the first record of this species in the State. (Spink). PENNSYLVANIA - Caused light to moderate damage on ornamental honeylocusts in Centre County. (Gesell). Infestations moderate wherever honeylocust is grown in southwest area. (Udine).

A WEBWORM (Tetralopha asperatella) - PENNSYLVANIA - Heavy on rock oak in Perry County. Det. A. T. Drooz. (Slesman, Guyton).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - RHODE ISLAND - Pupation completed in most areas. Severe defoliation occurred locally in the Richmond and Charlestown areas. (Hansen).

RED-HUMPED OAKWORM (Symmerista albifrons) - CONNECTICUT - Extremely numerous in localized areas about Voluntown, New London County. Caused 100 percent defoliation of oaks where trees were attacked successively by Anisota senatoria, Nadata gibbosa and S. albifrons. Det. Stephen Hitchcock. (Johnson). Heavy defoliation also occurred in Ellington, Tolland County. (Cooper).

WALKINGSTICK (Diaperomera femorata) - PENNSYLVANIA - Defoliated about 100 acres of oaks in Lycoming County. Populations light on scarlet oak in Montour and Cumberland Counties. (Drooz).

APHIDS - NEW MEXICO - Heavy infestations of undetermined species reported on American elm trees at Mesilla Park, Dona Ana County. Galls of Pemphigus populi-transversus very abundant on poplars at Deming, Luna County. (N. M. Coop. Rpt.).

EUROPEAN FRUIT SCALE (Aspidiotus ostreaeformis) - CALIFORNIA - Light infestation present on Garrya sp. (silktassel tree) in Cuyama Valley, Ventura County. This is a first record of this species in the State. (Cal. Coop. Rpt.).

JUNIPER SCALE (*Diaspis carueli*) - NORTH CAROLINA - Severe on juniper in Cleveland County. (Clapp, Farrier).

OYSTERSHELL SCALE (*Lepidosaphes ulmi*) - IDAHO - Severe infestation on blue ash trees in Twin Falls. (Gibson). PENNSYLVANIA - Severely damaged American beech trees in McKean County. Also heavy on striped, red and sugar maples, black birch and white ash trees in the same county. (Drooz).

EUONYMUS SCALE (*Unaspis euonymi*) - VIRGINIA - Heavy on euonymus in Stafford, Pulaski and Smyth Counties. (Rowell et al.). PENNSYLVANIA - Several instances of infestations on euonymus in Centre County. (Adams).

PIGEON TREMEX (*Tremex columba*) - INDIANA - Actively ovipositing in dying sugar maples at La Porte. (Schuder).

MITES - NEW MEXICO - An undetermined species damaging foliage of American elms at Mesilla Park, Dona Ana County. (N. M. Coop. Rpt.). WYOMING - *Tetranychus telarius* numerous on evergreens at Laramie, Albany County. (Davison). MICHIGAN - Populations of all species are on a downward trend. (Hutson).

AN AZALEA CATERPILLAR (*Datana major*) - LOUISIANA - Heavy on some azaleas in a yard at Baton Rouge. (Spink). ALABAMA - Moderate to heavy on azaleas in Mobile County. (Seibels).

A LEAF ROLLER (*Archips obsoletana*) - ALABAMA - Moderate on azaleas in Mobile County. (Seibels).

AZALEA LACE BUG (*Stephanitis pyrioides*) - MARYLAND - Heavy on azaleas at College Heights, Prince Georges County. (U. Md., Ent. Dept.).

CORN EARWORM (*Heliothis zea*) - PENNSYLVANIA - Damaged about 3 percent of large bloom chrysanthemum varieties in a large cloth range in Columbia County. Monetary loss rather high. All size larvae and a few unhatched eggs present in the flowers and on the petals. Rañges are about 4 acres each. (Gesell).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - CALIFORNIA - Populations fluctuated over the State, rising in some areas, dropping in others. Mosquitoes generally are more bothersome at present than earlier, probably due to recent rains and a cool period followed by high daytime temperatures. (Vect. Cont.). WISCONSIN - Populations continue to be troublesome in many sections of the State. (Wis. Coop. Sur.).

A FACE FLY (*Musca autumnalis*) - VIRGINIA - Flies, probably this species, medium on cattle and horses on 4 farms in Bland County. (Mallory). Adults practically disappeared in Bath County, probably due to cooler water. (Turner). Specimens sent on August 27 from Bath County determined by C. W. Sabrosky as this species. (Amos). OHIO - Populations on cattle in northern portion of State have built up slightly after having dropped to almost zero following two freezing nights. Populations at Wooster averaged 8 per face on September 25. (Treece). WISCONSIN - Positive determinations made from collections at Madison, Dane County. Det. C. W. Sabrosky. This is the first record for the State. (Wis. Coop. Sur., PPC). All previous surveys were negative. See CEIR 9(39) : 886. MICHIGAN - Population dwindling rapidly in all affected areas of the State. (Hutson).

TABANIDS - OKLAHOMA - Unspecified species light on cattle checked in south central area. (Vinson).

HORN FLY (Siphona irritans) - NORTH DAKOTA - Ranged 100-200 per animal on cattle in Sand Hills area of Richland and Ransom Counties. (N. D. Ins. Rpt.).

OKLAHOMA - Averaged 200 per animal on 250 beef cows checked in south central and central areas. (VanCleave et al.). MARYLAND - Abundant on cattle at Flintstone, Allegany County. (U. Md., Ent. Dept.).

CATTLE GRUBS (Hypoderma spp.) - SOUTH DAKOTA - H. lineatum found in the gullets and H. bovis in the spinal canals of cattle from Hughes County. (Rogoff).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - Fifteen authenticated reports of infestations in cattle have been received from Madison Parish, including one interception at the Tallulah station. (Spink).

FLIES - UTAH - Have been a serious problem about many communities, throughout the State, during the summer and fall. (Knowlton).

VESPIDES - UTAH - Annoying in some homes and school rooms in northern area. Yellow jackets are annoying about roadside and canyon picnic grounds in several areas of the State. (Knowlton).

DOG FLEA (Ctenocephalides canis) - NORTH DAKOTA - Infestations reported in 3 homes at Fargo. Populations appear to be highest in several years. (N. D. Ins. Rpt.).

BROWN DOG TICK (Rhipicephalus sanguineus) - TEXAS - Heavy infestations observed on dogs and around homes in Karnes County. (Jones). ALABAMA - Activity increasing in Lee County. (Grimes).

DOG FOLLICLE MITE (Demodex canis) - TEXAS - Reported by a veterinarian as particularly noticeable on dachshunds and Doberman pincers in the Crystal City area, Zavala County. Severe on cross breeds and registered dogs of these breeds recently. (Harding).

STORED-PRODUCT INSECTS

INDIAN-MEAL MOTH (Plodia interpunctella) - NEBRASKA - Heavy in shelled corn in Lincoln County and in sacked seed corn in Lancaster County. (Pruess, Kantack).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - UTAH - Severely infested seed and feed in store at Panquitch. (knowlton).

Stored-grain Insects in Ohio - Adults and larvae of Cynaesus angustus, Cryptolestes pusillus* and Pyralis farinalis abundant in dust accumulation in ventilator covers of a grain elevator at Maumee, Lucas County, September 16. (Triplehorn).

* Lefkovitch, L. P. 1959. A revision of the European Laemophloeinae (Coleoptera: Cucujidae). Roy. Ent. Soc. London Trans. 111(5):95-118

BENEFICIAL INSECTS

LADY BEETLES - OKLAHOMA - Mainly Hippodamia convergens, light (0.1 per sweep) in alfalfa fields and medium to heavy (up to 60 per 100 leaflets examined) on pecans surveyed in south central area. Averaged 2-4 per sweep in a few alfalfa fields checked in central area. (VanCleave, Washum, Vinson). NEBRASKA - Averaged less than one to 2 per sweep in alfalfa fields surveyed in east, south and southeastern areas. Mostly H. convergens. (Simpson). SOUTH DAKOTA - Moderate populations of Hippodamia sp. working in southeast area corn fields. (Mast).

A MELYRID (Collops sp.) - NEBRASKA - Averaged 0-4 per 10 sweeps in alfalfa fields surveyed in eastern, southern and southeastern areas. (Simpson).

LACEWINGS (Chrysopa spp.) - OKLAHOMA - Averaged 0.6 per sweep in alfalfa fields surveyed in central and south central areas. (VanCleave, Washum, Vinson). NEBRASKA - Counts in alfalfa fields surveyed were less than one to 2 per sweep in eastern, southern and southeastern areas. (Simpson).

NABIDS (Nabis spp.) - OKLAHOMA - Averaged 0.5 per sweep in central and south central area alfalfa fields surveyed. (VanCleave, Washum, Vinson). NEBRASKA - Averaged 0-1 per sweep in eastern, southern and southeastern area alfalfa fields surveyed. (Simpson).

FLOWER BUGS (Orius spp.) - NEBRASKA - Averaged 1-4 per sweep in alfalfa fields surveyed in eastern, southern and southeastern areas of the State. (Simpson).

MISCELLANEOUS INSECTS

AN ASH TREE BORER (Neoclytus capraea) - PENNSYLVANIA - Adults and larvae present on ash wood in a baseball bat factory in McKean County. (Adams).

ASIATIC GARDEN BEETLE (Autoserica castanea) - NORTH CAROLINA - Adult emergence nearly complete in Haywood County, August 15. (Scott).

COCKROACHES - UTAH - A problem in many homes and in some hotels and stores in Salt Lake County. Blattella germanica, Blatta orientalis and Supella supellectilium most commonly encountered. (Knowlton).

HONEY BEE (Apis mellifera) - INDIANA - Attacks on laborers at Lafayette and Napoleon necessitated emergency medical treatment. (Chandler).

CORRECTION

CEIR 9(38) : 862 - Under WEBWORMS (Loxostege spp.), note for MARYLAND is a mis-identification. The species injuring alfalfa is Nomophila noctuella.

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
ALABAMA						
Auburn 9/18	9		3		1	8
ARKANSAS						
Fayetteville 9/17-23	21	14				107
Hope 9/17-23	22	14		3		55
Kelso 9/17-23	8	14				14
Morrilton 9/17-23	45	38				202
COLORADO						
Greeley 9/9-16						11
Rocky Ford 8/27-9/8						1512
Springfield 9/4-11						6
FLORIDA						
Gainesville 9/22	1					
Quincy 9/4						3
ILLINOIS						
Urbana 9/18-24	14	15	2	13	2	199
INDIANA (County)						
Tippecanoe 9/18-20	16	4	1		1	67
LOUISIANA						
Baton Rouge 9/18-24	7	7	45			42
MISSOURI						
Columbia 9/21-26	2	13	46		31	202
Sikeston 9/5-18	84	20				258
NEBRASKA						
Alliance 9/2-8	64	14		5		54
Kearney 9/1-4	107	68		21	2	26
Lincoln 9/9-18	11	38		9		697
North Platte 9/8-14	69	83	33	14	3	4
OREGON						
Salem 9/10-24		8		14		40
SOUTH CAROLINA						
Clemson 9/19-25	91	35	49	4		41
TENNESSEE (Counties)						
Blount 9/15-21	14	24	12	1	14	41
Cumberland 9/15-21	27	4	1	1	3	32
Greene 9/15-21	60	8	2		19	25
Johnson 9/15-21	56	28	18	12		11
Madison 9/15-21	52	36	4	2	10	62
Maury 9/15-21	42	34	18		20	90
Monroe 9/15-21	28	12			16	112
Robertson 9/15-21	10	6			8	68
TEXAS						
Brownsville 9/15-18	1		40		4	1
Waco 9/19-25	154	6		97		321

ADDITIONAL COLLECTIONS - VELVETBEAN CATERPILLAR (*Anticarsia gemmatalis*) - LOUISIANA,
Baton Rouge (9/18-24) - 39.

CHANGES IN FAMILY NAMES IN DIPTERA

As the result of a decision made by the International Congress of Zoology at Copenhagen in 1953, and confirmed at the next Congress, at London in 1958, it became permissible to use a family name based upon a generic name in synonymy. This allows the return to the long established family names based on the generic names of Meigen 1803, most of which were synonymized under the generic names of Meigen 1800. The names now being used by the dipterists of the Entomology Research Division, with their equivalents (in parenthesis), are as follows:

Anisopodidae (Sylvicolidae)	Platypezidae (Clythiidae)
Cecidomyiidae (Itonididae)	Ptychopteridae (Liriopidae)
Ceratopogonidae (Heleidae)	Scatomyzidae (Scopeumatidae)
Chironomidae (Tendipedidae)	Scenopinidae (Omphralidae)
Lonchopteridae (Musidoridae)	Sciaridae (Lycoriidae)
Micropezidae (Tylidae)	Tachinidae (Larvaevoridae)
Mycetophilidae (Fungivoridae)	Trichoceridae (Melusinidae)
Pipunculidae (Dorilidae)	Xylophagidae (Erinnidae)

(Entomology Research Division)

INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

An abundance of eggs and larvae of a WHITEFLY (Orchamoplatus mammaeferus (Q.&B.)), the main pest of orange in the Cook Islands and occurring on breadfruit in the Society Islands, on leaves of Codiaeum cuttings in baggage from Fiji at Honolulu on November 7, 1958; larvae of a FRUIT FLY (Anastrepha sp., prob. fraterculus (Wied.)) in coffee cherries in baggage from Colombia at Miami on June 25; larvae of MEDITERRANEAN FRUIT FLY (Ceratitis capitata) three times, once in tangerines from Italy in baggage destined for Texas, once in figs from the same country in baggage destined for Florida, both at New York International Airport on March 4 and 8, respectively, and once in coffee cherries in baggage from Hawaii at San Pedro on May 30; adults and larvae of a BOSTRYCHID (Heterobostrychus brunneus (Murray)), a severe wood-boring pest which is widespread in Africa, in root of Sagara xanthorxyloides, also in wood containers, in cargo from Nigeria at New York on July 1; a larva of a WEEVIL (Anthonomus sp.) on strawberry plants in cargo from Japan, the species of which may have been A. bisignatus Roel. which is an important strawberry weevil in Japan, at Seattle on May 21; and larvae of PINK BOLLWORM (Pectinophora gossypiella) in okra in cargo from Haiti at New York on February 20. (Plant Quarantine Division).

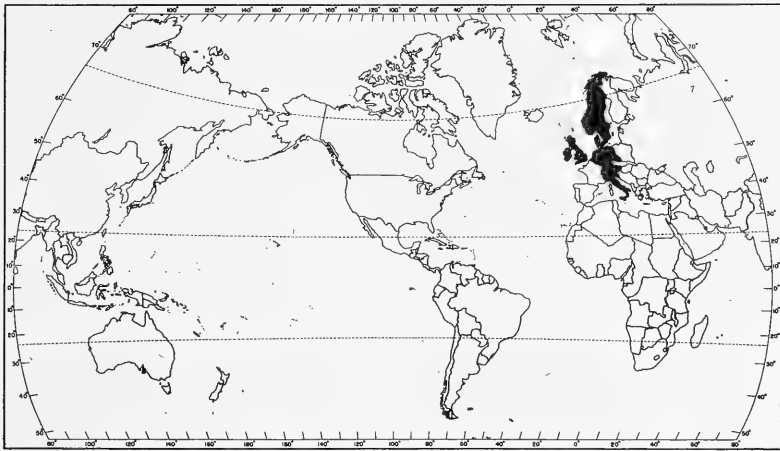
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

CABBAGE LEAF MINER (Phytomyza rufipes Meig.)

Economic Importance: Larvae of this agromyzid cause serious damage to young crucifers, especially cauliflower and cabbage in England. In 1935 young cauliflower plants in German Silesia were infested by 20 to 25 larvae each. The larvae mine in the midribs of cauliflower leaves but the most serious damage to young plants is caused by larvae boring in the heads. In mature plants, injury may occur in the leaf stalks, but does not extend to the stems.

Hosts: Attacks crucifers, especially cauliflower and cabbage in England. Also damages horseradish, rape, endive, kohlrabi and turnip. Apparently of little importance on wild host plants.

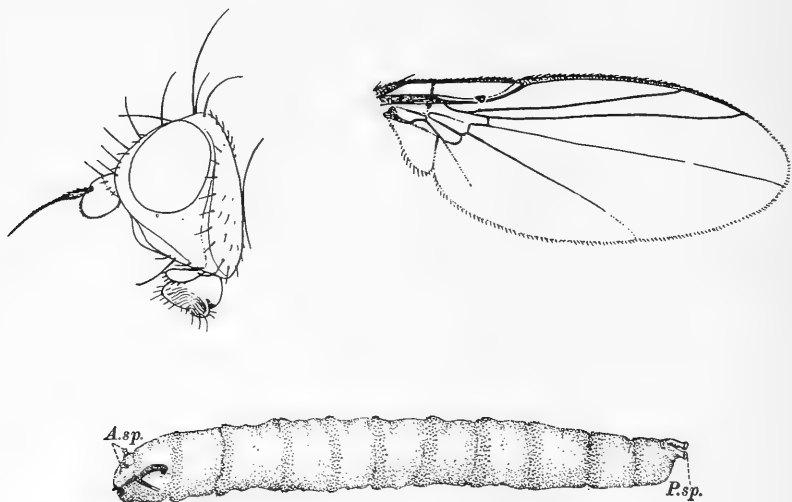
Distribution: Recorded in Great Britain, Ireland, Netherlands, Belgium, Germany, Denmark, Norway, Italy, Austria, Sweden, Switzerland and Silesia (Poland, Czechoslovakia).



General Distribution of Phytomyza rufipes

Life History and Habits: There are apparently 3 or 4 generations a year in England, adults being common from May until October. Eggs are inserted in the tissue of the leaf blade of host plants, the place of oviposition being marked by a small whitish ring. The larvae live mostly in the midrib and leaf bases, occasionally being found in the stem and growing points of young plants. The winter is passed in the pupal stage in the soil.

Description: **ADULT - Male:** Head brownish with some white markings around the eyes; bristles sparse; a small black raised area with spines situated between the eyes; antennae very short and broad, yellow; aristaе long and bare. Thorax grayish with a number of long bristles sparsely set. Four pairs of long bristles form two ill-defined rows down the center of the dorsum; scutellum large. Halteres yellowish-white. Abdomen grayish, thickly set with bristles. Wings with brown veins. Legs brown. **Female:** Antennae black except for the extreme edge which is yellow. Length 4 mm. **LARVA -** Smooth, shining, with complete absence of tubercles; each segment in mature larva is strongly differentiated by concentric rings of small spines surmounting each segmental swelling, ventrally. The anterior spiracles stand well out from the body, and the posterior spiracles are directed downwards and backwards, forming a distinctive character by which the larva may be identified. Length 6-7 mm. **PUPARIUM -** Light brown, slender; most of larval characteristics are still visible, especially the spiracles. Length 4 mm. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(40):10-2-59.



Head, Wing and Mature Larva of Phytomyza rufipes
(Greatly Enlarged)

Figures (except map): Head and wing from Lindner, E. 1938. Die Fliegen der Palaearktischen Region 6(94/96):465-570. Larva from Smith, K. M. 1931. A Textbook of Agricultural Entomology. 285 pp., Cambridge.

Major reference: Smith, K. M. 1931. A Textbook of Agricultural Entomology. 285 pp., Cambridge.

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Cooperative

**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington, 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

HESSIAN FLY survey in Nebraska is reported. (p. 913). Grubs of NORTHERN MASKED CHAFER are present in destructive numbers in area from Cincinnati to Akron and Steubenville in Ohio; WHITE GRUBS of undetermined species locally abundant in lawns and grasses in Barnwell County, South Carolina; and JAPANESE BEETLE grubs causing serious damage to lawns in Scranton area of Pennsylvania. (pp. 913,914).

Infestations of ALFALFA CATERPILLAR and several other lepidopterous pests caused considerable damage to alfalfa in several southern counties in New Mexico. Many growers treating. In Arizona, medium to heavy infestations of alfalfa caterpillar continue. (p. 914).

PACIFIC FLATHEADED BORER larvae damaged 10-15 percent of young peach and apple trees in orchards close to forested areas in Klamath Falls area of Oregon. (p. 916).

PINK BOLLWORM heavy in cotton field near Eloy in Pinal County, Arizona; populations considerably lower throughout Oklahoma than at same time in 1958. (p. 917). COTTON LEAF PERFORATOR continues heavy in cotton in areas of Arizona and California. (p. 918).

NANTUCKET PINE MOTH reported heavy in Richmond County, North Carolina, and in area of McCurtain County, Oklahoma. IPS BEETLES damaging pines in areas of North Carolina. (p. 918). The 1959 defoliation by Neodiprion pratti in Maryland, Virginia and North Carolina is reported. (pp. 919, 920). FALL WEBWORM continues serious in New Mexico and is extremely common in Clearwater area of Idaho. WALKINGSTICK caused heavy defoliation of pin oak forests on 10,000 acres in Wisconsin. (p. 920). An AZALEA CATERPILLAR (Datana major) is causing increasing damage to azaleas in Mobile County, Alabama, and is feeding on azaleas in New Hanover County, North Carolina. (p. 921).

HOUSE FLY is more abundant than any year since 1945 in Idaho and has increased in Auburn area of Alabama. (p. 921). Case of nasal myiasis in man caused by SCREW-WORM reported in Oklahoma and two additional screw-worm infestations in calves found in Madison Parish, Louisiana. (p. 922).

Surveys for BEE MITES (Acarapis spp.) in California have been negative. (p. 922).

INSECT DETECTION: In California, walnut husk fly taken for first time in Alameda County (p. 916) and a thrips (Gynaikothrips sp.) was recorded for first time in the State (new record for the genus) (p. 921). A leaf-eating grasshopper (Dendrotettix quercus) was recorded for first time in Marinette County, Wisconsin. (p. 920).

ADDITIONAL NOTES (p. 924).

INSECTS not known to occur in the United States. (p. 925).

Reports in this issue are for the week ending October 2, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

OCTOBER 1959

The Weather Bureau's 30-day outlook for October calls for temperatures to average below seasonal normals over the western three-fourths of the Nation except for near to above normal along the West Coast and in the Gulf States. Above normal temperatures are predicted east of the Appalachians. Precipitation is expected to exceed normal over most of the Nation lying east of the Continental Divide except for near normal amounts over the upper Mississippi Valley and the extreme Southeast. Subnormal amounts are anticipated in West Coast States and near normal in unspecified areas.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING OCTOBER 5

This week was characterized by weather extremes over much of the Nation. Unseasonably cold air covered most western sections from the eastern Great Plains and western Texas to the Sierra Nevada, and unseasonably warm air prevailed from the Gulf coast and Great Lakes eastward. Excessive precipitation occurred along the slowly moving boundary of these sharply contrasting air masses from southern Texas through Oklahoma into the central Great Plains and Mississippi Valley, and along the path of hurricane Gracie in the eastern States, while snows of record proportions for so early in the season were centered in Colorado and covered sections of the surrounding states. Hurricane Gracie developed southeast of the Bahamas on September 22 in a strong easterly wave which had been observed east of the Lesser Antilles on September 18. Rapid intensification took place during the day and by 5 p.m., e. s. t., winds over a small area near the center were estimated to be 100 m.p.h. A clear-cut steering current was absent so the hurricane drifted slowly northwestward on the 23rd, northward on the 24th and then, with some loss of intensity, moved eastward for about 36 hours on the 25th and 26th. Late on the 26th a steady westward movement began and on the 28th the storm with increasing intensity, turned toward the northwest. The hurricane center passed inland at about 11 a.m., e. s. t., September 29, in the Hunting Island-Edisto Beach area, a short distance southwest of Charleston, South Carolina. Unofficial estimates of winds on the beaches in the Charleston-Savannah area were as high as 120 m.p.h., with gusts to 140 m.p.h. Tides were up to 9.7 feet above mean low water in the Charleston area and near 5 feet above normal at high tide at Savannah. Wind and water damage was widespread and extensive along the Georgia-South Carolina coast. A preliminary estimate places property and crop damage in the coastal area at over \$10 million. Maximum winds decreased rapidly as the storm moved inland, passing near Walterboro, Orangeburg, and Columbia, South Carolina. The storm, curving northward, passed through western North Carolina and West Virginia on the 30th. Winds in squalls were up to 75 m.p.h. in interior South Carolina, and 40 to 50 m.p.h., in North Carolina and Virginia, with lower winds in Pennsylvania, New York, and New England, as the storm moved through those areas on October 1. Some local wind damage was experienced as far north as Virginia, where a destructive tornado was reported near Ivy. Heavy rainfall along the storm path totaled over 6 inches throughout most of South Carolina, over 8 inches in western North Carolina, 10 inches in local areas of Virginia, 6 inches in western Maryland, 4 inches in West Virginia, and from 1 to over 2 inches in the North Atlantic and New England States. Rainfall from Gracie was beneficial in many areas in relieving extremely dry soil.

The unseasonably cold weather over the Rocky Mountain, Plateau, and Great Plains States was accompanied by clouds and frequent rain or snow over wide areas. Up to 3 feet of heavy, wet snow in Colorado caused widespread damage to powerlines

(Weather continued on page 924)

CEREAL AND FORAGE INSECTS

HESSIAN FLY (Phytophaga destructor) - NEBRASKA - Survey was conducted during period 14-26 September in 5 sections of the State in a total of 18 counties. The total number of 50-stem samples made was 33 with from 1-3 samples being made in each county sampled. The average percent of stems infested by sections was 7.8 in east, 8.4 in southeast, 5.0 in southwest, 1.0 in central and 4.0 in south. (Simpson).

GRASSWORMS (Mocis spp.) - ALABAMA - An extremely heavy infestation of M. latipes observed on millet and grasses in Lee County. Complete destruction occurred in localized areas. (Blake, Guyton, Grimes). GEORGIA - Heavy infestations of an undetermined species noted on soybeans in Baldwin County during the week ending September 18 and was reported attacking peanuts in Bleckley County during week ending September 25. Heavy on Coastal Bermuda grass in Baldwin County. (Johnson).

FALL ARMYWORM (Laphygma frugiperda) - ALABAMA - Moderate to heavy infestations on grasses and millet observed in Lee County. (Blake, Guyton, Grimes). Heavy infestations present on pasture grasses in Dallas and Wilcox Counties. (Hays). LOUISIANA - Sugarcane in 40-acre field of early summer planted cane was severely damaged and required treatment. (Spink).

EUROPEAN CORN BORER (Pyrausta nubilalis) - OHIO - Fall population shows a marked increase over 1958 in Van Wert County. Total of 24 fields of field corn intensively surveyed, averaging 48 borers per 100 plants compared with 14 per 100 plants in 1958. (Triplehorn).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - NEW MEXICO - Heavy infestation found in stalks of corn in Quay, Curry and Roosevelt Counties. (N. M. Coop. Rpt.).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - NORTH CAROLINA - In corn stalks in Pender County. (Honeycutt, Farrier).

SORGHUM WEBWORM (Celama sorghiella) - NORTH CAROLINA - Numerous locally in heads of millet in Madison County. (Jones, Rabb). OKLAHOMA - Counts averaged 10 per seed head in 2 grain sorghum fields in Choctaw County. (Goins).

SPIDER MITES - NEW MEXICO - Heavy infestations caused considerable damage to corn and grain sorghum in Roosevelt, Curry, Quay and Eddy Counties. (N. M. Coop. Rpt.).

CORN SAP BEETLE (Carpophilus dimidiatus) - CALIFORNIA - Medium infestation of larvae and adults in corn that had gone through a grain dryer in Madera County, and infesting white field corn in the field. (Cal. Coop. Rpt.).

SPITTLEBUGS - SOUTH CAROLINA - Serious outbreak on Coastal Bermuda grass in Eutawville section of Orangeburg County. (Nettles et al., Sept. 23.).

NORTHERN MASKED CHAFER (Cyclocephala borealis) - OHIO - Grubs present in destructive numbers in area from Cincinnati to Akron and Steubenville. (Polivka).

WHITE GRUBS - KANSAS - Counts of grubs in a 70-acre wheat seed bed in Ottawa County ranged 2-15 and averaged 6-8 per square foot. Dominant species was Cyclocephala immaculata. (Burkhardt, Gates). SOUTH CAROLINA - Locally abundant in lawns and grasses in Barnwell County. (Nettles et al., Sept. 23).

JAPANESE BEETLE (*Popillia japonica*) - PENNSYLVANIA - Larvae causing serious damage to numerous lawns in Scranton area of Lackawanna County. (Nichols).

ALFALFA CATERPILLAR (*Colias philodice eurytheme*) - NEW MEXICO - Light to heavy infestations in alfalfa fields in southern half of State. Average larval counts were 1-3 per 10 sweeps in Otero County, 1-4 per sweep in Chaves County, 1-5 per sweep in Eddy County and 3-6 per sweep in De Baca County. Several other pests, including *Heliothis zea*, *Loxostege* sp., *Scotogramma trifolii*, *Laphygma exigua* and *Trichoplusia ni*, have caused considerable damage to alfalfa in Chaves and Eddy Counties in combination with *C. philodice eurytheme*. Many growers have treated in this area. (N. M. Coop. Rpt.). ARIZONA - Medium to heavy infestations continuing in southeastern area alfalfa. In Greenlee County, heaviest infestations occur in fields planted in less susceptible varieties to spotted alfalfa aphid. (Ariz. Coop. Sur.). UTAH - Light to scarce in Sanpete County alfalfa fields. (Knowlton).

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) - ARIZONA - Infestations continuing heavy in many Maricopa County alfalfa fields. (Ariz. Coop. Sur.).

WEBWORMS (*Loxostege* spp.) - NEW MEXICO - *L. similalis* continues to be a minor problem in alfalfa fields near Hondo, Lincoln County. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 7.7 per sweep and 6 per foot of row in 2 alfalfa fields in Tillman County and 2 and 12 per square foot in 2 alfalfa fields in Harmon County. (Hatfield).

CLOVER SEED CHALCID (*Bruchophagus gibbus*) - UTAH - Damage to alfalfa seed fields greater than in 1958 in Millard County. (Knowlton).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - ARIZONA - Infestations increasing in central area alfalfa. Many fields planted in more susceptible varieties average 15 aphids per trifoliate leaf, with considerable honeydew deposits present. Infestations much lower in less susceptible varieties with no honeydew present. (Ariz. Coop. Sur.). NEW MEXICO - Generally light throughout most of State, with several moderate and heavy infestations found in Chaves and Eddy Counties. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 5 per sweep in 5 alfalfa fields in Kiowa, Washita and Beckham Counties (VanCleave, Frazier, Hudson); 0.6 per sweep in 2 fields in Choctaw County (Goin); 10 per sweep in field in Tillman County; and 90 per square foot of crown in a field in Harmon County (Hatfield). COLORADO - Counts 0-25 per 100 sweeps in alfalfa in Bent, Prowers, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur., Sept. 29). UTAH - Common but not abundant in alfalfa in Nephi-Levan and Mona areas of Juab County. (Knowlton, Bendixsen). Light and moderately numerous in most alfalfa fields in Juab, Sanpete and Utah Counties. (Knowlton).

PEA APHID (*Macrosiphum pisi*) - NEW MEXICO - Light to moderate infestations in southern area alfalfa fields. (N. M. Coop. Rpt.).

THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) - OKLAHOMA - Counts averaged 2 per sweep in alfalfa fields surveyed in Kiowa, Washita and Beckham Counties (VanCleave, Frazier, Hudson) and 0.8 and 2 in 2 alfalfa fields in Choctaw County (Goin).

LYGUS BUGS (*Lygus* spp.) - UTAH - Nymphs and adults numerous in alfalfa fields at Manti, Maroni and Fountain Green, Sanpete County. (Knowlton). OKLAHOMA - Counts averaged 0.5 per sweep in alfalfa fields checked in Kiowa, Washita and Beckham Counties (VanCleave, Frazier, Hudson) and averaged 0.3 per sweep in alfalfa field in Choctaw County (Goin). DELAWARE - Adults and nymphs of *L. lineolaris* common in alfalfa throughout State. (Burbutis, Mason).

RAPID PLANT BUG (Adelphocoris rapidus) - DELAWARE - Adults and nymphs present to common in the State. (Burbutis, Mason).

CORN EARWORM (Heliothis zea) - NORTH CAROLINA - Over 75 percent of soybean pods injured prior to September 17 in Edgecombe Co. by this species and Anticarsia gemmatalis. (Jones, Farrier). VIRGINIA - Medium on late soybeans in Middlesex County on September 25. (Edwards). DELAWARE - Larvae remain common on alfalfa in New Castle and Kent Counties. (Burbutis, Mason). OHIO - Conspicuous numbers present on field corn in most fields surveyed in Van Wert County. Late sweet corn severely damaged in large market garden area south of Cleveland. (Triplehorn). NEBRASKA - An occasional larva observed in sorghum fields in Johnson, Nemaha and Otoe Counties. (Simpson). OKLAHOMA - Counts averaged 0.3 per sweep in 5 alfalfa fields surveyed in Kiowa, Washita and Beckham Counties. (VanCleave, Frazier, Hudson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - DELAWARE - Larvae fairly common, 3 per 10 sweeps, in field of alfalfa in New Castle County. Present in one soybean field in New Castle County. (Burbutis, Mason). VIRGINIA - Medium on late soybeans in Middlesex County on September 25. (Edwards). NORTH CAROLINA - Caused very little soybean pod damage in Pitt, Nash, Martin and Edgecombe Counties on September 17. (Scott). Over 75 percent of soybean pods injured in Edgecombe County on September 17 by this species and Heliothis zea. (Jones). ALABAMA - Moderate to heavy infestations observed on millet and kudzu in Lee County. (Blake, Guyton, Grimes).

A STINK BUG (undetermined) - NORTH CAROLINA - Numerous on pods of soybeans in Edgecombe, Martin, Pitt and Nash Counties. (Scott, Farrier).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Larvae remain present on soybeans throughout State. In alfalfa fields, numbers decreased from northern part of State to southern part with 2 per sweep in New Castle County, 1 per sweep in Kent County and present in Sussex County. (Burbutis, Mason).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Adults abundant on soybeans throughout State, causing moderately heavy feeding injury. Adults present in Kent County and common in Sussex County on alfalfa. (Burbutis, Mason).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW MEXICO - Reports from northern part of State indicate apples being graded average 2-15 percent "wormy". Most unattended and improperly treated apple orchards in Bernalillo, Sandoval and Rio Arriba Counties have 50-98 percent infested fruit. (N. M. Coop. Rpt.). CALIFORNIA - Medium infestation of apple fruit in Paradise, Butte County. (Cal. Coop. Rpt.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - LOUISIANA - Heavy infestations observed on pears in East Baton Rouge Parish. (Spink).

FLATHEADED APPLE TREE BORER (Chrysobothris femorata) - IDAHO - Probably this species, infesting plum and apple orchards near Fruitland, Payette County. Approximately 15 percent of young apple trees on about 4 acres of orchard have been killed or severely injured. (Scott).

A LEAF SKELETONIZER (Buccalatrix pomifoliella) - WEST VIRGINIA - Injury extensive in a young apple orchard in Berkeley County. Det. H. W. Capps. (W. Va. Ins. Sur.).

PACIFIC FLATHEADED BORER (Chrysobothris mali) - OREGON - Larvae damaging young peach and apple plantings in Klamath Falls area, Klamath County. Ten to fifteen percent of trees lost in orchards close to forested areas. Damaged trees show evidence of dry conditions, especially sun scald. (Vertrees). CALIFORNIA - Medium larval infestation damaging prune trees in Red Bluff, Tehama County, and fruitless mulberry trees in Ione, Amador County. (Cal. Coop. Rpt.).

A DASCILLID (Dascillus davidsoni) - CALIFORNIA - Occurred as a heavy infestation on apricot tree roots in Los Gatos, Santa Clara County. (Cal. Coop. Rpt.).

LEAFHOPPERS - UTAH - Attacks of unspecified species on apples and grapes often severe at Logan, Cache County. (Thornley, Knowlton).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Single adult taken in fruit trap in Alameda, Alameda County, constitutes a new county record. (Cal. Coop. Rpt.)

CITRUS WHITEFLY (Dialeurodes citri) - LOUISIANA - Very heavy infestations noted on mature satsuma trees in Plaquemines Parish. (Spink).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Counts averaged one larva per nut cluster in a native pecan grove checked in Marshall County. (Vinson).

A NOTODONTID (Datana sp.) - NORTH CAROLINA - Feeding on clusters of blueberries in Jones County. (Jones, Farrier).

TRUCK CROP INSECTS

TOMATO FRUITWORM (Heliothis zea) - MARYLAND - Heavy on late tomatoes at various localities in Prince Georges County. Larvae light in pepper fruits at Forestville in same county. (U. Md., Ent. Dept.). DELAWARE - Larvae common in pepper pods and causing moderately heavy damage in a pepper field in Kent County; also common in lima beans in Sussex County and beets in Kent County. (Burbutis, Mason). COLORADO - Eggs number 4.9 per 100 tomato leaves in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Colo. Ins. Sur., Sept. 29).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Larvae common on cabbage and cauliflower in New Castle County. (Burbutis, Mason). LOUISIANA - Young cabbage plants in St. James and Lafourche Parishes are 100 percent infested. (Spink). NEW MEXICO - Infestations on lettuce in Dona Ana County appear to be much lighter. (N. M. Coop. Rpt.). ARIZONA - Larvae average one per plant in some Maricopa County lettuce fields. Egg counts high and adults numerous in and around fields. (Ariz. Coop. Sur.).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - Larvae abundant and causing severe feeding injury to young leaves of cabbage and cauliflower plants in Kent County. (Burbutis, Mason). NEW MEXICO - Damaging cabbage at Corrales, Sandoval County. (N. M. Coop. Rpt.).

CABBAGE APHID (Brevicoryne brassicae) - CALIFORNIA - A medium infestation of adults occurred on watercress (Nasturtium sp.) in Parkfield, Monterey County. (Cal. Coop. Rpt., Sept 25). NEW MEXICO - Light infestations on cabbage at Corrales, Sandoval County. (N. M. Coop. Rpt.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - DELAWARE - Larvae common in late green bean pods in Sussex County; second to fourth instars very abundant and causing very severe injury to pepper pods and plant stalks in untreated pepper fields throughout State. (Burbutis, Mason).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - DELAWARE - Adults very common on lima beans in Sussex County; present on beets in Kent County. (Burbutis, Mason).

MELONWORM (Diaphania hyalinata) - LOUISIANA - Heavy on cucumbers in Tangipahoa Parish. (Spink).

BLACK CUTWORM (Agrotis ypsilon) - NORTH CAROLINA - Larvae feeding on broccoli in New Hanover County. (Scott, Rabb).

GRANULATE CUTWORM (Feltia subterranea) - CALIFORNIA - Heavy infestation damaging radishes in National City, San Diego County. (Cal. Coop. Rpt.).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Present in large numbers on potatoes in Montrose and Delta Counties. (Colo. Ins. Sur., Sept. 29).

POTATO APHID (Macrosiphum solanifolii) - COLORADO - Present in high numbers on potatoes in Montrose and Delta Counties. (Colo. Ins. Sur., Sept. 29).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Trace numbers of nymphs found on lycium and matrimonyvine in Conejos and Saguache Counties. (Colo. Ins. Sur., Sept. 29).

BEET ARMYWORM (Laphygma exigua) - CALIFORNIA - This species, in combination with beet webworm, causing heavy to severe damage to sugar beets in El Centro area of Imperial County. This species also causing heavy damage to lettuce seedlings in same county. (G. D. Peterson).

BEET WEBWORM (Loxostege sticticalis) - CALIFORNIA - This species, in combination with beet armyworm, causing heavy to severe damage to sugar beets in the El Centro area, Imperial County. (G. D. Peterson).

GARDEN WEBWORM (Loxostege similalis) - DELAWARE - Larvae abundant in a commercial beet planting in Kent County; feeding heavily on new growth at base of plant and webbing older leaves. Some larvae found in soil. (Burbutis, Mason).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ALABAMA - Light to moderate infestations occurring on garden crops in Lee County. (Guyton).

GARDEN SYMPHYLID (Scutigerella immaculata) - IDAHO - Reported infesting a home garden at Lewiston, Nez Perce County. This is a new infestation and increases the known distribution of this pest in the Lewiston area. (Portman).

A STRAWBERRY ROOTWORM (Paria sp.) - CALIFORNIA - Medium infestation of strawberries in Los Molinos, Tehama County. (Cal Coop. Rpt.).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OREGON - Numbers in previously infested areas around Salem, Marion and Polk Counties, continue low as of October 1. (Larson).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Heavily infesting a 70-acre cotton field near Eloy in Pinal County, with 40 percent of bolls infested. Two other fields, totaling 120 acres, in same area are lightly infested. (Ariz. Coop. Sur.). OKLAHOMA - Inspections of lint cleaners and gin trash indicate that populations are considerably lower throughout the State than those encountered during 1958 at this time. (Frazier). One larva found in 40 bushels of gin trash checked from the Altus area. (Burke, Prestgrove).

COTTON LEAF PERFORATOR (*Bucculatrix thurberiella*) - ARIZONA - Infestations continuing heavy in many central area fields. (Ariz. Coop. Sur.). CALIFORNIA - Populations still building up in some fields with as much as 60-90 percent of foliage destroyed. (G. D. Peterson).

COTTON LEAFWORM (*Alabama argillacea*) - NEW MEXICO - Infestations have been heavy in Roosevelt County cotton fields, but now appear to be much lighter. (N. M. Coop. Rpt.). OKLAHOMA - Defoliated several fields of cotton in Pawnee County. A new adult generation has just emerged in the area. (Young). GEORGIA - Light infestations on cotton in southwestern area. (Jordan).

SALT-MARSH CATERPILLAR (*Estigmene acrea*) - ARIZONA - Infestations increasing slowly in most central area cotton. Some migration occurring, but damage in most cases is not heavy. (Ariz. Coop. Sur.).

FALL ARMYWORM (*Laphygma frugiperda*) - CALIFORNIA - Light infestation damaging cotton in Sanger, Fresno County. (Cal. Coop. Rpt.).

COTTON APHID (*Aphis gossypii*) - NEW MEXICO - Light to heavy infestations on cotton in Otero, Quay, Roosevelt and Lea Counties. (N. M. Coop. Rpt.). CALIFORNIA - Present in many cotton fields, but now low in numbers generally with much heavy parasitism noted. (G. D. Peterson).

STINK BUGS - CALIFORNIA - Present in most cotton fields in sufficient number to make control necessary in Imperial County. (G. D. Peterson).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

NANTUCKET PINE MOTH (*Rhyacionia frustrana*) - NORTH CAROLINA - Heavy attacks on loblolly pine, particularly on sandy soil. Occurring in natural and planted stands in Richmond County. (Boyette, Riegel, Moehler). OKLAHOMA - Heavy (averaged 24 per tree) on 200 pine trees checked in McCurtain County. Trees ranged 6-10 feet high. (Goins).

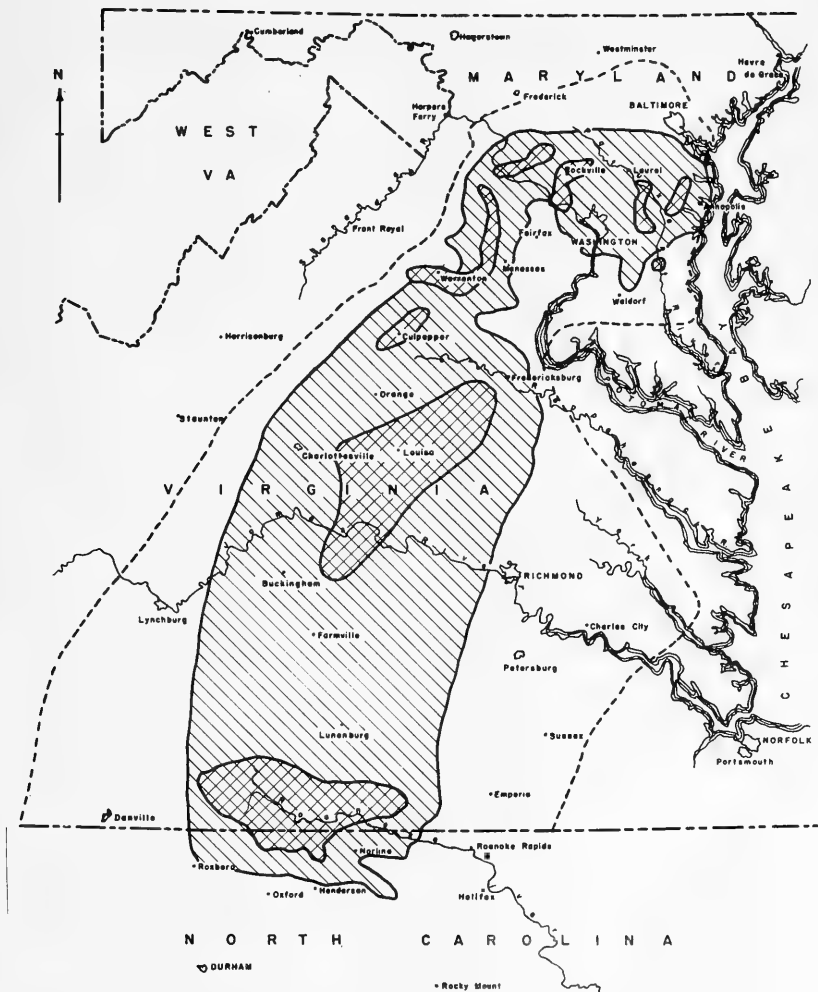
PINE WEBWORM (*Tetralopha robustella*) - MARYLAND - Larval colonies noted on loblolly pines at Oxon Hill, Prince Georges County. (U. Md., Ent. Dept.).

BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) - NORTH CAROLINA - Attacks following *Ips* spp. on small area in Lee County (Moehler) and attacking 4 trees in Nash County (Grady, Taylor).

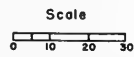
MOUNTAIN PINE BEETLE (*Dendroctonus monticolae*) - CALIFORNIA - This species, and *Ips latidens*, killing groups of ponderosa pines, up to 16 in number, in a spotty infestation in Calaveras County. Increase in infestation probably due to subdivision and building. (G. F. Roberts).

IPS BEETLES (*Ips* spp.) - NORTH CAROLINA - Attacking 15-acre slash pine plantation, following burn, in Scotland County (Howell, Riegel); caused serious killing of 4-5 acres of longleaf pine in New Hanover County (Erwin); and attack minor on loblolly pine in Nash County (Grady, Taylor). Caused mortality of longleaf and loblolly pines on 200-300 acres following fires in Wild Life area of Richmond County (Moehler); caused dying of pines in small area of Camden County, following burn (Tate); and caused mortality of 20-30 loblolly pines in Lee County (Moehler). CALIFORNIA - *I. latidens* and *Dendroctonus monticolae* killing ponderosa pines in groups up to 16 in a spotty infestation in Calaveras County. Infestation increasing, probably due to subdivision and building. (G. F. Roberts).

THE 1959 DEFOLIATION BY NEODIPRION PRATTI IN MARYLAND, VIRGINIA AND NORTH CAROLINA



- Light defoliation (5 percent or less foliage removed)
- ▨ Moderate defoliation (6-95 percent foliage removed)
- ▩ Heavy defoliation (96-100 percent foliage removed)



(NOTE: See table under N. pratti, page 920).

A PINE RESIN MIDGE (Retinodiplosis inopis) - IDAHO - Abundant in Clearwater River area of Clearwater County and causing considerable injury to lateral branch tips of ponderosa pines. (Gittins).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - NORTH CAROLINA - Few trees defoliated in Halifax, Edgecombe and Pasquotank Counties. (Overby, Grady, Taylor, Tate).

A PINE SAWFLY (Neodiprion pratti) - The estimated acreages of pine defoliated in three eastern states during 1959 is tabulated as follows (see map on page 919):

<u>Defoliation</u>	<u>N. Carolina</u>	<u>Virginia</u>	<u>Maryland</u>
Noticeable (trace-75%)	31,000		
Heavy (76-100%)	11,000		
Light (1-5%)		992,000	77,000
Moderate (6-95%)		874,000	98,000
Heavy (96-100%)		228,000	17,000
	<hr/> 42,000	<hr/> 2,094,000	<hr/> 192,000

(U. S. Forestry Service, States Cooperating)

CATALPA SPHINX (Ceratomia catalpae) - DELAWARE - All larval stages abundant on catalpa trees in northwest Kent County. Many trees have been completely defoliated. (Burbutis, Mason).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Continues serious on poplars, elms and other shade trees in Eddy, Lea, Chaves, Otero and Dona Ana Counties. (N.M. Coop. Rpt.). IDAHO - Extremely common, particularly on wild cherry trees, in the Clearwater River area. (Gittins).

A BAGWORM (Oiketicus townsendi) - NEW MEXICO - Heavily infested arborvitae during September at Roswell, Chaves County. (N. M. Coop. Rpt.).

A FLATHEADED BORER (Agrilus sp.) - PENNSYLVANIA - Killing tips of white oaks in Fulton County and chestnut oaks in Perry County. (Drooz).

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - Damaging pecan, American elm and honeylocust trees in Oklahoma city; a variety of shade trees in Elk city; and causing widespread damage in north central part of State. (Bower, Burke, Howell).

ELM LEAF BEETLE (Galerucella xanthomelaena) - UTAH - Damage in north central part of the State much less severe than in 1958. (Knowlton).

A PHYLLOXERA (Chermes sp.) - NEW MEXICO - Heavy on poplar and cottonwood trees in several areas at Roswell, Chaves County, (N. M. Coop. Rpt.).

WALKINGSTICK (Diapheromera femorata) - WISCONSIN - Aerial and ground surveys in Marinette County show about 10,000 acres of pin oak forests involved in heavy defoliation caused by this species. Defoliation on another 1,200 acres is moderate. Most of the insects have been killed by frost, but females surviving in protected places are still laying eggs. Eggs are plentiful. (Wis. Coop. Sur.)

A LEAF-EATING GRASSHOPPER (Dendrotettix quercus) - WISCONSIN - Recorded for first time in Marinette County. Numbers plentiful. (Wis. Coop. Sur.).

LEAFHOPPERS - UTAH - Unspecified species moderately numerous on silver maples at Provo, Utah County, and at Sunset in Weber County. Attacks on Virginia creeper and rose foliage often severe at Logan, Cach County. (Thornley, Knowlton).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - NORTH CAROLINA - Severe on Japanese walnut and spreading to other shrubs in ornamental planting. (Wilkins, Farrier).

A MEALYBUG (Phenacoccus sp., near defectus) - CALIFORNIA - Heavy infestation on Sedum sp. in Menlo Park, San Mateo County. (Cal. Coop. Rpt.).

A THRIPS (Gynaikothrips sp.) - CALIFORNIA - Occurred as a heavy infestation on rubber trees in a nursery property in La Mesa, San Diego County. This is the first record of the genus in the State. (Cal. Coop. Rpt.).

AN AZALEA CATERPILLAR (Datana major) - NORTH CAROLINA - Feeding on azaleas in New Hanover County. (Aycock, Farrier). ALABAMA - Damage continues to increase in all varieties of azaleas in Mobile County. (Seibels)..

AZALEA LACE BUG (Stephanitis pyrioides) - NORTH CAROLINA - Infesting azaleas in Buncombe County. (Palmer, Farrier).

EUROPEAN CORN BORER (Pyrausta nubilalis) - MARYLAND - Caused over 50 percent damage to a one and one-half acre planting of dahlias at Forestville, Prince Georges County. (U. Md., Ent. Dept.).

A NOTODONTID (Schizura ipomoeae) - OKLAHOMA - Heavy populations defoliating rose bushes in Lawton. (Hatfield).

A TREE CRICKET - ALABAMA - An unidentified species is causing light damage to bloom buds of camellias in Mobile County. The insects damage the buds by eating small holes in the center, about the time they begin to show color. Also causing some damage to tender stems by oviposition. (Seibels).

A GRASSHOPPER (Schistocerca vaga) - CALIFORNIA - Causing damage to yard plantings in Garden Grove, Orange County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Aedes sollicitans heavy on and along the coast September 25. (Usry). CALIFORNIA - Trap collections of Culex tarsalis show slight increases in central and northern areas of State. Indications for all species were varied, with an occasional high population. Annoyance light but general in central and northern areas. (Vect. Cont.).

HOUSE FLY (Musca domestica) - IDAHO - Continues to be extremely annoying in the Moscow area. More abundant in 1959 in this area than in any year since 1945. (Manis). ALABAMA - Populations have increased during past few weeks in Auburn. (K. Hays).

A FACE FLY (Musca autumnalis) - OHIO - Adults averaged 4 per face on dairy cattle at Wooster, October 2. (Treece).

STABLE FLY (Stomoxys calcitrans) - ALABAMA - Populations average 25-30 per animal on dairy cows in Lee County. (K. Hays).

HORN FLY (*Siphona irritans*) - ALABAMA - Populations increasing on cattle in localized areas of the State. Averaged 200 per animal in several herds in Wilcox, Lee and Dallas Counties. (K. Hays). OKLAHOMA - Averaged 125 per animal on 50 cows and 100 per animal on calves checked in Atoka County (Vinson) and 125 and 300 per animal in 2 herds (total of 125 cows) checked in Pushmataha County (Goin).

TABANIDS - OKLAHOMA - Undetermined species averaged 1.5 per animal on 50 cows checked in Atoka County (Vinson) and 0.1 per animal on 125 cows examined in Pushmataha County (Goin).

SCREW-WORM (*Callitroga hominivorax*) - LOUISIANA - Two additional authenticated reports of infestation involving calves have been received from Madison Parish. (Spink). NEBRASKA - Three cases reported from bovine hosts in Dawes County during August and September. A total of 17 unconfirmed cases, ranging from one to four cases per herd, reported during July from Cuming, Gage, Howard, Lancaster, Merrick and Otoe Counties. (Simpson). OKLAHOMA - Case of nasal myiasis in man reported in Cushing. Over 100 larvae were recovered. (Davidson). Two cows found to be infested in Rattan area; the first reported cases in Pushmataha County in 1959. (Goin).

SECONDARY SCREW-WORM (*Callitroga macellaria*) - NORTH CAROLINA - Larvae taken from wound of a dog in Henderson County, June 30. Det. C. W. Sabrosky. (Justice).

BROWN DOG TICK (*Rhipicephalus sanguineus*) - NORTH CAROLINA - Infestation present in a house in Halifax County. (Jones, Farrier).

STORED-PRODUCT INSECTS

SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*) - NEW MEXICO - Heavy infestations in stored cotton seed meal and rolled milo at a ranch near Crown Point, McKinley County. (N. M. Coop. Rpt.).

CONFUSED FLOUR BEETLE (*Tribolium confusum*) - NORTH DAKOTA - Home infestations reported from several locations. (N. D. Ins. Rpt.).

BENEFICIAL INSECTS

HONEY BEE (*Apis mellifera*) - CALIFORNIA - A total of 571 samples (about 17,000 individual bees) have been captured, dissected and examined in a survey for *Acarapis woodi* with negative findings. A search continues for *Acarapis* spp. (Cal. Coop. Rpt.).

A BRACONID (*Praon palitans*) - NEW MEXICO - Parasitized spotted alfalfa aphids abundant in alfalfa fields in Hagerman-Dexter area of Chaves County. (N. M. Coop. Rpt.)

MISCELLANEOUS INSECTS

JAPANESE BEETLE (*Popillia japonica*) - KANSAS - Negative results reported from traps located in Wyandotte, Leavenworth, Atchison and Riley Counties. (Guldner).

LARGER YELLOW ANT (*Lasius interjectus*) - PENNSYLVANIA - Several instances of winged forms swarming near homes in Centre County. (Gesell).

WESTERN SUBTERRANEAN TERMITE (*Reticulitermes hesperus*) - CALIFORNIA - Heavy infestation occurred in chrysanthemum roots and stems in Vallejo, Solano County. (Cal. Coop. Rpt., Sept. 25).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Anticar. gamm.	Ala. argil.	Heliothis zea vires.
ALABAMA							
Auburn 9/29	17		23		37		7 73
COLORADO							
Rocky Ford 9/11-19							1276
FLORIDA							
Gainesville 9/29							2
Quincy 9/21		8					83
ILLINOIS							
Urbana 9/25-10/1	8	17	4	4			529
KANSAS							
Garden City 9/12, 15, 16, 18, 21, 23, 25	32	46		1			2064
Hays 9/12, 15, 17, 19, 22, 24, 26, 29	7	30	17	6			322
Manhattan 9/13-30	50	10		1			2040
Wathena 9/21, 23, 25	96		18	5			412
LOUISIANA							
Baton Rouge 9/25-10/1	62	12	110	2	119	181	77
NEBRASKA							
Kearney 9/21-25	33	614	6	45			805 1
Lincoln 9/23-30	5	10					13279
North Platte 9/22-28	17	41	2	6			839
Scotts Bluff 9/4-24	62	61		27			178
OREGON							
Salem 9/24-10/2		14		5			24
SOUTH CAROLINA							
Charleston 9/21-10/4	23	57	69		183	3	67 1
Clemson 9/26-10/2	154	23	109	5		9	60
TENNESSEE (Counties)							
Blount 9/22-28	12	12	18				70
Cumberland 9/22-28	36	4					132
Greene 9/22-28	150	32	10				88
Johnson 9/22-28	381	109	18	13			90
Maury 9/22-28	16	6	16				110
Monroe 9/22-28	64	24					212
Robertson 9/22-28							69
TEXAS							
Brownsville 9/19-25	3		29			16	1
Waco 9/26-10/2	204	1		179		11540	268 10

ADDITIONAL NOTES

TEXAS - Adults of a WEEVIL (Anacetrinus deplanatus) appearing from late sorghum in McLennan County. All late grain sorghum in Brazos River bottoms is infested with SUGARCANE BORER (Diatraea saccharalis). THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) adults average 8 per 100 sweeps in Frio County peanuts. Peanut plants in Frio County 100 percent infested with RED-NECKED PEANUTWORM (Stegasta basqueella) and larvae range up to 3 per plant. A WHEAT APHID (Brachycolus tritici) found on volunteer wheat clumps near irrigation ditch in Potter County and GREENBUG (Toxoptera graminum) was found on same host in Moore County on September 29. An undetermined FLEA BEETLE caused some damage to wheat in Hutchinson, Moore and Hansford Counties. (Randolph, Harding, Daniels). Infestation of a HORNWORM (Protoparce sp.) is light but feeding damage is visible on tomatoes in Zavala County; second and third instars are present. CABBAGE LOOPER (Trichoplusia ni) caused spotted to severe damage to tomato foliage in Zavala County, with 3-17 eggs per plant present. Also damaging cabbage in same area, with control required. (Harding).

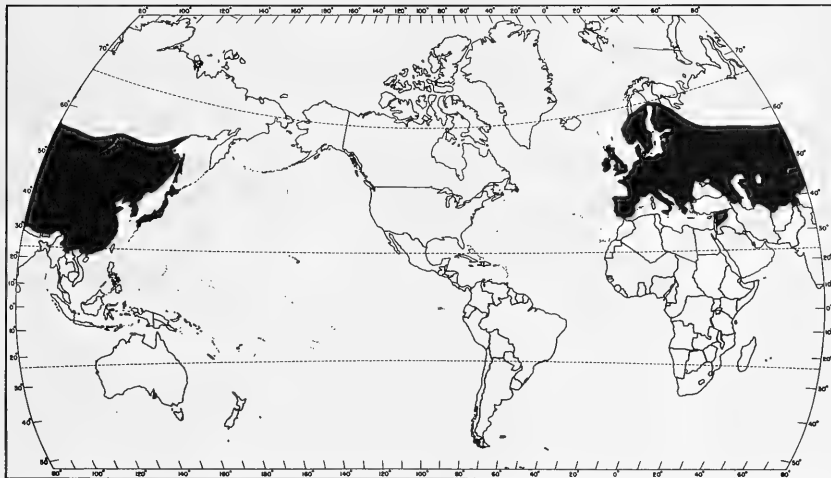
(Weather continued)

and to trees, which were still in full leaf. Snow as far south as New Mexico and Arizona generally melted as it fell, and provided beneficial moisture for winter crops and ranges. Heavy and widespread rain centered over the Texas-Oklahoma area, late in the week, reached record-breaking levels. In the Edwards Plateau section of Texas, weekly amounts in excess of 10 inches were common, and up to 18 inches in 24 hours was recorded near Cherry Springs on Saturday and Sunday. The heavy rains extended through north central Texas, where a series of damaging tornadoes occurred on Sunday, into Oklahoma, Kansas, Missouri, and Arkansas. Most areas in Oklahoma received 3 to 8 inches during the week and Vinita, in the northeastern corner of the State, recorded 17.05 inches. In Kansas where 1 to 3-inch totals were general, 4 to 5 inches fell in the south. Rain has been recorded some place in Kansas every day since September 17, and on 13 days has been almost statewide. Lighter precipitation in the northern Great Plains and upper Mississippi Valley has improved pasture and range prospects. Generally warm and dry weather over Florida, the eastern Gulf States, and the central Tennessee and Ohio Valleys was excellent for harvesting activities. Unseasonably hot temperatures in the mid-90's were as high or higher than ever before recorded so late in the season in Florida and Kentucky. Some stations in Georgia recorded 90° or above every day of the week, and 90° heat occasionally extended to Indiana, Ohio, and New York. Unusually warm nights also contributed to temperature excesses in the Northeast. Cool, cloudy, rainy weather in the Pacific Northwest early in the week was followed by clearing and warmer. Scanty rainfall totals, strong winds, and low humidities at midweek were reported from California. (Summary supplied by U. S. Weather Bureau).

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

APPLE BLOSSOM WEEVIL (Anthonomus pomorum L.)

Economic Importance: This weevil has a long history of damage to pomaceous fruit, particularly apple and pear, in Europe and Asia. Many British growers considered it one of the most important apple pests until the advent of DDT. Serious losses have been reported from several countries including France, Germany, England, Japan, China and U.S.S.R. Crop reduction of as much as 30 to 100 percent has been recorded in Germany and U.S.S.R. Investigations in Germany show that the yield of apples steadily decreases as infestation increases; some varieties yield no fruit when over 50 percent of blossoms are infested. Feeding of apple blossom weevil is especially serious in years when blossoms are light or scarce. Although A. pomorum is shown in some European literature as having been recorded in the United States, North American literature and the U. S. National Museum collection fail to verify such reports.



General Distribution of Anthonomus pomorum

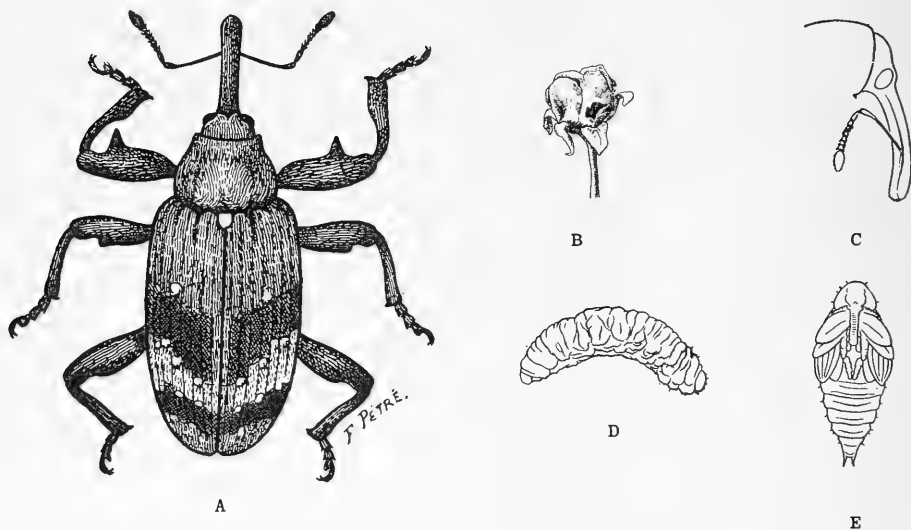
Distribution: All of Europe, across U.S.S.R. to China, Japan and Korea.

Hosts: Apple and pear are preferred. Other hosts include quince and hawthorn.

Life History and Habits: In England adults emerge from hibernation just before the green-bud stage of apple but are not very active until maximum daily temperature exceeds 50° F. The female bores into and deposits an egg in the developing flower. Each female will lay about 30 eggs. The larvae begin devouring the anthers and other internal floral parts soon after hatching. Feeding continues inside the flowers, causing the petals to wilt and die. These infested blossoms have a characteristic reddish-brown appearance and are referred to as "capped" blossoms. The larvae pass through 3 stages in about 14 to 16 days and pupate

inside the capped blossom. The new adult cuts a hole in the brown cap and escapes. These adults feed on foliage until the end of June or July, than hibernate until the following spring in debris or any available shelter.

Description: ADULT 4 to 5 mm. long. Body entirely covered with fine yellowish and ashen pubescence, giving it a general color more gray and less red than related species. Base of antennae, tibiae and tarsi are of a more clear red. Rostrum is longer than the head and prothorax together. The eyes project noticeably when viewed from above. Prothorax has a light ashen median line. Anterior femora have a strong, projecting tooth, anterior tibiae sinuous, enlarged toward middle. On the elytra, there is a chevron of ashen hairs which runs into bands of dark brown. LARVA whitish. PUPA pale yellow. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(41):10-9-59.



Illustrations of apple blossom weevil (Anthonomus pomorum): A - Adult, greatly enlarged. B - Attacked blossom bud. C - Lateral view of head. D - Larva. E - Pupa.

Figures (except map): Adult and profile of head from Balachowsky, A. and Mesnil, L. 1935. Les Insectes Nuisibles aux Plantes Cultivees. Vol. 1, 1137 pp., Paris. Larva, pupa and damage from Minist. Agr. and Fisheries Advisory Leaf. 28, (Great Britain), 3 pp. 1946.

Principal References: (1) Balachowsky, A. and Mesnil, L. 1935. Les Insectes Nuisibles aux Plantes Cultivees. Vol. 1, 1137 pp., Paris. (2) Massee, A. M. 1937. The Pests of Fruits and Hops. 294 pp., London.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data. The second part of the document provides a detailed breakdown of the financial performance over the last quarter. It includes a comparison of actual results against the budgeted figures, highlighting areas where the company exceeded expectations and where it fell short. The final part of the document offers recommendations for future actions based on the analysis. It suggests that the company should focus on improving its operational efficiency and exploring new market opportunities to drive growth in the coming year.

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

FALL ARMYWORM causing considerable damage to sugarcane in areas of Louisiana and is heavy on late corn and sorghum in Brazos and Burleson Counties, Texas. (p.929). Larvae of CRANBERRY GIRDLER heavier than normal in grasses grown for seed in Spokane County, Washington. (p. 930).

SPOTTED ALFALFA APHID recorded for first time this year in Washington and counts approximately twice those of 2 weeks ago around Boardman and Hermiston in Oregon, with damage becoming apparent. In Arizona, infestations continue to increase in alfalfa; the heaviest buildup since 1956. (pp. 930, 940). Some buildup of PEA APHID noted in several states. (p. 931).

TEXAS CITRUS MITE (Eutetranychus banksi) expected to cause greater fall damage to citrus at Lake Alfred, Florida, than in previous years. (p. 933).

YELLOW-STRIPED ARMYWORM severely damaged several hundred acres of asparagus in California. (p. 933).

NANTUCKET PINE MOTH heavy in areas of North Carolina. (p. 934). BARK BEETLES are a problem in several states. (p. 935).

Distribution of JAPANESE BEETLE. (p. 936). Summary of Japanese beetle survey and control outside the regulated areas from 1931 to 1959. (p. 937).

INSECT DETECTION: A hairy fungus beetle (Mycetophagus obsoletus) collected in Pennsylvania for first time. (p. 939). New county records reported were as follows: White-fringed beetles in Lafayette Parish, Louisiana (p. 930); apple maggot in Jackson, Pepin and Buffalo Counties, Wisconsin (p. 932); mimosa webworm in Dauphin County, Pennsylvania (p. 935); imported fire ant in Clay County, Florida (p. 939); and house cricket in San Diego County, California. (p. 939).

CORRECTIONS (p. 940).

ADDITIONAL NOTES (p. 940).

INTERCEPTIONS of special interest at U. S. ports of entry. (p. 940).

SURVEY METHODS - Methods used for armyworms, cutworms and barley thrips in North Dakota. (p. 942).

INSECTS not known to occur in the United States. (p. 943).

WEATHER OF THE WEEK ENDING OCTOBER 12

The first vigorous storms of autumn swept across the northern Great Plains with strong, gusty winds during the week, bringing an early touch of winter to that area. Very cold and wet weather spread from Montana and Wyoming to the upper Mississippi Valley at midweek. The cooler air continued to move southward and eastward, reaching Atlantic and Gulf coastal areas by Monday. Continuing snow, freezing rain, and rain left generally good moisture totals, ranging up to over 2 inches in local areas, over most of the northern Great Plains. Temperatures remained at much-below seasonal levels, not rising out of the 30's in western North Dakota after Thursday, and up to 6-9 inches of snow were reported in the northern part of that State. Generous precipitation was also measured in the central Great Plains, the Mississippi and Ohio Valleys, and the Great Lakes States. Totals ranged up to 5 inches in Indiana, and over 4 inches in Missouri and Ohio.

Unusual warmth and abundant precipitation were recorded in the East and South. Tropical storm Irene which moved inland near Pensacola, Florida, on Thursday, and subsequent showers and thunderstorms, brought heavy rainfall to northwest Florida, Georgia and Alabama, and portions of the Carolinas and Tennessee. Weekly totals ranged from 4-6 inches locally in Florida and North Carolina, and up to 4 inches in the other states. No significant wind or tide damage resulted from Irene. Damage to unharvested crops in many areas may be large as excessive moisture continues to keep farmers out of the fields. Unusual warmth continued for the third consecutive week in many areas from the Ohio Valley and the Middle Atlantic States to New England. Much-needed precipitation fell during the week in the Northeast. Totals generally exceeded 1 inch, with some local 3-inch amounts, from Pennsylvania to New England, and replenished moisture supplies for fall crops. Cool, cloudy weather, with moderate rainfall, prevailed in the Pacific Northwest. The Southwestern States remained cool and clear throughout the week, with no precipitation reported from central California to New Mexico and west Texas. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - CALIFORNIA - Heavy infestations on corn in Chico area, Butte County. (Cal. Coop. Rpt.). TEXAS - "Budworm" infestation 25 percent in late corn and grain sorghum in Brazos and Burleson Counties. (Randolph). MISSOURI - In very late sorghum fields in southeast, counts ranged 5-25 larvae per 100 heads. (Kyd, Thomas, Munson). VIRGINIA - Damaged approximately 75 percent of ears of corn in some field plots at Tidewater Field Station in Nansemond County. (Rowell, Genter, Morris). PENNSYLVANIA - Heavy enough in some late sweet corn plantings in Crawford County that harvesting was discontinued. In some instances, 5 applications of insecticide were applied. (Adams, Sept. 30).

EUROPEAN CORN BORER (Pyrausta nubilalis) - ARKANSAS - Late-planted corn heavily infested; early-planted corn either escaped or had very light infestations this year. (Boyer). OKLAHOMA - Larval counts averaged 21.6 per 100 corn stalks in field of late corn in Payne County, with total of 36 percent of stalks showing damage from either P. nubilalis or Zeadiatraea grandiosella. No P. nubilalis noted in an earlier planted corn field in same area. (Vinson, Arbuthnot, VanCleave). NORTH CAROLINA - One field heavily infested in Yadkin County and several others with no infestation. (Jones).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ARKANSAS - Infestations much heavier in late-planted corn than in early-planted corn as has been the case in past years. (Boyer). OKLAHOMA - Infestation counts averaged 22 and 80 percent in 2 corn fields in Payne County. (Arbuthnot, VanCleave, Vinson).

SUGARCANE BORER (Diatraea saccharalis) - TEXAS - Counts ranged 3-10 per stalk in late corn and grain sorghum in river bottoms in Brazos and Burleson Counties. (Randolph).

FALL ARMYWORM (Laphygma frugiperda) - TEXAS - "Budworm" infestation 100 percent in late corn and grain sorghum in Brazos and Burleson Counties. (Randolph). Damaging young oats in Uvalde County. (Texas Coop. Rpt.). LOUISIANA - Causing considerable damage to sugarcane in some areas. (Spink). OKLAHOMA - Common in ears of late corn in Payne County. (Arbuthnot, VanCleave, Vinson).

ARMYWORM (Pseudaletia unipuncta) - CALIFORNIA - Heavy in some milo fields in Yuba County. (Cal. Coop. Rpt.).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Still working in southern half of State. Counts ranged 400-1,200 per 100 heads in southwest and from 20-90 per 100 heads in southeast. These counts made in very late-planted sorghum fields. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 30 and 250 per seed head in 2 grain sorghum fields checked in Jefferson and Love Counties, respectively. (Vinson).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - VIRGINIA - Larvae present in approximately 50 percent of ears of corn in field plots at Tidewater Field Station in Nansemond County. (Rowell, Genter, Morris).

COTTON APHID (Aphis gossypii) - CALIFORNIA - Light infestation on corn in Island area of Sacramento County. (Cal. Coop. Rpt.).

RUSTY PLUM APHID (Hysteroneura setariae) - ARIZONA - Medium to heavy infestations in central area sorghum. (Ariz. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - DELAWARE - Very abundant on cover crop in southern New Castle County; causing noticeable injury. (Burbutis, Mason).

ARMY CUTWORM (Chorizagrotis auxiliaris) - NEBRASKA - A specimen was collected for first time this fall in light trap at Lincoln on October 6. (Simpson).

CHINCH BUG (Blissus leucopterus) - MISSOURI - Counts ranged 6-22 per plant on late grain sorghum in southeastern area and 5-16 on late corn in Dunklin County. (Kyd, Thomas, Munson).

APPLE GRAIN APHID (*Rhopalosiphum fitchii*) - OKLAHOMA - Only one aphid found in extensive surveys of fall-seeded wheat in Hennessey area. (Owens, VanCleave, Vinson).

GREENBUG (*Toxoptera graminum*) - OKLAHOMA - None found in extensive surveys of fall-seeded wheat checked in Hennessey area. Very little volunteer wheat noted in area. This is locality where greenbug was first encountered during fall of 1958. (Owens, VanCleave, Vinson).

A PLANTHOPPER (*Sogata orizicola*) - CALIFORNIA - Surveys for this vector of hoja blanca disease of rice were conducted on 61 properties involving 5,775 acres in 5 counties during August, with negative results. (Cal. Coop. Rpt.). FLORIDA - Surveys on wild host grasses on 12 properties were made in Bay, Hillsborough, Manatee and Sarasota Counties during September, with negative results. Symptoms of hoja blanca disease were found and identified from volunteer rice from 2 blocks on Rabbit Island and disease symptoms were found present on farm near Belle Glade, Palm Beach County. No *S. orizicola* found at Belle Glade. (Fla. Coop. Sur., PPC).

RICE STINK BUG (*Oebalus pugnax*) - TEXAS - Heavy infestations observed in weeds and grasses on ditch banks of harvested rice fields in Liberty and Jefferson Counties. (Bowling, Hawkins).

WHITE-FRINGED BEETLES (*Graphognathus* spp.) - LOUISIANA - *G. peregrinus* found in rice field in Lafayette Parish, a new parish record. (Spink). FLORIDA - Surveys were conducted in northwestern area during September, with additional surveys also being conducted in 8 counties in central and southern areas. Considerable infested acreage adjacent to previously known infested areas was found in Escambia and Jackson Counties in the northern area, but surveys in the central and southern counties were negative. (Fla. Coop. Sur., PPC).

CRANBERRY GIRDLER (*Crambus topiarius*) - WASHINGTON - Larval populations heavier than normal for time of year, averaging as many as 50 per square foot in many fields of grasses grown for seed in Spokane County. Merion bluegrass particularly affected. High populations are probably due to prolonged cool and moist weather conditions in late summer. (Harwood).

RHODES-GRASS SCALE (*Antonina graminis*) - TEXAS - Heavy infestation of nymphs on St. Augustine grass in College Station area. (Garner).

WHITE GRUBS - KANSAS - Reported in several prepared wheat seed beds in Harper County. (Gates). PENNSYLVANIA - *Popillia japonica* and other grubs are heavy in 4-5 acres of 50-acre lawn in Crawford County. (Adams, Sept. 30).

A CERAMBYCID (*Prionus* sp.) - GEORGIA - Larvae eating the roots of Bahia grass in Seminole County, 6-8 per square foot. Some larger larvae found 12-14 inches below surface of soil. This insect is known to be on 3 farms in the county and is causing serious damage to the grass. (Johnson).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - WASHINGTON - First record this year from alfalfa in spite of intermittent surveys until mid-July. Distribution almost identical to that of 1958; noted along the Columbia River from Whitcomb to Plymouth, in the Kennewick and Burbank areas, and around Benton City and Prosser; in Walla Walla County near Gardens; and near Asotin along the Snake River. (Klostermeyer, Cook, Howell). UTAH - Some buildup noted in Box Elder, Weber and Davis Counties. (Knowlton). ARIZONA - Infestations continue to increase in alfalfa in central and southeastern areas. According to records, this is the heaviest buildup since 1956. Honeydew deposits and feeding damage heavy in many fields, especially on susceptible varieties. Average number of aphids per trifoliate leaf from 10 fields of 3 different varieties in Maricopa County is as follows: Moapa - 0.85, African - 4.87 and Chilean - 13.1. (Ariz. Coop. Sur.). NEW MEXICO - Generally very light in alfalfa in Dona Ana County. Mostly winged forms present. Several heavy infestations damaging alfalfa in Torrance County. (N. M. Coop. Rpt.) TEXAS - Infestations very low in alfalfa

at present in Brazos and Burleson Counties. (Randolph). MISSOURI - Remains present in areas in southern part of the State that have not received recent rains. Counts in Dunklin County ranged 3-7 per sweep. (Kyd, Thomas, Munson).

PEA APHID (Macrosiphum pisi) - DELAWARE - Prevalent in New Castle and Kent Counties, with an average of 25 per sweep common in Sussex County on alfalfa. All stages of apterous forms abundant in clover field in Sussex County. (Burbutis, Mason). NEW MEXICO - Light to moderate infestations in Chaves, Eddy, Lea, Otero and Dona Ana Counties, with heavy infestations averaging 200-300 per 10 sweeps at Tucumcari, Quay County. (N. M. Coop. Rpt.) ARIZONA - Infestations increasing in Greenlee County alfalfa, with medium infestations in most fields. (Ariz. Coop. Sur.). UTAH - Some buildup noted in Box Elder, Weber and Davis Counties. (Knowlton).

RAPID PLANT BUG (Adelphocoris rapidus) - DELAWARE - Adults and nymphs prevalent in New Castle County, very common Kent County and fairly common in Sussex County on alfalfa. (Burbutis, Mason).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Averaged 3-5 adults per sweep in alfalfa fields in Southern Dona Ana County. (N. M. Coop. Rpt.). TEXAS - Averaged 2 per 5 sweeps in alfalfa in Brazos and Burleson Counties. Some girdling of plants observed. (Randolph). OKLAHOMA - Counts averaged 0.6 per sweep in 5 alfalfa fields checked in Kingfisher County. (VanCleave, Owens, Vinson).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSOURI - Counts on alfalfa in south-east ranged 2-6 per sweep. (Kyd, Thomas, Munson).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - DELAWARE - Adults fairly common in several alfalfa fields in New Castle County. (Burbutis, Mason).

CLOVER ROOT CURCULIO (Sitona hispidula) - DELAWARE - Adults common on alfalfa in New Castle County, averaging one per 4 sweeps. Adults remain present in alfalfa in Kent County. (Burbutis, Mason).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - ARIZONA - Continues heavy in southeastern area alfalfa, with average of 25 larvae per 10 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Generally light infestations in Dona Ana County alfalfa fields. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 0.2 per sweep in 5 alfalfa fields checked in Kingfisher County (VanCleave, Owens, Vinson) and averaged 0.5 square per square yard in fields of oats and vetch in Love County (Vinson).

BLACK CUTWORM (Agrotis ypsilon) - MARYLAND - Injuring old and new stands of alfalfa in sections of Howard County. Several fields have been treated or cut. (U. Md., Ent. Dept.).

A NOCTUID (Tathorhynchus angustiorata) - CALIFORNIA - Medium larval infestation on alfalfa in Seeley area, Imperial County. (Cal. Coop. Rpt.).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - CALIFORNIA - Causing medium damage to alfalfa at Seeley, Imperial County. (Cal. Coop. Rpt.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - SOUTH CAROLINA - Caused considerable damage to soybeans in Colleton County during early September. About 2,000 acres were treated. Disease controlled second generation. (Nettles et al.). VIRGINIA - Adults present in large numbers around light in Princess Anne County. (Boush). DELAWARE - Larvae present on soybeans in Kent County. (Burbutis, Mason).

GREEN CLOVERWORM (Plathypena scabra) - MISSOURI - Most larvae still feeding on late soybeans are very small; first and second instars. Counts ranged 0-4 larvae per foot of row. (Kyd, Thomas, Munson). DELAWARE - Larvae fairly common on soybeans in Kent County. (Burbutis, Mason).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSOURI - Counts on late soybeans ranged 1-4 per foot of row. (Kyd, Thomas, Munson).

FRUIT INSECTS

ORIENTAL FRUIT MOTH (Grapholitha molesta) - ARKANSAS - Infestations present in young orchards in northeast part of State, with up to 100 percent of twigs showing infestation in Cross County. (Boyer).

PEACH TREE BORER (Sanninoidea exitiosa) - ARKANSAS - Heavy in one young orchard, apparently untreated, in Cross County. (Boyer).

A LEAF ROLLER - ARKANSAS - An unidentified species has caused considerable damage to apples in the extreme northwest section of the State. (Warren, Barnes).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Migrating back to peach on September 28 in Paonia area, Delta County. (Colo. Ins. Sur.).

PEAR PSYLLA (Psylla pyricola) - CALIFORNIA - Light on pear trees in Portola Valley, San Mateo County. (Cal. Coop. Rpt.).

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Reported from Jackson, Pepin and Buffalo Counties for the first time. (Wis. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Medium infestations noted in several south central area pecan groves. (Vinson, VanCleave, Washum, Sept. 26). Larvae averaged 2 and 4 per nut cluster in 2 groves of native pecans checked in Jefferson and Love Counties, respectively. (Vinson).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Light in a native pecan grove checked in Love County. (Vinson).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - For week ending September 26, larvae averaged 400 per tree (40 feet high) on some pecan trees checked in Choctaw County. (Goin). Light infestations were noted on scattered pecan trees during the same period throughout central area. (Pennington, VanCleave, Washum). Light on a few trees in a grove of native pecans checked in Love County and heavy in a few trees in another grove in Jefferson County. (Vinson).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Light in a pecan grove checked in Love County. None noted in a grove in Jefferson County. (Vinson). Larvae began emerging from nuts on approximately October 1 in Stillwater area. (Bieberdorf).

APHIDS (Monellia spp.) - OKLAHOMA - Monellia sp. averaged 500 per 100 leaflets examined on some pecan trees checked in Carter County. Honeydew heavy on foliage. (Vinson, Sept. 26). ARIZONA - M. costalis medium to heavy on pecan trees in central and southeastern portions of the State, with heavy honeydew deposits. Some infestations being reduced by lady beetle adults and larvae. (Ariz. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Has spread quite generally over Davis County, causing 5-40 percent damage to English and black walnuts from Clearfield to Bountiful. Also damaging additional walnut plantings in the Ogden-North Ogden area of Weber County. (Knowlton).

Quarterly Citrus Insect and Mite Outlook, Lake Alfred, Florida - PURPLE SCALE (Lepidosaphes beckii) populations will remain low, with slight increases being evident in a few groves during November. FLORIDA RED SCALE (Chrysomphalus aonidum) will build up to above average in October and drop to near average at the end of the year. Populations will vary greatly from grove to grove. CITRUS RED MITE (Panonychus citri) populations will be average in October and

high during November and early December. TEXAS CITRUS MITE (*Eutetranychus banksi*) will increase rapidly during October. Fall damage is expected to be greater than in previous years. CITRUS RUST MITE (*Phyllocoptura oleivora*) will build up gradually to a high peak about mid-December. SIX-SPOTTED SPIDER MITE (*Eotetranychus sexmaculatus*) will begin to increase in some groves in early December. (Simanton, Oct. 7).

RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) - PENNSYLVANIA - Some vineyards with a late, light infestation; up to 5 bunches per 100 infested. Larvae one-half to full grown. Infestation mostly in vicinity of the town of North East in Erie County. (Adams).

BLACK-HEADED FIREWORM (*Rhopobota naevana*) - WASHINGTON - Damaging huckleberries in widely separated western areas of State. Almost 100 percent of growing tips injured on Harstine Island and at Shelton, Mason County. Adults appeared from rearing July 1 and continued until mid-July. (Breaky, Oct. 2).

TRUCK CROP INSECTS

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) - CALIFORNIA - Severely damaged several hundred acres of asparagus in the El Centro area, Imperial County. Damage occurred to both the fern and marketable spears. (G. D. Peterson).

CABBAGE LOOPER (*Trichoplusia ni*) - NEW MEXICO - Continues to be a problem in Dona Ana County lettuce fields. (N. M. Coop. Rpt.). LOUISIANA - Heavily infesting cabbage throughout the State. (Spink).

PEA WEEVIL (*Bruchus pisorum*) - IDAHO - Numerous adults observed in flight in the Moscow area. (Portman).

GARDEN WEBWORM (*Loxostege similalis*) - DELAWARE - Larvae present in beets in southern New Castle County and very common on same crop in eastern Kent County. (Burbutis, Mason).

GREEN PEACH APHID (*Myzus persicae*) - UTAH - Light population present on sugar beets in the Tremonton-Bear River area of Box Elder County. (Knowlton).

MELON APHID (*Aphis gossypii*) - CALIFORNIA - Medium on cantaloups at Cardiff, San Diego County. (Cal. Coop. Rpt.).

MELONWORM (*Diaphania hyalinata*) - LOUISIANA - This species and *D. nitidalis* extremely severe on cucumbers in Tangipahoa Parish, with damage estimated as high as 90 percent in untreated experimental plots. (Spink).

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - DELAWARE - Larvae fairly common on vines of late potatoes in central Kent County. (Burbutis, Mason). PENNSYLVANIA - Pepper fruits were rather heavily infested in late September in Lawrence, Beaver and Mercer Counties. In Erie County, 4-5 acres of beans could not be harvested because damage made them unmarketable. (Adams).

WIREWORMS - PENNSYLVANIA - Undetermined species infesting 1-10 percent of potatoes in variety plots in Erie County. (Adams).

A ROOT MITE (*Rhizoglyphus solani*) - CALIFORNIA - Occurred as a heavy infestation of potato roots in Carlsbad, San Diego County. (Cal. Coop. Rpt., Oct. 2).

SWEETPOTATO WHITEFLY (*Bemisia tabaci*)* - FLORIDA - Results were negative in 9 fields surveyed in Escambia County and one field in Santa Rosa County, involving 12 acres. (Fla. Coop. Sur., PPC).

*Russell, L. M. 1957. Brooklyn Ent. Soc. Bul. 52(5):122.

LEAF-FOOTED BUG (Leptoglossus phyllopus) - LOUISIANA - Heavily infesting peppers in several areas of the State. (Spink).

A STRAWBERRY ROOTWORM (Paria sp.) - KANSAS - Damaged strawberry beds in Doniphan County about September 15. (Eshbaugh).

COTTON INSECTS

COTTON LEAFWORM (Alabama argillacea) - LOUISIANA - Completely defoliated cotton in some southwestern areas. (Spink).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Hatching almost continuous. Serious damage has occurred where late treatment had been omitted in Imperial County. (G. D. Peterson). ARIZONA - Infestations general in cotton and range from light to medium, statewide. Foliage loss in most cases is not heavy and is probably more beneficial than damaging to the cotton crop. (Ariz. Coop. Sur.).

BOLLWORM (Heliothis zea) - CALIFORNIA - Still present in many San Joaquin Valley cotton fields; treatments may be of value in late setting fields. (T. F. Leigh). ARIZONA - Infestations remain light to medium in cotton, which is still fruiting, over the State. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Heavy infestations occurring in cotton in Stratford-Corcoran area of Kings County. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Light trap surveys continue negative in Pahrump Valley, Nye County. Light trap and green boll surveys negative in Moapa Valley, Clark County. (Coop. Rpt., Oct. 2). ARIZONA - On September 28, one moth trapped in Gila Bend Valley, Maricopa County. (PPC).

STINK BUGS - CALIFORNIA - Still causing considerable damage to late-setting cotton fields where not controlled in Imperial County. (G. D. Peterson).

COTTON APHID (Aphis gossypii) - NEW MEXICO - Spotty, moderate to heavy infestations in cotton fields in southern counties. (N. M. Coop. Rpt.).

A PLANT BUG (Neurocolpus nubilus) - ARKANSAS - This species first observed in State on cotton in Mississippi County in 1958. Surveys and observations indicate the pest is present in all major cotton-producing counties in eastern area. Numbers low in most cases. Highest count recorded was 12 per 100 plants in Craighead County. In most instances, only an occasional bug was found. Many fields had no infestations. (Boyer).

A BLACK FLEA BEETLE (Systema frontalis) - ARKANSAS - Found on cotton in research plots throughout season at Kelso station, Desha County. Feeding signs noted on leaves, bolls and bracts. Numbers relatively low and no economic damage observed. (Lincoln, Black).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

NANTUCKET PINE MOTH (Rhyacionia frustrana) - NORTH CAROLINA - Heavy infestation present in northwest section of State and in Wake County. (Whitfield).

A PINE TIP MOTH - ARKANSAS - Generally, damage by an undetermined species appears to be somewhat lighter than in 1958. However, locally severe infestations have caused severe browning and some growth loss. In the Crossett area, this undetermined species is heavy on many young and even aged plantations. (Ark. For. Pest Rpt., Oct. 9).

BAGWORM (Thyridopteryx ephemeraeformis) - NORTH CAROLINA - Heavy in spots in Jackson and Sampson Counties. (Whitfield).

BARK BEETLES - PENNSYLVANIA - Pityophthorus opaculus adults and larvae collected from dead twigs of Table-Mountain pines in Franklin County during mid-August. Det. W. H. Anderson. (Drooz). NORTH CAROLINA - Dendroctonus frontalis has increased in intensity on pine in Hyde, Tyrrell and Dare Counties since survey made in June. (Green). ARKANSAS - Infestations of Ips. spp. have increased in most timber-growing areas. In general, they are low and pose no special problem at this time. In some local areas, primarily along the eastern ridges of the Ouachita Mountains, locally severe spot infestations are causing mortality of trees. Salvage operations and thinning are reducing the danger of spread. Cool weather will also retard development of potentially dangerous outbreaks. In areas being cut, Dendroctonus terebrans infestations continue to be a problem. (Ark. For. Pest Rpt., Oct. 9). INDIANA - Orthotomicus caelatus common in red, Scotch and white pine stumps in La Porte County. (Schuder). CALIFORNIA - Dendroctonus jeffreyi causing partial and complete kill of single Jeffrey pines over a 9,000-acre stand in the Monache area of the Mt. Whitney district, Inyo National Forest. (E. M. Koledin).

A JUNIPER BORER (Phloeosinus dentatus) - SOUTH DAKOTA - Causing damage to ornamental junipers in Stanley and Haakon Counties. (Hantsbarger).

ASH BORER (Podosesia syringae fraxini) - NORTH CAROLINA - Probably this species, causing some injury to ash throughout Yadkin County. Adults abundant October 5. (Smith, Farrier).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Very serious infestations damaging pecan, elm, mulberry and poplar trees in Dona Ana County. (N. M. Coop. Rpt.). TEXAS - Damaging ornamentals in the College Station area of Brazos County. (Randolph). Infestations observed on shade trees and hardwood trees along highways in Jefferson, Chambers and Liberty Counties. (Hawkins).

MIMOSA WEBWORM (Homadaula albizziae) - PENNSYLVANIA - Infesting mimosa in the vicinity of honeylocust in Dauphin County. (Sleesman). According to ARS records, this is the first report of this species from Dauphin County. (PPC). VIRGINIA - Very heavy on mimosa tree in Washington County. (Amos, July 17).

SPINY OAKWORM (Anisota stigma) - WEST VIRGINIA - Moderate and localized on oaks in Monroe County. (W. Va. Ins. Sur.).

A NOTODONTID (Datana robusta) - TEXAS - Heavy on oak trees in the College Station area, Brazos County. (Randolph, Hawkins).

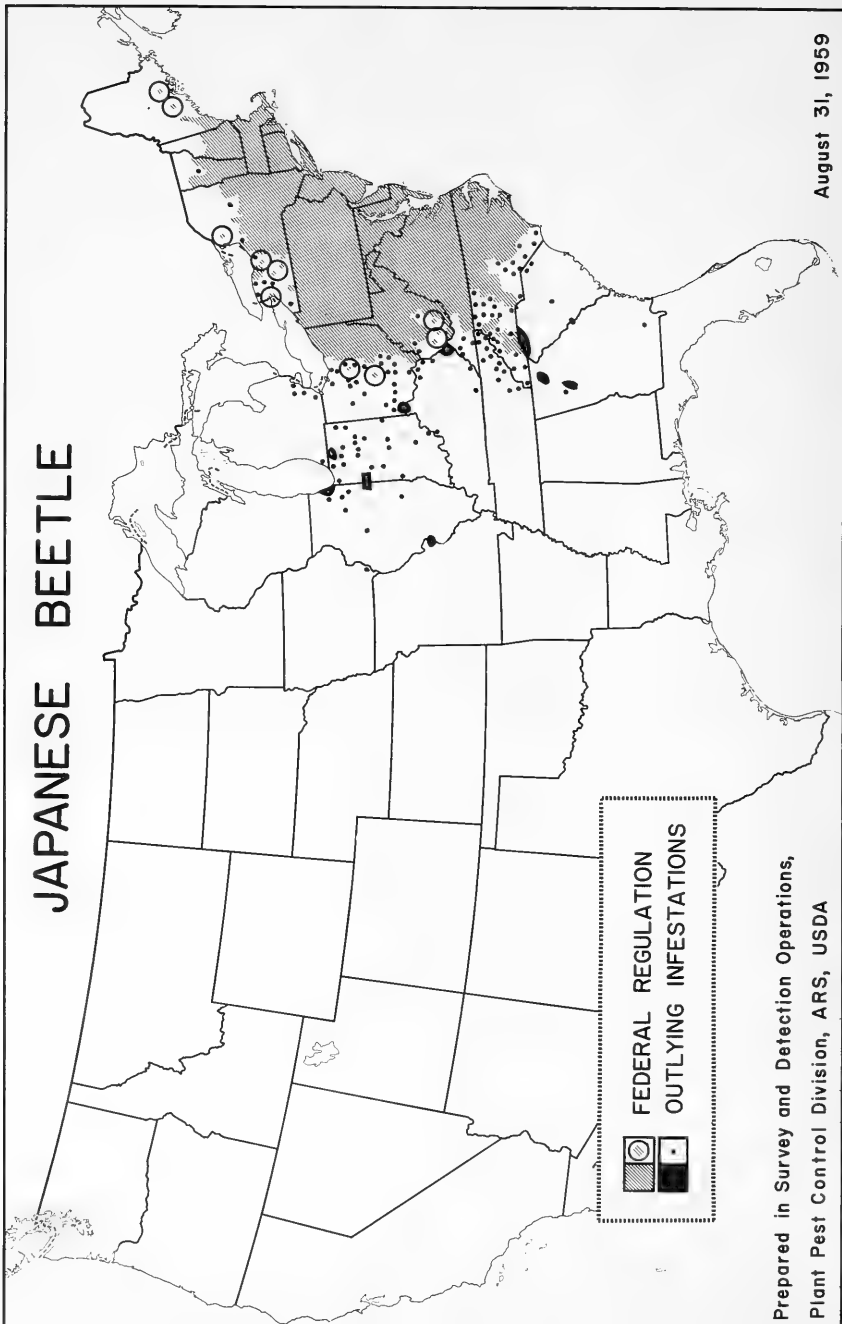
CATALPA SPHINX (Ceratonia catalpae) - DELAWARE - Larvae very abundant on catalpa trees in northwestern Sussex County. (Burbutis, Mason).

PAINTED-LADY (Vanessa cardui) - NEW MEXICO - Larvae defoliating elm trees at Albuquerque, Bernalillo County. (N. M. Coop. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - KANSAS - Dutch elm disease, transmitted by this species, has been confirmed from a suspect tree in Emporia, Lyon County. (Thompson). CALIFORNIA - Caused moderate damage to elms in the Warm Springs area of Alameda County during August. There were also many reports of rapid killing of elms over the State. Drought conditions seriously weakened trees making them attractive to the beetles. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - A new generation has caused additional heavy defoliation of elms in Chickasha, Grady County, during past 3 weeks. (Pennington, Sept. 26). UTAH - Caused moderate damage to elm foliage at Farmington, Davis County. (Knowlton).

JAPANESE BEETLE



Prepared in Survey and Detection Operations,
Plant Pest Control Division, ARS, USDA

August 31, 1959

SUMMARY OF JAPANESE BEETLE SURVEY AND CONTROL OUTSIDE REGULATED AREAS - 1931 - 1959

Location of Infestation	First Year Found	Major Areas 1959	Pop. Dens. 1959	Est. Acres	Acres Soil Tr. 1959	Cum. Acres Soil Treated	New Infes. 1959*	Outlying Counties Infested*
Georgia	1937	Dahlonega, Atlanta	light-heavy	250,205	761	2,601	0	12
Illinois	1934	Chicago, Sheldon	light	55,051	13,151	39,352	8	10
Indiana	1934	Kentland, South Bend, Logansport and others	light	231,023	69	9,147	11	22
Iowa	1957	Fort Madison	scant	5	48	2,048	0	1
Kentucky	1936	Pikeville, Louisville, south of Cincinnati	scant-mod.	224,762	1,242	6,583	5	12
Maine	**	-----	scant-lt.	7	18	178	1	1
Michigan	1932	Detroit; Monroe and Berrien Counties	lt.-heavy	32,164	663	6,698	10	5
Missouri	1934	St. Louis	scant-mod.	171	237	1,095	1	1
New York	**	-----	---	248	65	999	5	13
N. Carolina	**	Southeast and west	lt.-heavy	236,076	898	898	8	27
Ohio	**	Cincinnati, Chillicothe	scant-mod.	509,367	690	9,288	19	23
S. Carolina	1931	Northwestern counties	lt.-medium	399,880	0	54	1	9
Tennessee	1936	Johnson, Knox and Sullivan Counties	light	14,657	724	3,083	6	12
Vermont	**	-----	scant-lt.	20	29	52	0	1
Virginia	**	-----	lt.-medium	829	342	344	4	3
W. Virginia	**	-----	light	455	-	-	10	3
Totals				1,954,920	18,937	82,420	89	155

* Exclusive of single beetle finds

** Original area now in regulation

Prepared in Plant Pest Control Division
September, 1959

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - Light in honeylocust trees checked in Comanche County. (Hatfield). Damage widespread in central and eastern portions of the State. (Howell).

APHIDS - CALIFORNIA - A medium infestation of Chaitophorus salicicola occurred on willow in San Francisco, San Francisco County. (Cal. Coop. Rpt., Oct. 2). UTAH - Unspecified species are abundant on several hosts at various locations in the State. (Knowlton). TEXAS - Myzocallis punctata appearing on oak trees in the College Station area, Brazos County. (Randolph). OKLAHOMA - An unidentified species medium on some caladiums checked in Stillwater and light on chrysanthemums and ornamental peppers checked in Tulsa. (Stiles). PENNSYLVANIA - Longistigma caryae annoying in Adams County by dropping on people walking under infested maples. (Gesell). Also heavy on willow in Snyder County. (Menusan).

SCALE INSECTS - VIRGINIA - Unaspis euonymi heavy on some euonymus plants in Botetourt and Patrick Counties. (Rowell, Olinger). Pseudaulacaspis pentagona heavy on several lilac plants and peach trees in Nottaway County and causing death of plants in a hedge in Prince George County. Also causing twigs of many lilacs on a farm in Charles City County to die. (Amos, Cassell, Harris, Settle). Ceroplastes sp. heavy on camellias, gardenias, euonymus, japonica and ivy in several localities in Northampton County; present on host plants in Middlesex County; and heavy on several holly plants in Henrico County planting. (Amos, Nottingham, Edwards, Davis). Kermes sp. heavy on some oaks in Halifax County. (Amos, Hall). OKLAHOMA - U. euonymi medium on Euonymus sp. in Tulsa. (Stiles). UTAH - Gossyparia spuria damaging elms at Salt Lake City, Provo and Ogden. (Knowlton). IDAHO - Severe infestation of an unidentified species reported on pyracantha bushes in Twin Falls. (Gibson).

LILAC LEAF MINER (Gracilaria syringella) - WYOMING - Few larvae continue to be found in lilac leaves at Laramie, Albany County, following very hard freezes. (Pfadt).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Aedes taeniorhynchus biting heavily and A. sollicitans present in heavy numbers in Brunswick, Pamlico and Carteret Counties. (Ashton). WISCONSIN - Unspecified species bothersome in some areas of the State. (Wis. Coop. Sur.). CALIFORNIA - Unspecified species continue to annoy residents in populated areas along the Sacramento River. Many complaints that bites cause more reaction than in other years. (Cal. Coop. Rpt.). UTAH - Undesignated species numerous and annoying about homes in Logan, Cache County. (Knowlton).

SCREW-WORM (Callitroga hominivorax) - OKLAHOMA - An infestation noted in a small calf checked in the Lebanon area, Marshall County. (Vinson).

PIGEON FLY (Pseudolynchia canariensis) - CALIFORNIA - Medium infestation on pigeons in Spring Valley, San Diego County. (Cal. Coop. Rpt.).

VESPIDS - IDAHO - Vespula pennsylvanica extremely numerous in the Twin Falls area where they are particularly attracted to ornamental evergreens and are creating a considerable nuisance problem. (Gibson). MARYLAND - Yellow jackets, hornets and Polistes spp. annoying around homes in several sections of the State. (U. Md., Ent. Dept.). CALIFORNIA - During August, Vespula spp. and Polistes spp. invaded back yards, dry yards, vintners, resorts and camp and picnic grounds in Mendocino County and back yards and picnic grounds in Marin County, causing serious annoyance and painful stings. Caused the death of one child in Marin County. (Cal. Coop. Rpt.).

TROPICAL RAT MITE (Ornithonyssus bacoti) - CALIFORNIA - Occurred as a heavy infestation invading a home in Grass Valley, Nevada County. (Cal. Coop. Rpt.).

BROWN DOG TICK (Rhipicephalus sanguineus) - NORTH CAROLINA - Heavy infestations present in some houses in Wake County. (Farrier). NEW MEXICO - Gravid females very abundant on walls of a home in Las Cruces, Dona Ana County. (N. M. Coop. Rpt.).

STORED-PRODUCT INSECTS

A GRAIN BEETLE (Ahasverus advena) - PENNSYLVANIA - Very abundant in 3,000 bushels of oats in Centre County. Grain contains ragweed seeds. (Udine).

BENEFICIAL INSECTS

LADY BEETLES - IDAHO - Mass migrations of several species for winter hibernation have been encountered in the Spaulding, Orifino and Moscow mountain regions. (Portman, Gittins). OKLAHOMA - Hippodamia convergens averaged 0.2 per sweep in alfalfa fields checked in Kingfisher County and present in limited numbers in wheat fields surveyed in same area. (VanCleave, Owens, Vinson). Light to medium in grain sorghum and vetch fields checked in Jefferson and Love Counties. (Vinson). Averaged one per sweep in a Jackson County alfalfa field. (Hatfield).

A BRACONID (Macrocentrus gifuensis) - PENNSYLVANIA - Ten specimens of this parasite of the European corn borer were obtained from one corn stalk in Dauphin County. (Slesman).

AN ICHNEUMONID (Labena grallator) - SOUTH CAROLINA - Collected by I. M. Orenstein at Clemson, Oconee County, June 30, 1959. Det. L. M. Walkley. (Nettles et al.).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - FLORIDA - Surveys were conducted in 32 counties during September. Extensions of infestations were found generally in known infested area. Clay County was found infested for first time near Orange Park. (Fla. Coop. Sur., PPC).

MONARCH BUTTERFLY (Danaus plexippus) - OKLAHOMA - Several hundred noted migrating through central part of the State on October 5, moving in a southwesterly direction. (Bieberforf).

BANDED WOOLLYBEAR (Isia isabella) - IDAHO - Numerous larvae of this, and related species, observed migrating in areas of Latah and Clearwater Counties. (Portman).

A CURCULIONID (Trachyphloeus bifoveolatus) - WASHINGTON - Entering homes and causing concern in Seattle, King County. (Johnston, Brannon).

A HAIRY FUNGUS BEETLE (Mycetophagus obsoletus) - PENNSYLVANIA - Specimen collected in Philadelphia, September 30, is first report of this species for the State. Damage and abundance unknown. Det. E. U. Balsbaugh. (Balsbaugh).

A TENEBRIONID (Cnemeplatia sericea) - WASHINGTON - Large numbers infesting a home in Ritzville, Adams County. Det. M. H. Hatch. (Martin, Brannon). CALIFORNIA - Medium infestation invading a home in Saratoga, Santa Clara County. (Cal. Coop. Rpt.).

HOUSE CRICKET (Acheta domesticus) - CALIFORNIA - A single specimen taken in a light trap in Borrego is a first record of the species for San Diego County. (Cal. Coop. Rpt.).

BROWN-BANDED ROACH (Supella supellectilium) - MARYLAND - Heavily infesting a home at North East, Cecil County. (U. Md., Ent. Dept.). DELAWARE - Present in some homes in the Newark area of New Castle County. (Burbutis, Mason).

FALSE CHINCH BUGS (Nysius spp.) - IDAHO - Nymphs of N. ericae observed migrating in an area 17 miles south of Twin Falls, Twin Falls County. (Gibson). NEW MEXICO - N. raphanus causing a nuisance in and around homes in Chaves, Roosevelt and Curry Counties. (N. M. Coop. Rpt.).

EARWIGS - LOUISIANA - Undetermined species are becoming increasingly numerous around homes in East Baton Rouge Parish. (Spink).

PSYLLIDS (Pachypsylla spp.) - MARYLAND - Causing a nuisance by entering homes in sections of Washington County. (U. Md., Ent. Dept.).

PSOCIDS - MARYLAND - Winged forms infesting new wooden milk cases and annoying consumers of milk in Gaithersburg, Montgomery County, and annoying in a home in University Park, Prince Georges County. Infesting used crates for dressed poultry at Landover, Prince Georges County, August 20. (U. Md., Ent. Dept.).

CORRECTIONS

CEIR 9(39):887 - The entire statement on SHEEP KED (Melophagus ovinus) from IDAHO should be deleted.

CEIR 9(41):915 - Under A LEAF SKELETONIZER (Buccalatrix pomifoliella) should read (Buccalatrix pomifoliella).

ADDITIONAL NOTES

OREGON - SPOTTED ALFALFA APHID (Therioaphis maculata) found in alfalfa in eastern Gilliam County, 2 per sweep on October 5. Numbers around Boardman and Hermiston approximately twice those of 2 weeks ago, being 5-10 per sweep at present. Damage to plants becoming apparent, with some areas of heavier infestation (8-10 per sweep) showing yellowed, chlorotic condition and honeydew often present on underside of leaves. Surveys throughout Union, Wallowa, Baker and Malheur Counties have been negative. (Eppley).

INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

Larvae of ORIENTAL FRUIT FLY (Dacus dorsalis Hend.) at Honolulu in fruits in baggage destined for California on March 4, once in coffee berries and once in guava. A larva of a WEEVIL (Heilipus sp.) in avocado seed in baggage from Panama on April 25 at Miami. Pupae and eggs of CITRUS BLACKFLY (Aleurocanthus woglumi (Ash.)) on citrus leaves destined for the Brownsville, Texas, area on January 26 from Mexico at Brownsville. Larvae of a YAM WEEVIL (Palaeopus costicollis Mshll.) in sweetpotato in stores on February 21 from Jamaica at Corpus Christi, Texas. Also larvae of a YAM WEEVIL (Palaeopus sp., evidently not costicollis) in stores from Trinidad on May 19 at Mobile, Alabama. A larva of an OLETHREUTID (Laspeyresia sp.) in faba beans in baggage from Italy at New York on May 10. Larvae of a LEAF TIER (Cnephasia sp.) on anemone cut flowers in cargo from Malta at New York on March 10. An injurious European SNAIL (Cochlicella conoidea (Draparnaud)) with lily bulbs in baggage at Boston on February 17 and live African SNAILS (Achatina fulica) destined for California 3 times in mail at Honolulu, on December 1, June 5 and June 8. (Plant Quarantine Division).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Anticar. gemm.	Ala. argil.	Helio. zea
ARIZONA							
Mesa 9/28-10/4				3			376
ARKANSAS							
Fayetteville 9/24-10/7	35	58					2912
Hope 9/24-10/7	77	78		23			515
Kelso 9/24-30	8	17					114
Morrilton 9/24-10/7	124	162					1024
FLORIDA							
Gainesville 10/8	1						
Quincy 9/28,10/5		6					36
ILLINOIS							
Urbana 10/2-8	13	14		6			439
KANSAS							
Garden City 10/2,5	2						12
Hays 10/1,3,6							362
Manhattan 10/3-9							1317
LOUISIANA							
Baton Rouge 10/2-8	56	37	798	3	120	147	97
Franklin 10/7			64			33	8
MISSOURI							
Columbia 9/28-10/10	60	84	394				2139
NEBRASKA							
Lincoln 10/7-9							3-4 thousand
SOUTH CAROLINA							
Charleston 10/5-11	22	31	64		67		35
Clemson 10/3-9	230	62	66	2		57	100
TENNESSEE (Counties)							
Blount 9/29-10/5	14	16	16				172
Cumberland 9/29-10/5	40	28				12	152
Greene 9/29-10-5	49	16					38
Johnson 9/29-10/5	836	214	68	18		6	154
Madison 9/29-10/5	224	12		4			816
Maury 9/29-10/5	14	4	16				110
Monroe 9/29-10/5	124	44	4			100	236
Robertson 9/29-10/5	14	16	6			4	228
TEXAS							
Waco 10/3-9	74			111		7448	197

Survey Methods

(Methods used in North Dakota)

ARMYWORMS

Watch for armyworm (Pseudaletia unipuncta) infestations during wet seasons. Early infestations will usually be restricted to grassy areas and in lodged grain. When small, the larvae are usually curled up and on the ground. They feed during the late afternoon, night, and early morning. Injury consists of leaf stripping and head clipping.

In surveying for armyworms, check the field margins and lodged areas first. If the pests are present, then move into the standing grain. Whenever larval counts reach three to four per linear foot or six to eight per square foot in the field, insecticidal control would be recommended. There are exceptions, however. If the crop is nearly mature and there is no evidence of head clipping, control would not be advised. Also, if the larvae are all about two inches long, insecticidal control would not be advised as most of these larvae are through feeding and they will pupate very shortly. Ten to twenty counts at 50 pace intervals will provide a good estimate of the infestation.

CUTWORMS

There are several species that infest crops. Many feed above ground, others feed below the soil surface. The need for control is based primarily upon crop injury inasmuch as there is no easy method of determining economic infestations.

One method of surveying for cutworms is to place several piles of straw, hay, etc. in the area where cutworms are suspected. After a few days, lift the piles and check for the larvae. If several cutworms are found under each pile, the infestation would be considered threatening and control would be advisable. This sampling method does not work for the species that feed underground. About the only method of checking on these would be to dig along the row and count the number of larvae per foot in the row. One or more cutworms per linear foot would be considered serious.

BARLEY THRIPS

Look for adult barley thrips (Limothrips denticornis) within the terminal leaf sheath of barley when plant is in the boot stage and before it heads.

Control of barley thrips is advised when the adult population averages two or more per stem, when the heads are just beginning to emerge and before the crop is fully headed. In order to obtain an accurate count, check several stems throughout the field. If numerous nymphs are present at the time the survey is made, it is probably too late to advise control.

(W. J. Colberg and V. V. Goodfellow)

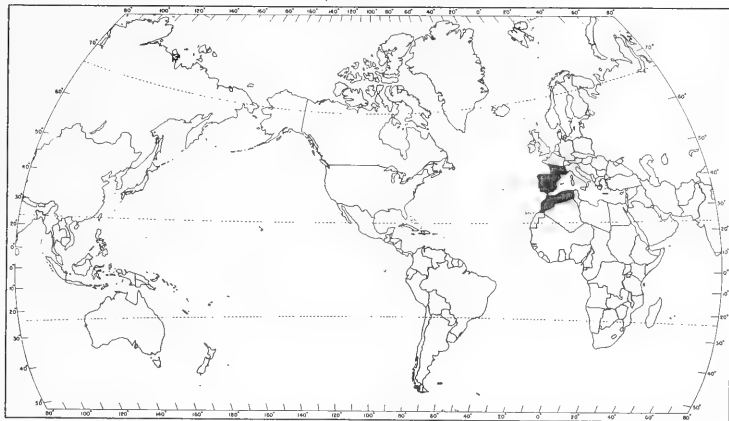
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

BLACK ALFALFA LEAF BEETLE (Colaspidema atrum (Olivier))

Economic Importance: This chrysomelid is one of the most injurious pests of alfalfa in Spain, sometimes destroying the first two cuttings of the crop. It is also serious on alfalfa in southern France.

Distribution: Spain, Portugal, southern France, Algeria, and Morocco. Some early reports indicate possible occurrence in Italy and the Kiev area of the Ukrainian SSR.

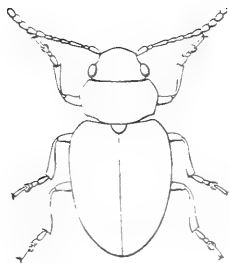
Hosts: Alfalfa. In absence of preferred host will apparently feed on many plants including beans, clover, vetch, parsley, potato, and wheat.



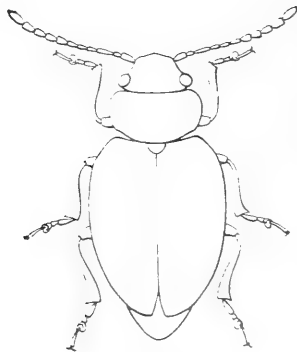
General Distribution of Colaspidema atrum

Life History and Habits: Adults emerge from soil in early spring. After copulation, oviposition begins in alfalfa fields. The female lays about 400 eggs, cementing them to leaves and stems. Eggs hatch in 10-15 days. The larvae and the adults feed together on the leaves skeletonizing them or leaving only the midrib. In Spain the larval infestations are most intense before the second cutting. Larval development requires about 14-20 days, after which the insect enters the soil to pupate. Pupation occurs in about 12 days but the adults remain in the soil until the following spring. There is only one principal generation a year; however, according to reports there may be a light second generation.

Description: ADULT small, 4 to 6 mm. long, brilliant black. Antennae partially reddish, 11-segmented. Head large and thick. Eyes small and projecting. Pronotum about two times broader than long; anterior angles obtuse, posterior angles strongly rounded. Elytra short, oval, uniformly punctate like the pronotum and head but without striations. Tarsi four-jointed, claws simple. EGG about 1 mm. long, yellow. LARVA yellow at first, attaining length of 10 to 12 mm. Larval form slightly recurved. Head very large, brownish, with 6 ocelli on each side. Body dirty yellow with numerous blackish plaques almost masking ground color, bristly hairs numerous. Last abdominal segment entirely black dorsally. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(42):10-16-59.



Male



Female

Adults of Colaspidema atrum

Figures (except map) from Gomez Clemente, F. 1929. Bol. de Patol. Vegetal y Ent. Agr. 4(15/18):152-156.

Major reference: Balachowsky, A. and Mesnil, L. 1936. Les Insectes Nuisibles aux Plantes Cultivees. pt. 2:1228-1231.



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**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

MEADOW SPITTLEBUG survey results in Ohio indicate the probability of severe attacks in parts of the State next spring. State average in West Virginia was 1.43 per 100 sweeps. (p. 948). SPOTTED ALFALFA APHID continues heavy in areas of Arizona and is light to moderate in Virden Valley of New Mexico. Counts averaged 8-15 per sweep in Oklahoma and ranged 10-20 per sweep in Ellis County, Kansas. Numbers increasing in Hermiston area of Oregon, with damage apparent. (pp. 948, 956).

TOMATO PINWORM heavy on tomatoes at Oxnard, Ventura County, California. (p. 950). Evidence of PINK BOLLWORM found in 1,336 acres of cotton in Maricopa, Pinal and Graham Counties, Arizona. (p. 951).

RED-HEADED PINE SAWFLY defoliating pines in areas of Texas and North Carolina and undetermined SAWFLIES causing damage to pines in areas of North Carolina. (p. 951). SOUTHERN PINE BEETLE continues in epidemic proportions in Texas and several BARK BEETLES are causing damage to pines locally in North Carolina. In the Sierra National Forest of California, about 10,000 acres of ponderosa pine being damaged by Ips confusus and Dendroctonus brevicomis. (p. 952).

GYPSY MOTH program map, 1959. (p. 953).

SCREW-WORM reported for first time this year in West Carroll Parish, Louisiana, and 16 new infestations reported in Madison Parish. (p. 954).

INSECT DETECTION: European corn borer reported for first time in Yuma County, Colorado. (p. 947). In Wisconsin, Acrobasis rubrifasciella collected for first time in the State (p. 952) and Dendrotettix quercus collected for first time in Portage County (p. 954). Asiatic oak weevil recorded in Cabell County, West Virginia. (p. 954). Stinging rose caterpillar collected for first time in South Carolina. (p. 955).

ADDITIONAL NOTES (p. 956).

INSECTS not known to occur in the United States. (p. 957).

Reports in this issue are for the week ending October 16, unless otherwise designated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-OCTOBER TO MID-NOVEMBER 1959

The Weather Bureau's 30-day outlook for the period mid-October to mid-November calls for temperatures to average below seasonal normals from the Continental Divide eastward to the Appalachians, except for near normal along the Gulf Coast. Greatest unseasonal departures are expected in the Upper and Middle Mississippi Valley and adjacent states. Above normal averages are predicted for central and southern West Coast States. Near normal values are in prospect for much of the Intermountain Plateau and also for the region east of the Appalachians. Precipitation is expected to exceed normal along the Gulf Coast and east of the Appalachians as well as in areas just east of the Continental Divide. Subnormal amounts are anticipated west of the Divide and also in the Middle Mississippi Valley. In unspecified areas about normal precipitation is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING OCTOBER 19

Two large cold air masses which moved across the eastern two-thirds of the Nation during the week produced below normal temperatures in all areas, except the extreme Southeast where high 80° or low 90° maxima persisted over central Florida most of week. Minimum temperatures below freezing extended southward to New Mexico, central Kansas, higher elevations in Arkansas, and in southern Indiana and West Virginia, reaching the teens in the northern tier of states, and light frost extended into Texas and Tennessee. Above seasonal temperatures were experienced west of the Rocky Mountains, and unusual warmth covered most of California, where high 90° to 100° afternoon readings were general in the interior valleys on several days.

Precipitation was absent over the Far Southwest, moderate in the coastal Pacific Northwest, and generally negligible to locally moderate from the Rockies and western Great Plains across the northern states to the Eastern Seaboard. Snow was general at higher elevations in the Rocky Mountains. Snow in the Dakotas and western Great Lakes early in the week, and later in New England, melted soon after it fell. Moderate to excessive precipitation in the already wet southeastern quarter of the country resulted from locally heavy showers ahead of the cold front which moved across the region at midweek. Some local precipitation totals ranged up to 4 inches in the Colorado watershed of Texas, to over 7 inches in southern Louisiana, and 4 to 5 inches in Georgia, the Carolinas and Virginia.

In Florida, hurricane Judith moved from the Gulf of Mexico across the southern part of the State on the 18th. No hurricane force winds were recorded on land, but gusts up to 55 mph were reported along the lower east and west coasts, and rains of 4 to 7 inches fell over an area from Punta Gorda to Fort Pierce. Wind damage was light and only scattered flooding occurred. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - OHIO - Damage conspicuous at harvest in north-western area, especially on late-planted field corn. (Triplehorn). DELAWARE - Larvae common to prevalent on legumes in Kent and New Castle Counties. (Burbutis, Mason). SOUTH DAKOTA - Considerable damage to corn evident in many counties. Many larvae still working on ears of corn. (Mast). OKLAHOMA - Counts averaged 16 and 48 percent infestation of stalks in 2 fields of late-planted corn in Love County. (Vinson). Counts averaged 2 per sweep in alfalfa field in Grant County. (Owens). ARIZONA - Medium infestations of 5-6 larvae per 10 sweeps occurring in some Maricopa County alfalfa. (Ariz. Coop. Sur.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - OKLAHOMA - None noted in extensive surveys of 9 cornfields checked in Latimer, Le Flore, Sequoyah and Muskogee Counties. (VanCleave, Washum). None noted in checks made in 3 cornfields in Love County. (Vinson). COLORADO - Collected in one cornfield in Yuma County on Colorado-Nebraska State line; 1-2 larvae per 100 stalks. (Colo. Ins. Sur.). This is first ARS record of this species in the county.

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - NEW MEXICO - Heavy infestation in a grain sorghum field in Curry County. (N. M. Coop. Rpt.). OKLAHOMA - Extensive surveys of 9 cornfields in Latimer, Le Flore, Sequoyah and Muskogee Counties indicated very light infestations in early-planted corn and medium to heavy (up to 43 larvae per 100 stalks) in later plantings. Counts averaged approximately 10 larvae per 100 stalks in fields examined. (VanCleave, Washum). Counts averaged 16, 32 and 60 larvae per 100 stalks in 3 fields of late corn in Love County. (Vinson).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Very heavy infestations in late grain sorghum in De Witt County. (Turney).

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Infestations medium to heavy in sorghum in central and southwestern areas. (Ariz. Coop. Sur.). NEW MEXICO - Heavy infestations damaging young barley near Animas, Hidalgo County. (N. M. Coop. Rpt.) OKLAHOMA - Medium to heavy populations in 2 fields of late-planted corn in Love County. (Vinson). MISSOURI - Heavy infestation noted in late field of grain sorghum in southwest. Aphids were inside of leaf sheaths and in other protected areas of plant. Counts ranged 100-400 per plant. (Kyd, Thomas, Munson).

RUSTY PLUM APHID (Hysteroneura setariae) - ARIZONA - Infestations medium to heavy in sorghum in central and southwestern areas. (Ariz. Coop. Sur.).

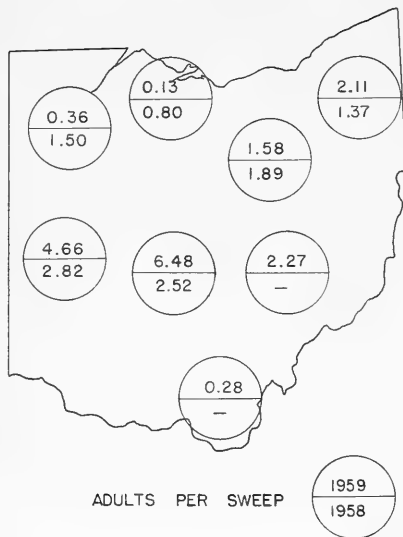
CHINCH BUG (Blissus leucopterus) - MISSOURI - Counts on late corn and grain sorghum ranged 5-60 per plant. (Kyd, Thomas, Munson).

GRASSWORMS - SOUTH CAROLINA - Caused loss of forage in a few Coastal Bermuda grass pastures in Allendale County, but damage has not been extensive. (Nettles et al.).

ASIATIC GARDEN BEETLE (Autoserica castanea) - NORTH CAROLINA - Infestation continues in pastures in Haywood County, with larvae about one-half grown on October 9. (Jones, Farrier).

GRASSHOPPERS - UTAH - Still numerous in and adjacent to soil-bank lands in several areas of Box Elder County. Dominant species is M. bilituratus. Mating and egg laying occurring. (Knowlton). COLORADO - Melanoplus bilituratus, M. femur-rubrum, M. differentialis and M. packardii present in equal numbers, ranging 0-1 per square yard in foothills west of Fort Collins, Larimer County. (Colo. Ins. Sur., Oct. 12). KANSAS - Egg survey conducted during past week in western area showed that generally egg counts reflect a smaller infestation than was found in adult survey in August. Counts ranged 0-1.4 egg pods per square foot in fields. Ratings ranged 1-3.5. Dominant species were M. differentialis, M. bivittatus and Aeoloplides turnbulli. Very little damage to fall-seeded wheat was observed in western area. (Bell, Peters).

MEADOW SPITTLEBUG SURVEY
IN OHIO



MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) - OHIO - Results of survey conducted in September indicate the probability of severe attacks in parts of State next spring. The adult population levels in 1959 compared with those in 1958 are shown on the map. It has been established that areas which have high fall populations of adults will be trouble spots the next spring. On that basis, central and southwestern areas can expect severe damage to forage crops next year unless control measures are undertaken. Only the northwestern and extreme southern areas will escape damage. In other areas, damage can be expected in some fields, but it will not be widespread. (Treece). WEST VIRGINIA - Annual fall survey in forage crops was conducted in 15 counties. State average was 1.43 per 100 sweeps. (W. Va. Ins. Sur.). DELAWARE - Adults remain fairly common in fields of alfalfa and present on clover in New Castle County. Adults present on alfalfa in Kent County. (Burbutis, Mason).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - CALIFORNIA - Light infestations occurring in Loyalton area, Sierra County. First record in the county. (Cal. Coop. Rpt.). UTAH -

Generally light in Box Elder and Cache County alfalfa fields. (Knowlton). ARIZONA - Continues heavy in susceptible, untreated alfalfa in central and southeastern areas. A high percentage of heavily infested fields have been treated and control appears excellent in most cases. Diseased aphids have also been noticed in some areas. (Ariz. Coop. Sur.). NEW MEXICO - Light to moderate infestations in Virden Valley alfalfa, mostly winged adults. Generally light in alfalfa near Animas, Hidalgo County. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 15 per sweep in alfalfa field in Love County (Vinson), 8 per sweep in field in Tillman County (Hatfield) and 10 per sweep in field in Grant County (Owens). KANSAS - Counts in Ellis County ranged 10-20 per sweep. (Harvey).

PEA APHID (*Macrosiphum pisi*) - NEW MEXICO - Appears to be building up in alfalfa in southern counties. (N. M. Coop. Rpt.). UTAH - Numerous and causing some damage at Bothwell, Box Elder County. (Knowlton).

ALFALFA CATERPILLAR (*Colias philodice eurytheme*) - UTAH - Present, but not numerous in alfalfa fields in Box Elder, Davis and Weber Counties. (Knowlton). ARIZONA - Infestations continue medium to heavy in southeastern area alfalfa. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 18-24 larvae per 25 sweeps in alfalfa fields in Virden Valley, Hidalgo County. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 0.6 small larva per square yard in field of Bermuda grass-vetch mixture in Love County. Eggs averaged 3 per square yard in same field. (Vinson). DELAWARE - Larvae present in alfalfa fields in New Castle and Kent Counties and present on clover in southern New Castle County. (Burbutis, Mason).

ALFALFA INSECTS - VIRGINIA - *Agrotis ypsilon*, *Laphygma frugiperda* and *Nomophilla noctuella* damaged alfalfa in Albemarle County near end of September and early October. (Rowell, Holland).

BEE T ARMYWORM (Laphygma exigua) - ARIZONA - Medium infestations, along with Prodenia ornithogalli, in some central area alfalfa fields. (Ariz. Coop. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Adults common to prevalent on legumes over the State. (Burbutis, Mason).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Averaged 2-4 adults per sweep in Hidalgo County alfalfa. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 4 per sweep in alfalfa field in Love County (Vinson), one per sweep in field in Tillman County (Hatfield) and Grant County (Owens).

THRIPS - UTAH - Numerous in alfalfa at Bothwell and Bear River City in Box Elder County. (Knowlton).

SOYBEAN PESTS - SOUTH CAROLINA - Specimens of fungus-diseased Heliothis zea and Anticarsia gemmatalis larvae were submitted to USDA Insect Pathology Laboratory at Beltsville, Maryland. Fungus was determined as Spicaria rileyi. This fungus may have been partly responsible for the decline in numbers of these pests on soybeans during September in some areas of the State. See CEIR 9(42):931. In Hampton County, soybean plants have set a heavy crop of fruit, but it is doubtful if enough leaf surface is left in spots for fruit to mature. Insects heavily damaged soybean leaves in short period during first part of September. This was the most expensive year in Allendale County for the control of soybean pests, largely A. gemmatalis, H. zea and Trichoplusia ni, since soybeans became an important crop in that county. (Nettles et al.).

GRANULATE CUTWORM (Feltia subterranea) - CALIFORNIA - Heavy populations damaging dichondra lawns in Santa Barbara, Santa Barbara County, and Sacramento, Sacramento County. F. subterranea and Hylephila phylaeus larvae heavy in dichondra lawns in Vacaville, Solano County. (Cal. Coop. Rpt.).

FRUIT INSECTS

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - DELAWARE - Third-brood larvae causing considerable damage to late apples at Georgetown. (Kelsey).

CODLING MOTH (Carpocapsa pomonella) - CALIFORNIA - Heavy in pear fruit in Plymouth, Amador County. (Cal. Coop. Rpt.). UTAH - Damage serious in most home orchards in State. (Knowlton).

PEACH TWIG BORER (Anarsia lineatella) - CALIFORNIA - Heavy larval infestations in peaches and twigs in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Heavy populations occurring on apple leaves in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

PEAR-SLUG (Caliroa cerasi) - OREGON - Noticeably abundant and damaging cherries, prunes and pears in Benton County. (Ritcher).

WOOLLY APPLE APHID (Eriosoma lanigerum) - OREGON - More abundant than usual in treated and untreated apple orchards in Willamette Valley. (Ritcher).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Migrating back to peach trees in Mesa County. Fall spray set for October 12-15. (Colo. Ins. Sur., Oct. 12).

ROSY APPLE APHID (Anuraphis roseus) - OREGON - Infesting untreated apple trees, with an estimated 75 percent infestation as a maximum in small localized areas and as high as 5 percent in some treated plantings around Corvallis. (Ritcher).

PEAR LEAF BLISTER (Eriophyes pyri) - COLORADO - Migrating back to bud scales. Fall spray set for October 5-15. (Colo. Ins. Sur., Oct. 12). OREGON - Has not left blisters on pear leaves in Medford area as of October 13. (Gentner).

SPIDER MITES - OREGON - Tetranychus telarius now going into hibernation around Medford and is no longer a problem this season. (Gentner). Panonychus ulmi now laying eggs in Willamette Valley. Mite damage severe at this time in untreated and poorly treated fruit trees. (Ritcher). Bryobia rubrioculus is noticeably abundant on sweet cherries in lower Willamette Valley. (Ritcher). TEXAS - Undetermined species causing some defoliation to pecan trees in De Witt County. (Turney).

SCALE INSECTS - CALIFORNIA - Parlatoria oleae and Saissetia oleae infestation medium on olives in Oroville, Butte County. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - LOUISIANA - Infestations very heavy on pecan trees in Avoyelles and Rapides Parishes. Trees being defoliated and nests cover large areas of the branches. (Spink).

BLACK-MARGINED APHID (Monellia costalis) - CALIFORNIA - Medium infestations occurring on pecan trees in Orland, Glenn County; Marysville, Yuba County; Durham, Butte County; and light in Hemet, Riverside County and in Live Oak, Sutter County. (Cal. Coop. Rpt.).

BLACK PECAN APHID (Melanocallis caryaefoliae) - CALIFORNIA - Medium infestations on pecan trees in Hemet area, Riverside County. (Cal. Coop. Rpt.).

AMERICAN PLUM BORER (Euzophera semifuneralis) - UTAH - Damaging pecan trees at Toquerville, Washington County. Det. H. W. Capps. (Knowlton, Hughes).

GRAPE SCALE (Aspidiotus uvae) - WEST VIRGINIA - Causing some local damage to grapes in Summers County. (W. Va. Ins. Sur.).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - NEVADA - Surveys in Las Vegas area, Clark County, for additional infested acreage were negative. (Zoller, Oct. 9).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - MARYLAND - Larvae have been injurious to collards in sections of Baltimore County. Treatments were required. (U. Md., Ent. Dept.). SOUTH CAROLINA - Gradually increased on fall cole crops in Charleston County during September, an average of 165 larvae per 100 untreated plants being found by end of month of field under observation. (Reid, Cuthbert, Day).

BEEF ARMYWORM (Laphygma exigua) - CALIFORNIA - Medium infestations on cauliflower reported from the Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Present on spinach and fairly common on turnips in Sussex County. (Burbutis, Mason).

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Heavy infestations occurring in Oxnard, Ventura County, tomato fields. (Cal. Coop. Rpt.).

PICKLEWORM (Diaphania nitidalis) - SOUTH CAROLINA - Increased in numbers on fall cucurbits in Charleston County during September; 25 percent of cucumbers harvested from untreated plots were infested at end of month. (Reid, Cuthbert, Day).

A NOCTUID (Protorthodes rufula) - CALIFORNIA - Light infestation on muskmelons in Holmes, Humboldt County. (Cal. Coop. Rpt.)

ONION MAGGOT (Hylemya antiqua) - NEVADA - Onions harvested in Reno-Sparks area, Washoe County, generally show heavy maggot damage. (Gardella, Oct. 9). MARYLAND - Maggots abundant and destructive to leeks (Allium parvum) in sections of Baltimore County. (U. Md., Ent. Dept.).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - CALIFORNIA - Continues to damage truck crops and alfalfa in Imperial Valley. This species has not been observed in Imperial County for many years. (G. D. Peterson).

GRANULATE CUTWORM (Feltia subterranea) - CALIFORNIA - Heavy populations occurring in mixed vegetable plantings in Sutter Creek, Amador County. (Cal. Coop. Rpt.).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - As of October 17, 1,336 acres in Maricopa, Pinal and Graham Counties have been found either infested with larvae or showing definite evidence of damage. Larvae were collected in the field on 598 acres and from gin trash or lint cleaners representing 364 acres. Definite evidence of damage has been found on 374 acres. Infestations in most cases are not heavy. The total acreage infested is greatest in Graham County. (Ariz. Coop. Sur.). NEVADA - Light trap surveys negative to date in Moapa Valley, Clark County, and Pahrump Valley, Nye County. (Bechtel, Potter). FLORIDA - Larva collected from hibiscus on September 25 at Plantation Yacht Harbor, Monroe County. Another collection at same location, made on September 28, also contained one larva. (Fla. Coop. Sur., PPC).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Still causing trouble in cotton. Migration of caterpillars to seedling lettuce, sugar beets and alfalfa is heavier than normal this year. (G. D. Peterson). ARIZONA - Infestations continuing medium to heavy in central and southwestern areas. Defoliation is heavy in many fields, but damage to crop appears light. (Ariz. Coop. Sur.).

BOLLWORM (Heliothis zea) - CALIFORNIA - Low numbers present in many fields. Controls may be worth while in late fields. (G. D. Peterson).

COTTON LEAFWORM (Alabama argillacea) - SOUTH CAROLINA - Heavy infestation in cotton in Allendale County, October 6. (Nettles et al.).

COTTON APHID (Aphis gossypii) - NEW MEXICO - Spotty infestations causing damage to lint in several cotton fields in Dona Ana, Luna and Hidalgo Counties. (N. M. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREES

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - TEXAS - Defoliating natural and planted reproduction pine throughout eastern area. Locally severe defoliation occurred in Cass, Polk and Shelby Counties. (Young). NORTH CAROLINA - Defoliating Virginia pine over wide area in Davidson County. (Carney).

SAWFLIES (undetermined) - NORTH CAROLINA - General defoliation of pond and loblolly pines in Dare and Tyrrell Counties. Some small pines being completely defoliated. (Earle). Several white pine trees being defoliated in Swain County. (Hampton). Scattered spots of shortleaf and loblolly pines being defoliated in Orange County. (Boyette, Riegel).

NANTUCKET PINE MOTH (Rhyacionia frustrana) - TEXAS - A medium infestation on pine trees in Van Zandt County. (Davis). NORTH CAROLINA - Two large plantations severely attacked in Wake County (Stoffregen), 2 percent infestation on 10 acres of loblolly pine in Rutherford County (Shaw) and a minor outbreak on loblolly pine noted in Davidson County (Hinshaw).

BAGWORM (Thyridopteryx ephemeraeformis) - NORTH CAROLINA - Severe attacks on Juniperus sp. and Chamaecyparis spp. scattered throughout upper Piedmont (Hinshaw) and defoliation of cedar trees noted in Orange and Davidson Counties (Kiser, Hinshaw).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - NORTH CAROLINA - Minor outbreak on loblolly pine in city of Manteo and in areas of Anson and Union Counties. (Foster). Local outbreaks reported in Granville, Warren and Durham Counties (Watkins, Davison, Craven); 40 trees attacked in Cherokee County (Howell, Champion); and 1/4 acre attacked in Cleveland County, with 3 trees dead and adjacent trees infested (Davis).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Continues in epidemic proportions. Two new spots located in September, each with over 200 brood trees. Rain continues to hamper control work. Ten spots lack control. (Young). NORTH CAROLINA - Eight additional shortleaf pines attacked at spot previously reported in Granville County. (Watkins).

WHITE PINE WEEVIL (Pissodes strobi) - NORTH CAROLINA - Five percent infestation on 5-acre plantation of white pine in McDowell County. (Shaw).

BARK BEETLES - CALIFORNIA - Ips confusus and Dendroctonus brevicomis causing partial and complete kill of ponderosa pines, singly and in groups of 2-5 trees, in Sierra National Forest in Miami and Bass Lake areas in about 10,000 acres of timber. Infestations associated with heavy snow breakage earlier. In general area along roads, broken tops were treated during the spring. (L. M. Whitfield). Phloeosinus cristatus was medium on white spruce in Eureka, Humboldt County. (Cal. Coop. Rpt.). NORTH CAROLINA - Small outbreak of Ips spp. following lightning strike in Anson County. (Ward). Small shortleaf pines being killed by I. avulsus in Person County (Davison) and 3/4 acre outbreak on shortleaf pine in Warren County in conjunction with turpentine beetle reported (Watkins).

BLACK PINE LEAF SCALE (Aspidiotus californicus) - CALIFORNIA - Causing severe damage in association with Chrysobothris californica to Jeffrey pines in local areas of Cuyamaca State Park. (R. Blanford).

SPRUCE BUD SCALE (Physokermes piceae) - CALIFORNIA - Medium infestation occurring on Sitka spruce in Crescent City, Del Norte County. (Cal. Coop. Rpt.).

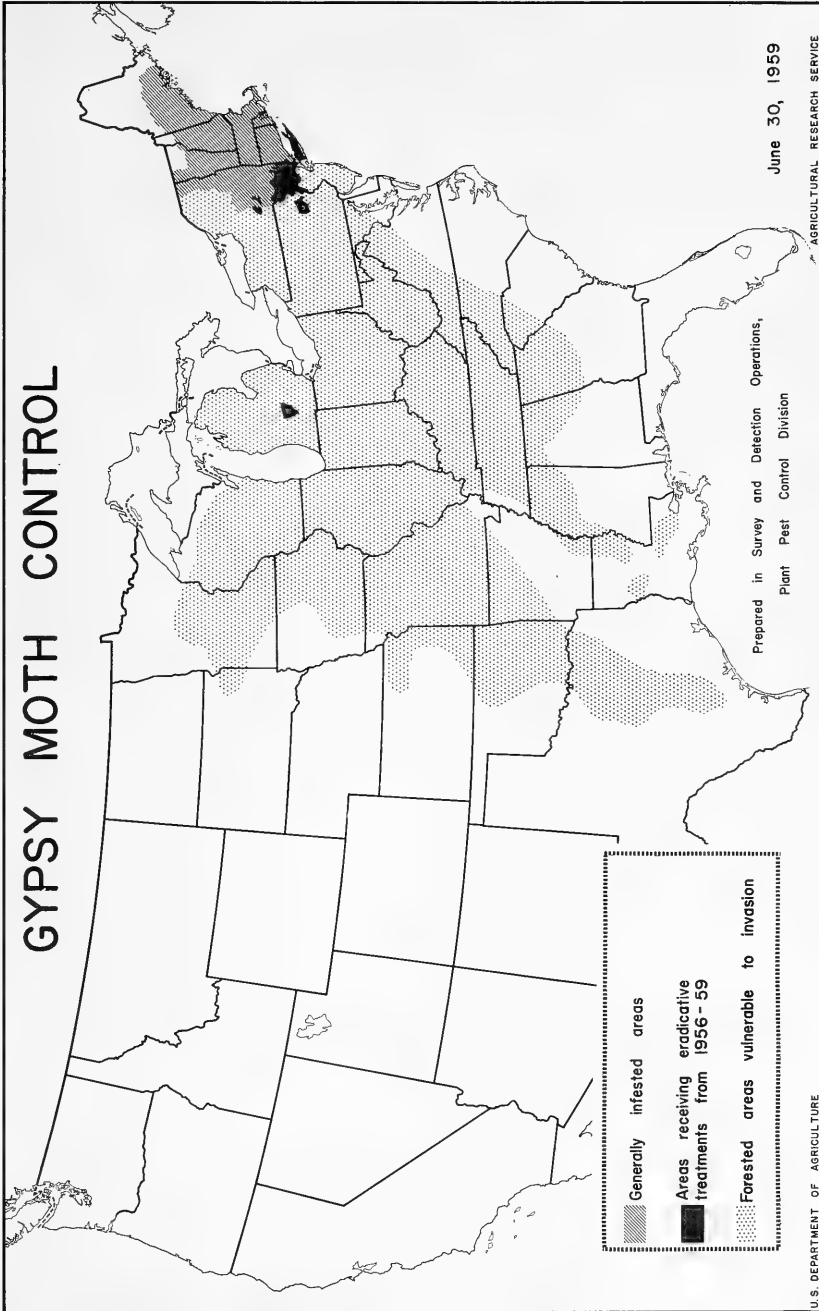
A PINE TWIG SCALE - NORTH CAROLINA - Undetermined species stunting loblolly pine seedlings in 40-acre plantation in Davidson County. (Hinshaw).

A SPITTLEBUG - NORTH CAROLINA - Observed on pine trees in Wilkes County. (Maxwell).

MITES - CALIFORNIA - Eotetranychus lewisi and Oligonychus puniceae occurring on box elder in Santa Ana, Orange County. O. puniceae light on silver maple in Covina, Canoga Park, and Monrovia, Los Angeles County; in Santa Barbara, Santa Barbara County; and in Costa Mesa, Orange County. Brevipalpus pini and Platyphytoptus sabinianae light on Bishop and Monterey pine in Camarillo, Ventura County. (Cal. Coop. Rpt.).

A PHYCITID (Acrobasis rubrifasciella) - WISCONSIN - Collected on Alnus sp. by Dr. Harry Coppel during July, 1958, in Polk County; first record of the species in the State. (Wis. Coop. Sur.).

GYPSY MOTH CONTROL



Prepared in Survey and Detection Operations,
Plant Pest Control Division

June 30, 1959

PAINTED MAPLE APHID (Drepanaphis acerifoliae) - CALIFORNIA - Medium infestations on maple trees in Modesto, Stanislaus County, and light in Porterville, Tulare County. (Cal. Coop. Rpt.).

OAK CATERPILLARS - TEXAS - Defoliated southern red oak in Jasper and Newton Counties and post oak in Burleson County. (Young).

A LEAF-EATING GRASSHOPPER (Dendrotettix quercus) - WISCONSIN - Found in a pine-oak area of eastern Portage County; first record in the county. (Wis. Coop. Sur.).

ASIATIC OAK WEEVIL (Cyrtepidomus castaneus) - WEST VIRGINIA - Causing moderate injury to oak in Cabell County. (W. Va. Ins. Sur.). First ARS record for county.

A FLATHEAD BORER - TEXAS - Undetermined species attacking post oak trees in larval stage in Van Zandt County. (Davis).

ELM SCURFY SCALE (Chionaspis americana) - KANSAS - Causing considerable damage to elm trees in Barton County. Counts average 300-400 scales per 6-inch length of branch. (Thompson).

A THRIPS (Gynaikothrips sp.) - CALIFORNIA - Medium to heavy infestations occurring on figs in San Diego, San Diego County. Delimiting survey by State and county continues. (Cal. Coop. Rpt.).

CONCHUELA (Chlorochroa ligata) - CALIFORNIA - Heavy populations occurring on Thuja sp. in Chico, Butte County. (Cal. Coop. Rpt.).

AN AZALEA CATERPILLAR (Datana major) - SOUTH CAROLINA - Causing severe damage to foliage of azaleas in Orangeburg County. (Nettles et al., Oct. 7).

BLACK SCALE (Saissetia oleae) - CALIFORNIA - Heavy on coleus plants in Oroville, Butte County. (Cal. Coop. Rpt.).

AN APHID - NEW MEXICO - Heavy populations on chrysanthemums at Las Cruces, Dona Ana County. (N. M. Coop. Rpt.).

GROUND MEALYBUG (Rhizoecus falcifer) - CALIFORNIA - Heavy infestations occurring on garden plants in Fortuna, Humboldt County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - Two authenticated reports of infestations in cattle received from West Carroll Parish. This constitutes the first reports from this parish this year. Sixteen new reports of infestations in cattle have been received from Madison Parish. (Spink).

HORN FLY (Siphona irritans) - TEXAS - Medium infestation on beef cattle in De Witt County. (Turney). OKLAHOMA - Counts averaged 125 per animal on beef cattle in east central area. (VanCleave).

TABANIDS - OKLAHOMA - Populations decreased sharply during past two weeks in east central area. (VanCleave, Washum).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Five grubs found on 102 yearling steers in Noble County. (Howell).

MOSQUITOES - NEVADA - Aedes nigromaculis is numerous and annoying in areas of Pahrump Valley, Nye County. (Bechtel, Lauderdale, Oct. 9). Culiseta inornata is present in large numbers in light traps in Moapa Valley, Clark County, and Pahrump Valley, Nye County. (Bechtel, Potter, Oct. 9). UTAH - Aedes dorsalis still numerous at Bothwell in alfalfa fields. (Knowlton).

BROWN DOG TICK (Rhipicephalus sanguineus) - ARIZONA - Continues to be a problem around homes in Phoenix area of Maricopa County. (Ariz. Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - A marked reduction noted in number of larvae and nymphs attaching themselves to humans, beginning week of October 5, in Wilburton area. (Cheatum).

BLACK WIDOW SPIDER (Latrodectus mactans) - UTAH - Bite on man in Weber County resulted in hospitalization; man reported as being in critical condition. (Knowlton).

STORED-PRODUCT INSECTS

RICE WEEVIL (Sitophilus oryza) - TEXAS - Heavy infestation observed in 8,000-10,000 bushels of stored corn in De Witt County. Heavy field infestations noted this year. (Turney). NEBRASKA - Bulk shelled corn in Pawnee County averaged 2 weevils per 1,000 gram sample. (Kantack).

BEAN WEEVIL (Acanthoscelides obtectus) - NORTH CAROLINA - Severe infestation in dried beans in Wake County. (Scott, Farrier).

INDIAN-MEAL MOTH (Plodia interpunctella) - MARYLAND - Larvae infested bagged soybean seed at Lower Marlboro, Calvert County. (U. Md., Ent. Dept.).

POTATO TUBERWORM (Gnorimoschema operculella) - VIRGINIA - Practically destroyed potatoes in storage locally in Albemarle County. (Rowell, Smith).

BENEFICIAL INSECTS

A PARASITE (Tetrastichus bruchophagi) - NEBRASKA - Averaged 20 per sweep in one field left for seed in Jefferson County. No evidence of host was observed. (Simpson, Sept. 26).

MISCELLANEOUS INSECTS

OLD-HOUSE BORER (Hylotrupes bajulus) - MARYLAND - Larvae infesting pine wood in homes at localities in Queen Annes and Carroll Counties. (U. Md., Ent. Dept.).

STINGING ROSE CATERPILLAR (Parasa indetermina) - SOUTH CAROLINA - Collected on dogwood at Pendleton, Anderson County, on August 28, by Barbara White. Det. H. W. Capps. First record for the State. (Nettles, McAlister).

BUCK MOTH (Hemileuca maia) - ARIZONA - Becoming numerous and a problem around homes in some areas of Tucson, Pima County. (Ariz. Coop. Sur.).

A PYRALID (Aglossa caprealis) - TEXAS - One pair of shoes destroyed in a home in Lamar County and was feeding on clothing. No previous records on cloth have been noted. Det. H. W. Capps. (Texas Coop. Rpt.).

A MITE (Dermatophagoides pteronyssina) - MARYLAND - Collected from clothing at Forest Hills, Prince Georges County, on August 5. Det. by E. W. Baker. This species feeds on organic matter; feathers, coarse fabrics, monkey food, etc. They are not known to injure man. (U. Md., Ent. Dept.).

A GRASS BUG (Arhyssus barberi) - OREGON - Entering homes in Salem area week of October 5. Det. J. D. Lattin. (Eppley).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Mocis latipes	Laphygma frug. exigua	Agrot. yps.	Prod. ornith.	Heliothis zea
ARIZONA						
Mesa 10/5-11			1,937		522	98
COLORADO						
Rocky Ford 9/27-10/5						103
FLORIDA						
Gainesville 10/14		61			3	
Monticello 9/13		26			2	
Quincy 10/12		19				
KANSAS						
Garden City 10/7,9	44				8	
Hays 10/10,13,15					5	68
Manhattan 10/11-16				1	3	1,130
LOUISIANA						
Baton Rouge 10/9-15	10		115	4	5	11
MISSOURI						
Columbia 10/12-17	5		5		4	49
NEBRASKA						
North Platte 10/6-12	31			144		464
Scotts Bluff 10/2-8	9			24		14
Lincoln 10/6-14	10		30	9	21	7,938
SOUTH CAROLINA						
Clemson 10/10-16	75		37	8	43	16
TENNESSEE (Counties)						
Monroe 10/6-12	16			12	12	96
Madison 10/6-12	48			12	8	196
Maury 10/6-12	24		4	10	108	122
Robertson 10/6-12	40			5	35	155
Cumberland 10/6-12	36			36	32	76
Greene 10/6-12	16		16	4	36	12
Blount 10/6-12	36		44	24	272	96
Johnson 10/6-12	216		16	96	540	304

ADDITIONAL COLLECTIONS - COTTON LEAFWORM (*Alabama argillacea*) - MISSOURI, Columbia - (10/12-17) - 15; NEBRASKA, Lincoln - (10/6-14) - 1.

ADDITIONAL NOTES

OREGON - Larvae of a SOD WEBWORM (*Crambus* sp.) are severely damaging a Merion bluegrass seed field in Yamhill County. This is first injury in commercial seed fields observed in western area of State since 1956. The field in question is 15 acres in area. Damage, although extensive, is spotty. (Dickason). SPOTTED ALFALFA APHID (*Therioaphis maculata*) is still reported increasing in numbers around Hermiston, with damage apparent. Numbers were found October 6 in fields near Stanfield where they were absent 10 days before. (Every, Bierman). PEA APHID (*Macrosiphum pisi*) numbers are increasing and are above normal for time of year in alfalfa fields around Klamath Falls. (Vertrees).

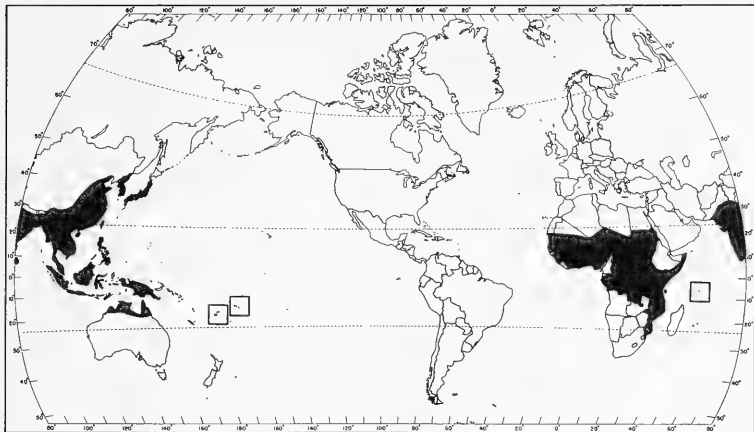
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

COTTON LEAF ROLLER (Sylepta derogata F.)

Economic Importance: This pyralid is generally distributed throughout the rain fed cotton-growing areas of Africa and Asia. The larvae are leaf feeders and may defoliate the plants to the extent that a serious check of growth results. In India, this insect is considered to be the most destructive foliage pest of cotton. The American varieties of cotton are more severely attacked than the native varieties. In Africa, outbreaks are usually controlled by parasites, notably species of Apanteles.

Distribution: Occurs throughout a wide area in Asia, Africa and on the Pacific and Indian Ocean Islands. It has also been recorded in Australia.

Hosts: Mostly confined to the Malvaceae, those most commonly recorded being Gossypium and Hibiscus esculentus.

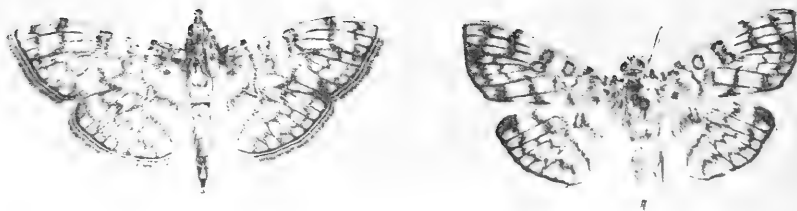


General Distribution of Sylepta derogata

Life History and Habits: The females fly at night, laying eggs singly, or in groups, on either side of the leaf. The eggs hatch in about 3 days and young larvae wander a little at first, then congregate within a roll of leaf formed and secured by the threads they spin. When partly grown, they disperse and each forms a separate roll. In those varieties of cotton with a large leaf, the whole or a great part of the leaf is tied together and if the larva eats much of the base, the leaf withers. Smaller leaves may be completely destroyed by the larva. These folded leaves that are formed by the larva are fairly characteristic of the species. Larval development takes about 22 days and pupal development about 8 days. Pupation may occur in the rolled leaf or in debris on the ground. The cool season and subsequent hot, dry season may be spent as a resting larva. The total life cycle ranges from 3 to 7 weeks, depending on the area and climatic

conditions. Several generations develop annually, as many as 4 being recorded in China. The larva of the last generation overwinters.

Description: EGG is smooth, somewhat flattened, yellowish-green. LARVA is up to 22-24 mm. long; greenish-white with a smoky tinge, semi-translucent; head dark brown, thoracic shield black with a dirty-white dorsal patch, thoracic feet black with a white ring. PUPA brown, 10-14 mm. long, having at its extremity eight straight spines with hooked tips. ADULT with light cream background; head and thorax dotted black, abdomen with brown rings, wings traversed by numerous brown or black wavy pencillings, with a black border and grayish fringe. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(43):10-23-59.



Male and Female of Sylepta derogata

Adults - USDA photograph

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

SPOTTED ALFALFA APHID continues heavy in central and southeastern areas of Arizona and is becoming heavy in Dona Ana County, New Mexico. (p. 962).

CITRUS THRIPS heavy in many Maricopa County, Arizona, citrus groves. (p. 963).

Twenty-two new SCREW-WORM cases reported in Madison Parish, Louisiana. HORN FLY heavy and continues a problem on cattle in areas of New Mexico. STABLE FLY is very annoying to cattle and horses in Luna County, New Mexico. (p. 966). BLACK WIDOW SPIDER is causing considerable concern among homeowners in southern New Mexico and in the Logan area of Utah. (p. 967).

All known KHAPRA BEETLE infestations in Texas treated by end of September. (p.967).

A BEE MITE (Acarapis sp., probably dorsalis) found in California. Surveys for Acarapis woodi, the species responsible for acarine disease, have been negative. A.dorsalis is not of economic importance. A COCKROACH (Eurycotis lixa) collected for third time at Key West, Florida. (p. 968).

INSECT DETECTION: New state records reported were harlequin bug in Wisconsin (p. 964) and a tineid (Lindera tessellatella) in Nevada (p. 961). New county records reported were southwestern corn borer in Sabine Parish, Louisiana (p.961); white-fringed beetles in Tallapoosa County, Alabama, Marion County, Georgia, Warren County, Mississippi, and Hoke County, North Carolina (p. 962); soybean cyst nematode in Southampton County, Virginia (p. 963); and pink bollworm in Cleveland County, Arkansas (p. 965).

SURVEY METHODS - Methods used for beet webworm and sweetclover weevil in North Dakota. (p. 970).

INSECTS not known to occur in the United States. (p. 971).

Means of recognizing larvae of JAPANESE BEETLE and EUROPEAN CHAFER. (p. 973).

Reports in this issue are for week ending October 23, unless otherwise indicated.

WEATHER OF THE WEEK ENDING OCTOBER 26

Temperatures averaged above normal from the Pacific coast to the Missouri Valley and in Florida, near normal from the Atlantic coast to the Mississippi Valley, and below normal over the northern Great Plains and upper Great Lakes. Unusual warmth for so late in the season was recorded from California to the western Great Plains and Texas, and precipitation was very light or absent over that region. Yuma, Arizona, reported 105° and Reno, Nevada, 89° on the 24th; Laredo, Texas, 99° on the 26th; Red Bluff, California, 99° on the 23rd; and North Platte, Nebraska, 87° on the 25th, all record maximum temperatures for so late in the season.

Early in the week, precipitation was confined to the Pacific Northwest and to the Southeastern States. In the Southeast, a low pressure area moved northeastward across Florida, producing heavy showers and thunderstorms on Tuesday and Wednesday. Local totals in 24 hours of over 7 inches in southeast Florida, and 2 to 4 inches in Alabama, Georgia, and South Carolina were recorded. Showers continued until the weekend over this region, adding to one of the wettest 3-week periods on record. On Thursday rain extended from the wet Southeast into the Middle and North Atlantic States, and from the Pacific Northwest into the northern and middle Mississippi Valley. A vigorous low-pressure area developed rapidly on Thursday night in the northern Great Plains and colder air flowed rapidly southward and eastward from Wyoming and Nebraska to the Texas coast and Ohio Valley on strong, gusty winds in the next 24 hours. The cold air pushed off the Atlantic and Gulf coasts and to southern Florida by early Sunday, replacing the rain and unusual warmth in the Southeast with more nearly seasonal conditions. Extensive precipitation accompanied the advance of the cooler air over the eastern half of the Nation. Greatest totals were recorded in New England, the upper Great Lakes, and the North Atlantic States. Locally heavy rains near the low center in southern Wisconsin and Michigan turned to heavy snow over the northern portions of those states, Minnesota and North Dakota. Over the weekend Marquette, Michigan, received 9 inches of heavy, wet snow, and up to 7 inches fell along the Wisconsin-Minnesota border. Excessive rainfall and strong winds along the cold front in the Northeast on Saturday left widespread damage from local flooding and wind in New England. Precipitation was greatest in parts of Maine, New Hampshire, southern New England and New York, and in the mountains of Pennsylvania and West Virginia. Totals up to 3 inches in 6 hours were recorded in Connecticut, and 4 inches in 24 hours from New York to New Hampshire.

Another low-pressure area moved into the northern Great Plains on Sunday, bringing a strong flow of cold air from the Dakotas and Minnesota into the southern Great Plains and the lower Missouri Valley on northerly winds of over 40 mph, and additional snow from the Dakotas into the Great Lakes. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (*Pyrausta nubilalis*) - OKLAHOMA - None noted in an extensive survey of an early-planted corn field in northern Payne County. (VanCleave). LOUISIANA - Completed distribution survey gave negative results for West Baton Rouge, Pointe Coupee, St. Landry, Evangeline, Allen, Beauregard, Vernon, Rapides, Avoyelles, Sabine and De Soto Parishes. (Spink).

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) - OKLAHOMA - Damaged 24 percent of stalks in a field of early corn checked in Payne County. Larvae averaged 16 per 100 stalks examined. (VanCleave). LOUISIANA - Distribution survey completed in West Baton Rouge, Pointe Coupee, St. Landry, Evangeline, Allen, Beauregard, Vernon, Rapides, Avoyelles, Sabine and De Soto Parishes. Negative results were obtained except in Sabine Parish, which constitutes a new parish record. (Spink).

FALL ARMYWORM (*Laphygma frugiperda*) - TEXAS - Medium to heavy infestations damaging pastures and small grain in Calhoun County. (Texas Coop. Rpt.).

APPLE GRAIN APHID (*Rhopalosiphum fitchii*) - OKLAHOMA - None noted in small grain fields checked in Noble County (VanCleave); averaged 0.4 per square foot in field of oats and vetch in Atoka County and 3 per square foot in another field in Love County (Vinson); averaged 0.5 per linear foot of row in a wheat field in Tillman County and none were noted in 7 small grain fields in Tillman, Jackson and Kiowa Counties (Hatfield).

GREENBUG (*Toxoptera graminum*) - OKLAHOMA - None noted in small grain fields surveyed in Noble County. This area was hit hard by this species during the spring of 1959. Volunteer plants fairly common in the area. (VanCleave). Averaged 0.3 per square foot in a field of oats and vetch in Atoka County and none noted in a Jefferson County oat field. (Vinson). None were noted in 8 small grain fields in Tillman, Jackson and Kiowa Counties. (Hatfield).

CORN LEAF APHID (*Rhopalosiphum maidis*) - IDAHO - Generally moderate numbers infesting roadside grasses in Tammany area, Nez Perce County. (Portman, Gittins, Oct. 19). ARIZONA - Infestations continue very heavy in grain sorghum statewide. (Ariz. Coop. Sur.). OKLAHOMA - Averaged 8 per square foot in a Jefferson County oat field and 5 per square foot in a field of oats and vetch in Love County (Vinson); populations medium to heavy in 2 grain sorghum fields and averaged 3 per linear foot of row in an oat field in Tillman County (Hatfield, Presgrove).

RUSTY PLUM APHID (*Hysteroneura setariae*) - ARIZONA - Continues very heavy in grain sorghum statewide. (Ariz. Coop. Sur.).

HESSIAN FLY (*Phytophaga destructor*) - NEBRASKA - Completed 1959 survey was conducted in 6 sections of the State in a total of 27 counties. The total number of 50-stem samples made was 61, with 1-5 samples being made in each county sampled. The average percent of stems infested by sections was 2 in north, 8.1 in east, 8.5 in southeast, 2 in central, 5.2 in south and 6.5 in southwest. (Webb, Simpson). Report in CEIR 9(41):913 incomplete. KANSAS - Eggs were found on all of 23 volunteer wheat plants from various areas in Norton County. Sixteen percent of population was in pupal stage; no young larvae were present. (Jones).

A TINEID (*Lindera tessellatella*) - NEVADA - Light infestation in wheat in Lovelock, Pershing County. This is the first record of this species in the State. (Bechtel, Martinelli, Oct. 16).

A GRASSWORM (*Mocis* sp.) - GEORGIA - Heavily infesting Dallis grass in Spalding County. (Dupree, Oct. 10).

A CERAMBYCID (*Prionus* sp.) - GEORGIA - Continues to infest Bahia grass in Seminole County, averaging 6 larvae per square foot. (Tippins, Oct. 19).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ALABAMA - Surveys were conducted in 37 counties of the State, with 4,807 additional acres being found infested. Tallapoosa County found infested for first time. Aircraft treatment of 1,040 acres completed treatment of military establishments in Montgomery. GEORGIA - Numerous extensions found, including 3,000 acres in Macon County, 200 acres at Milledgeville and about 200 acres at Portal. Marion County found infested for first time. MISSISSIPPI - Infested acreage increased by 21,261 acres during September. Warren County found infested for first time. NORTH CAROLINA - Extensions found in 3 counties and Hoke County found infested for first time. SOUTH CAROLINA - Total of 161 additional acres found infested in 6 counties. TENNESSEE - Surveys in 13 counties were negative except for infestations found in Shelby County. (PPC, So. Reg., Sept. Rpt.). NEW JERSEY - During September, 25 sites in Atlantic and Cumberland Counties were inspected, with negative results. VIRGINIA - Survey work was completed in 9 eastern counties during September, while in 7 additional counties 77 inspections were made. All results were negative. (PPC, East. Reg.).

EUROPEAN CHAFER (Amphimallon majalis) - WEST VIRGINIA - At the Capon Bridge infestation, 49 acres were cooperatively treated. NEW YORK - Cooperative control treatments at isolated upstate infestations were completed on approximately 269 acres at Southport and 168 acres at Lockport. Treatment of 175 acres at Niagara Falls is still in progress. At the southern tip of Manhattan in New York County, 16 acres of turf were treated. This treated area included Battery Park, Bowling Green and the Battery tunnel entrance to Brooklyn. (PPC, East. Reg., Sept. Rpt.).

NORTHERN MASKED CHAFER (Cyclocephala borealis) - PENNSYLVANIA - Infesting turf of a golf course in Fayette County. Severe injury on fairway. Skunks rooting in turf after grubs have made sections of the course impossible for play. (Udine).

A LEAFHOPPER (Deltocephalus fuscineruosus) - CALIFORNIA - Heavy populations occurring on lawns in Fresno, Fresno County. (Cal. Coop. Rpt.).

GRASSHOPPERS - UTAH - Remain numerous in some high areas of the Cache National Forest. Several species are conspicuous, with Melanoplus bilituratus dominant. (Knowlton).

SPOTTED ALFALFA APHID (Therioaphis maculata) - IDAHO - A late fall survey indicates fewer numbers in the Lewiston and Waha areas, Nez Perce County, than at same time in 1958. Summer and early fall observations failed to disclose presence of this species until October 15. (Portman, Gittins, Oct. 19). NEW MEXICO - Populations becoming heavy in Dona Ana County alfalfa fields. Most seedling alfalfa has been treated. (N. M. Coop. Rpt.). ARIZONA - Continues heavy in central and southeastern alfalfa, where no controls have been applied. Populations in some fields are building back following one control application; second applications may be necessary. Counts during first half of October averaged 4.87 per trifoliolate leaf in 10 Maricopa County fields, but were down to 3.58 during third week. This figure was affected by control applications and there is little indication that infestations are declining. In Yuma County, infestations are increasing, but at present are only light to medium in most fields. (Ariz. Coop. Sur.). OKLAHOMA - Averaged 6 per sweep in a Johnston County alfalfa field (Vinson) and 8 per sweep in an alfalfa field in Tillman County (Hatfield). MISSOURI - Counts in one Johnson County field ranged 45-125 per sweep. Counts in other west central area fields ranged 0-60 per sweep. (Kyd, Thomas, Munson).

PEA APHID (Macrosiphum pisi) - UTAH - Light to moderate in Sanpete County alfalfa fields. (Knowlton). NEW MEXICO - Moderate to heavy in alfalfa fields in Dona Ana and Luna Counties. (N. M. Coop. Rpt.). MISSOURI - Counts in west central area alfalfa ranged 2-15 per sweep. (Kyd, Thomas, Munson). DELAWARE - Colonies remain numerous in New Castle and Kent Counties and common in Sussex County on alfalfa. (Burbutis, Mason).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSOURI - Counts in alfalfa in west central area ranged 5-12 per sweep. (Kyd, Thomas, Munson). DELAWARE - On alfalfa, adults averaged 6-10 per sweep and nymphs were common in New Castle County; adults common in Kent and Sussex Counties. Adults and nymphs abundant in buckwheat in Sussex County. (Burbutis, Mason).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Heavy in some Yuma County alfalfa fields, with considerable girdling evident. (Ariz. Coop. Sur.). OKLAHOMA - Averaged 8 per sweep in an alfalfa field checked in Johnston County (Vinson) and 1.5 per sweep in an alfalfa field surveyed in Tillman County (Hatfield).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Adults and nymphs remain on alfalfa throughout the State, with a slight increase in New Castle County. (Burbutis, Mason).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Infestations heavy along edges of some alfalfa fields in central area of State. (Ariz. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - GEORGIA - Heavy infestation on white clover in Spalding County. (Dupree, Oct. 9). DELAWARE - Larvae present in alfalfa in New Castle and Kent Counties. (Burbutis, Mason).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - DELAWARE - Adults remain common (4 per 10 sweeps) on New Castle County alfalfa and fairly common on same host in Kent and Sussex Counties. Adults fairly common on buckwheat in east central Sussex County and present on cover crop in northeastern Kent County. (Burbutis, Mason).

SOYBEAN CYST NEMATODE (Heterodera glycines) - VIRGINIA - Confirmation was received on the first infestation in Southampton County. (PPC, East. Reg., Sept. Rpt.).

FRUIT INSECTS

LESSER PEACH TREE BORER (Synanthedon pictipes) - NORTH CAROLINA - Up to 13 borers on one tree and infestation general in Montgomery County. Growers have neglected summer sprays for control this year. (Jones, Farrier).

SCALE INSECTS - ARIZONA - Light infestations of Aspidiotus perniciosus present on apple trees in Oak Creek Canyon area of Coconino County and of Icerya purchasi in a few Maricopa County citrus groves. (Ariz. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Infestations heavy in many Maricopa County citrus groves, especially where top work has been done. (Ariz. Coop. Sur.).

A THRIPS (Gynaikothrips sp.) - CALIFORNIA - Light to heavy infestations occurring on Ficus spp. in San Diego, El Cajon, National City, La Mesa and La Jolla in San Diego County. (Cal. Coop. Rpt.).

A TEPHRITID (Acinia fucata) - FLORIDA - Adult taken at Hillsborough County International Airport during September in a fruit fly trap. (PPC, So. Reg.).

MEXICAN FRUIT FLY (Anastrepha ludens) - TEXAS - The 1959-60 citrus season opened on September 14. Trap operations were resumed the first of September, with 2,200 traps on 110 properties placed in operation in Hidalgo, Cameron and Willacy Counties. During September, 6,040 trap inspections were made, with negative results. Two A. serpentina adults were taken. (PPC, So. Reg.). MEXICO - Total of 1,895 traps were operated at Tijuana, Tecate and Ensenada, Baja California, with negative results. (PPC, Mex. Reg., Sept. Rpt.).

MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) - FLORIDA - More than 8,100 traps were in operation during September in the State. All results were negative. Total of 306 traps were operated in ALABAMA, GEORGIA, LOUISIANA, MISSISSIPPI and TEXAS, with negative results. (PPC, So. Reg., Sept. Rpt.).

CITRUS BLACKFLY (*Aleurocanthus woglumi*) - TEXAS - Inspection period for 1959, which began February 1, ended on September 10. As of August 31, 1959, three years have elapsed since the last infestation was found. (PPC, So. Reg.). MEXICO - Surveys continued in chemical and free zones of states of Tamaulipas, Nuevo Leon, Sonora and Baja California. In these zones, 169,272 citrus trees on 1,440 properties were inspected and 10 trees on 3 properties found lightly infested. Two properties were in Allende and one in Montemorelos, Nuevo Leon. (PPC, Mex. Reg., Sept. Rpt.).

TRUCK CROP INSECTS

HARLEQUIN BUG (*Murgantia histrionica*) - WISCONSIN - Collected in Green Lake County on rape, September 1, 1959. As far as can be determined, this is the first record of this species for the State. (Wis. Coop. Sur.).

BLACK CUTWORM (*Agrotis ypsilon*) - CALIFORNIA - Medium on radishes in San Ysidro, San Diego County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (*Trichoplusia ni*) - ARIZONA - Light in lettuce statewide. Egg counts continue high in some areas. (Ariz. Coop. Sur.). DELAWARE - Eggs and first-instar larvae present on cabbage and cauliflower in southern New Castle County. (Burbutis, Mason).

BEE T ARMYWORM (*Laphygma exigua*) - ARIZONA - Larvae averaged 2 per plant in untreated lettuce fields in Yuma County. Some growers experiencing difficulties in control. Egg counts are high. (Ariz. Coop. Sur.).

LIMA-BEAN POD BORER (*Etiella zinckenella*) - CALIFORNIA - Medium on beans in Alamo, Contra Costa County. (Cal. Coop. Rpt.).

GARDEN WEBWORM (*Loxostege similalis*) - DELAWARE - Larvae very common on beets in eastern Kent County and numerous on same host in northeastern Sussex County. (Burbutis, Mason).

MORNING-GLORY LEAF MINER (*Bedellia somnulentella*) - CALIFORNIA - Heavy on sweet-potatoes in Ontario, San Bernardino County. (Cal. Coop. Rpt.).

GOLDEN NEMATODE (*Heterodera rostochiensis*) - MAINE - Annual fall survey was initiated during September. RHODE ISLAND - A total of 374 grader and 4 field samples were collected from 37 properties representing 2,004 potato acres. Results were negative. MASSACHUSETTS - Survey activities began September 23. NEW JERSEY - Soil samples were collected at 34 sites in Cape May, Middlesex and Monmouth Counties and sampling operations began in the Freehold area on the 30th. NEW YORK - Post fumigation surveys were completed on 2 infested fields on the north fork of Long Island and on one Nassau County property. From an estimated 58 acres, over 800 samples were collected and 900 cysts recovered from 88 samples. Dissection and observation of contents revealed no evidence of life. All samples collected during the spring survey on the south fork of Long Island have been processed, with no additional infestations found. (PPC, East. Reg.). GEORGIA - Samples taken from 8 counties during September. Identification of cysts collected is pending. FLORIDA - Processing of samples collected earlier were examined during September. *Heterodera* sp. cysts were recovered from 34 of 47 properties. Some cysts were different in appearance from others. No golden nematode cysts have been recovered to date. During the latter part of the 1959 Fiscal Year, a total of 297 samples were collected, representing 7,639 acres in NORTH CAROLINA and 200 samples, representing 6,000 acres, were collected in SOUTH CAROLINA. All samples were negative for golden nematode. (PPC, So. Reg., Sept. Rpt.).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - ARKANSAS - Cleveland County was found infested for the first time during September. TEXAS - Infestation lighter than in previous years in most counties, as indicated by gin trash inspections. (PPC, So. Reg., Sept. Rpt.). LOUISIANA - Gin trash inspections during September in southern part of the infested area were negative for first time in several years. (PPC, So. Reg.). Larvae found in gin trash in Caddo, Claiborne, De Soto and Lincoln Parishes. (Spink, PPC). MISSOURI - In southeastern area, 490 bushels of trash, representing 10,617 acres, were examined as of mid-September. All results were negative. (PPC, Cent. Reg.). MEXICO - Within the regulated area in the states of Nuevo Leon, Coahuila, Durango, Chihuahua and Sinaloa, lint cleaner and green boll inspections revealed 103 infestations. All infestations were light except those in Laguna region. (PPC, Mex. Reg., Sept. Rpt.).

COTTON LEAFWORM (Alabama argillacea) - FLORIDA - Larvae completely stripping foliage from cotton plants at Quincy, Gadsden County, October 19. Det. W. B. Tappan. Infestation considered heavy. (Fla. Coop. Sur.). GEORGIA - Defoliating cotton throughout southern part of State. (Johnson).

COTTON APHID (Aphis gossypii) - NEW MEXICO - Heavy in several fields in Luna and Dona Ana Counties. Honeydew causing some damage to lint. (N. M. Coop. Rpt.).

SPIDER MITES - NEW MEXICO - Late season buildup of unspecified species in several cotton fields in the Deming area, Luna County. (N. M. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

AN OLETHREUTID (Eucosma gloriola) - PENNSYLVANIA - White pines in a plantation in Fayette County averaged 4 dead twigs per tree and Scotch pines less than one per tree. (Udine).

BARK BEETLES - IDAHO - A few lodgepole pine trees currently attacked by Dendroctonus monticolae above Berge Creek, St. Joe National Forest. (Tunnoch, Oct. 19). CALIFORNIA - Ips spp. and Dendroctonus brevicomis causing top kill and complete kill on approximately 5,000 acres of ponderosa pines in the North Fork district of Sierra National Forest. Killing trees 18-50 inches in diameter in groups of 2-15. Infestation increasing and associated with fire and blowdown this spring. (R. J. Austin). D. brevicomis causing severe damage in Kings River district, Sierra National Forest, in a 300-acre stand of ponderosa pines; killing in groups up to 15. Damage associated with recent snow and clearing for dam construction on the Kings River. (Cal. Coop. Rpt.).

SUGAR-PINE CONE BEETLE (Conophthorus lambertianae) - CALIFORNIA - Causing twig killing in sugar pines in Yosemite National Park. This type of damage is rather widespread this season and much heavier than normal, probably due to heavy population of cone beetles and light sugar pine cone crop this season. (T. H. Harris, C. B. Eaton).

PALES WEEVIL (Hylobius pales) - PENNSYLVANIA - Caused considerable fall injury to white and Scotch pines in Christmas tree plantation in Fayette County. Weevils easily found in duff under trees. (Udine).

HEMISPHERICAL SCALE (Saissetia hemisphaerica) - CALIFORNIA - Medium on spruce trees in Santa Barbara, Santa Barbara County. (Cal. Coop. Rpt.).

A CHERMID (Pineus coloradensis) - CALIFORNIA - Heavy on lodgepole pines in Sierra National Forest, along new highway above Huntington Lake. Many trees now showing damage. (R. Blomstrom).

GYPSY MOTH (Porthetria dispar) - NEW JERSEY - As a result of preliminary scouting, 4 egg clusters were found at Jockey Hollow Park, Morristown, on September 25. MASSACHUSETTS - Several egg clusters were discovered in the peripheral area at Westfield. CONNECTICUT - Egg clusters were found in the border area around a nursery in Manchester. NEW YORK - A single egg mass was found on a nursery maple at Millbrook, in the generally infested area of Dutchess County. Infestation remains at a low ebb in all slate quarries surveyed to date in northeastern area of State. (PPC, East. Reg.).

A SCOLYTID (Pseudopityophthorus pruinosis) - PENNSYLVANIA - Collected on recently cut scarlet oak in Centre County. Det. W. H. Anderson. (Drooz).

SPIDER MITES - NEW MEXICO - An undetermined species damaging arborvitae at Las Cruces, Dona Ana County. (N. M. Coop. Rpt.).

PUSS CATERPILLAR (Megalopyge opercularis) - TEXAS - Damaging shade trees and molesting residents in De Witt County. (Turney).

CALIFORNIA TORTOISE-SHELL (Nymphalis californica) - IDAHO - Defoliated 200 acres of Ceanothus sp. within the St. Joe National Forest and 40 acres along Sheep Mountain Creek on the Clearwater National Forest. (Tunnock, Oct. 19).

APHIDS - IDAHO - Winged forms (apparently numerous species) extremely abundant in Nez Perce area of Lewis County. (Dailey, Oct. 19). Cinara sp. noticeably attacked grand fir trees during August in many areas, with copious flows of honeydew over the needles. Specific infestations were reported in Coeur d'Alene National Forest; St. Maries, Benewah County; and Copeland, Boundary County. (Tunnock, Oct. 19).

A COREID (Arhyssus bohemani) - NORTH CAROLINA - Adults feeding on seed pods of althea in Sampson County. (Scott, Farrier).

EUONYMUS SCALE (Unaspis euonymi) - OKLAHOMA - Severe infestation on Euonymus japonicus checked in Tulsa. (Stiles).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Aedes sollicitans heavy in Dare and Carteret Counties. (Ashton).

BLACK FLIES - UTAH - Annoying hunters in parts of Cache National Forest in Cache and Rich Counties. Also annoying residents in Bothwell and Tremonton in Box Elder County and in Logan Canyon in Cache County. (Knowlton).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - Twenty-two new infestations reported from Madison Parish. Cases involve one hog, one sheep and 20 cattle. (Spink).

HORN FLY (Siphona irritans) - NEW MEXICO - Heavy populations continue to be a problem on cattle in Luna, Grant and Hidalgo Counties. (N. M. Coop. Rpt.). OKLAHOMA - Averaged 150 per animal on 75 beef cattle in Pushmataha County (Goin); 50 per cow and 10 per 300-pound calf on 105 cattle in Atoka County (Vinson); 25-50 per animal on 50 head of 2-year-old beef cattle at Fort Reno (Kinzer); and 100 per animal on 30 mature beef cows in Payne County (VanCleave) and 75-90 per yearling steer and 100-125 per 2-year-old steer on 100 head in western part of same county (Howell).

STABLE FLY (Stomoxys calcitrans) - NEW MEXICO - Very annoying to cattle and horses in Luna County. (N. M. Coop. Rpt.).

CATTLE LICE - UTAH - Many cattle on range in Washington and Kane Counties conspicuously infested. (Knowlton, Oct. 19).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Heavy on some brood sows checked in Jefferson County. (Vinson).

VESPIDES - UTAH - Wasps and yellow jackets annoying about camp sites in Cache National Forest. (Knowlton, Oct. 19). KANSAS - Have become extremely numerous and are creating a considerable nuisance problem in some homes and buildings in Finney County area. (DePew).

BLACK WIDOW SPIDER (Latrodectus mactans) - NEW MEXICO - Very abundant around homes and ranch buildings in southern counties and causing considerable concern among homeowners. (N. M. Coop. Rpt.). UTAH - Causing serious concern in barracks-type housing area in Logan. Four mature females found in one apartment recently. A 12-year-old boy was bitten at Ogden. (Knowlton).

EAR TICK (Otobius megnini) - OKLAHOMA - One found on 50 head of 2-year-old beef cattle checked at Fort Reno. (Kinzer). Averaged 5-8 per animal on 96 yearling steers checked in Payne County. (Howell).

FOWL TICK (Argas persicus) - NEW MEXICO - Causing abnormal molting of chickens at a poultry farm near Deming, Luna County. (N. M. Coop. Rpt.). MARYLAND - All stages extremely abundant in a small chicken house at Randallstown, Baltimore County, October 15. (U. Md., Ent. Dept.).

BROWN DOG TICK (Rhipicephalus sanguineus) - OKLAHOMA - Heavy infestations reported in several homes in Stillwater. (Howell).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Averaged 12 per head on 75 beef cattle checked in Pushmataha County (Goins); none noted on 105 head of cattle checked in Atoka County (Vinson).

A HARVEST MITE - GEORGIA - An undetermined species from stored oats in Pike County attacking individuals and necessitating medical attention. (Dupree, Oct. 13).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - TEXAS - Two infested properties were fumigated in El Paso section during September, which completes the fumigation of all known infested properties in the State. (PPC, So. Reg.). MEXICO - Inspections continued in states of Baja California, Sonora, Jalisco and Chihuahua. All identifications of specimens submitted were negative. No infestations have been found in Mexico since May 1959. Eradication treatments of all known infestations were completed in June 1959. (PPC, Mex. Reg., Sept. Rpt.).

RICE WEEVIL (Sitophilus oryza) - TEXAS - Heavy in 400 bushels of stored corn in De Witt County. (Turney).

BENEFICIAL INSECTS

LADY BEETLES - UTAH - Adults of unspecified species flying in upper areas of Cache National Forest on warm days. (Knowlton). OKLAHOMA - Hippodamia convergens common in all small grain fields checked in Noble County (VanCleave); averaged 0.3 per sweep in an alfalfa field and was light in a grain sorghum field checked in Tillman County (Hatfield, Presgrove); averaged 2 per sweep in a Johnston County alfalfa field and 0.5 and 0.8 per square foot in 2 fields of oats and vetch in Atoka and Jefferson Counties, respectively (Vinson).

NABIDS (Nabis spp.) - NEBRASKA - Populations in southeastern area alfalfa fields ranged 3-13 per 10 sweeps. (Simpson). OKLAHOMA - Averaged one per sweep in a Tillman County alfalfa field. (Hatfield).

LACEWINGS (Chrysopa spp.) - OKLAHOMA - Averaged one per sweep in an alfalfa field checked in Johnston County. (Vinson).

FLOWER BUGS (Orius spp.) - NEBRASKA - Counts ranged 5-25 per 10 sweeps in alfalfa in southeastern area of State. (Simpson).

MISCELLANEOUS INSECTS

A BEE MITE (Acarapis sp., probably dorsalis) - CALIFORNIA - During the week ending October 16, a mite was found infesting the scutellar groove of honey bee (Apis mellifera) at several locations. This mite is supposed to be harmless and is not responsible for acarine disease. Previously to finding this mite in the State, the Australian Ministry of Agriculture notified the California Department of Agriculture that on August 21, 1959, a consignment of bees from Shasta County, California, was found infested with bee mite (Acarapis woodi). The mites were said to be found on the thorax of one escort bee by Australian quarantine officials, but without any apparent disease condition of the trachea. Specialists of the Commonwealth Institute of Entomology in London, England, where the identification was made, informed the California Department of Agriculture that the three mites sent to them from Australia were determined "as falling in biometric overlap of subspecies woodi and externus." External forms of Acarapis were reported by Dr. O. Morgenthaler in 1951 as being found in samples of bees collected previously in the United States and many other countries. As far as known, however, A. woodi is not known to occur in the United States. Surveys of apiaries throughout the State are continuing and progress reports will be issued periodically. (R. W. Harper, Cal. Dept. of Agric.). See CEIR 7(36):733 for additional information on bee mite.

A COCKROACH (Eurycotis lixa) - FLORIDA - Specimens collected at Key West, Monroe County, October 8, by W. W. Warner, constitute the third record of this species at this locality. This appears to be the only confirmed locality for this rare species, originally described from a specimen taken at New York City on a banana ship from Jamaica. (Fla. Coop. Sur.).

MILLIPEDES and CENTIPEDES - KANSAS - Many reports received of entrances into homes in Finney County. Becoming increasingly numerous and causing a nuisance to homeowners. (DePew).

PHARAOH ANT (Monomorium pharaonis) - NORTH DAKOTA - A heavy infestation reported in a home in Fargo. (N. D. Ins. Rpt.).

BOXELDER BUG (Leptocoris trivittatus) - WYOMING - Reports indicate this species to be a worrisome pest to homeowners in many parts of the State. (Davison). NEBRASKA - Many calls have been received concerning this species. (Pruess, Roselle, Simpson). UTAH - Entering homes at Roy in Weber County. (Knowlton).

CRICKETS - IDAHO - Migrations of Acheta sp. common in Moscow and Lewiston areas. Stenopelmatus fuscus infesting a home basement in Boise, Ada County. (Portman, Gittins, Oct. 19).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Mocis latipes	Laphygma frug. exigua	Agrot. yps.	Perid. marg.	Prod. ornith.	Heliothis zea
ARIZONA							
Mesa 10/12-18			1993		3	233	70
FLORIDA							
Monticello 10/20	1	34				3	
KANSAS							
Garden City 10/14-15, 17-20	57						90
Hays 10/17,20,22	4						100
Manhattan 10/23							32
Wathena 10/12-18				5			490
LOUISIANA							
Baton Rouge 10/16-22	3		42	1	1	3	8
Franklin 10/19,21	1		19		5	9	2
MISSOURI							
Columbia 10/19-23	7		10		1		63
NEBRASKA							
Kearney 10/1-12	10			135	15		2060
North Platte 10/13-19	23			275	8		83
SOUTH CAROLINA							
Charleston 10/12-25	21	781	23	42		18	8
TENNESSEE (Counties)							
Monroe 10/13-19	28		4	8		2	8
Madison 10/13-19	39		3	21	3	3	123
Maury 10/13-19	4		3			2	11
Robertson 10/13-19	8		1	2		2	7
Cumberland 10/13-19	17		5	10		22	47
Greene 10/13-19	14		8	4		12	4
Blount 10/13-19	6		24	10		60	14
Johnson 10/13-19	45		17	7	8	42	27
TEXAS							
Waco 10/10-23	124				315	56	244
WISCONSIN							
Middleton 10/16-22	3			6	2		12

ADDITIONAL COLLECTIONS - COTTON LEAFWORM (*Alabama argillacea*) - FLORIDA, Monticello - (10/20) - 5. LOUISIANA, Baton Rouge - (10/16-22) - 26; Franklin - (10/19,21) - 31. SOUTH CAROLINA, Charleston - (10/12-25) - 2731. TENNESSEE (Counties, 10/13-19) - Monroe - 54; Madison - 6; Blount - 10; Johnson - 15. TEXAS, Waco - (10/10-23) - 3308.

Survey Methods

(Methods used in North Dakota)

BEEB WEBWORM

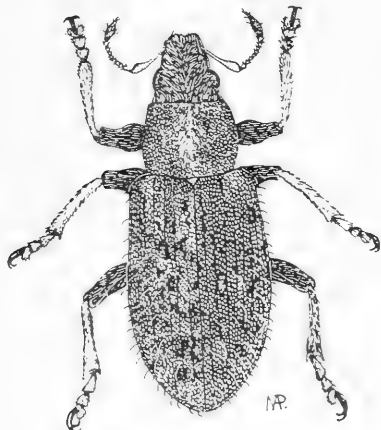
Beet webworm (*Loxostege sticticalis*) attacks a number of crops and is especially injurious to sugar beets. In cereal grain fields, larvae usually feed upon weeds. Webworm larvae skeletonize and devour the leaves. Often times, they spin a web, drawing the leaves together. They are also characterized by their active movement. It is not uncommon to see large numbers of larvae move out of a field into other areas. Occasionally, they will move into farmyards and crawl up a building.

Insecticidal control is suggested whenever populations approach 8 to 10 larvae per square foot in sugar beets. Heavy infestations may occur in crops such as soybeans, flax, etc., but control measures are not advised unless 10-15 larvae per square foot are present or visible injury to plants is noticed. When infestations occur in these crops, and the feeding is restricted primarily to weeds, insecticidal control should be avoided unless their presence is a threat to adjacent crops which might suffer greatly from a migration of the pest.

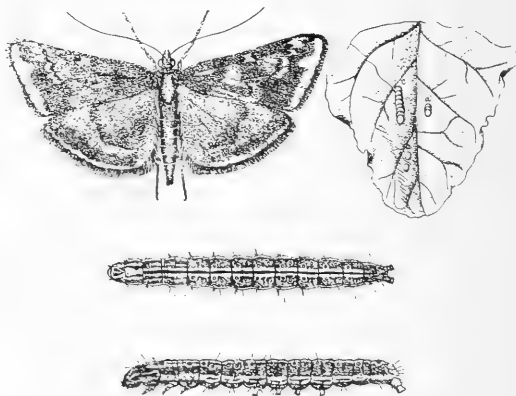
SWEETCLOVER WEEVIL

Adults of sweetclover weevil (*Sitona cylindricollis*) may severely damage seedling sweetclover plants. Characteristic injury consists of half-moon notches cut into the leaves by the adults as they feed. When 50 percent of the foliage in new seedlings has been eaten, control measures are recommended.

(W. J. Colberg and V. V. Goodfellow)



Adult of Sweetclover Weevil



Adult, Eggs and Larva (Dorsal and Lateral Views) of Beet Webworm

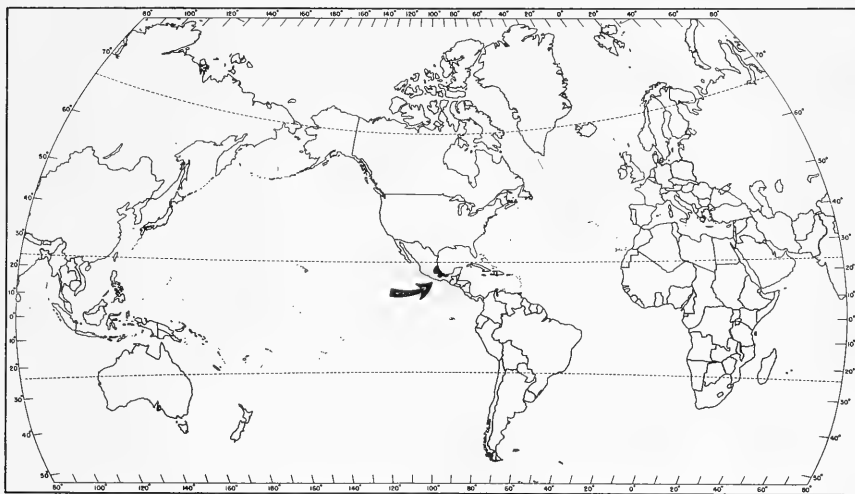
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

POTATO WEEVIL (Epicaerus cognatus Sharp)

Economic Importance: This insect is a pest of potatoes in the mountainous areas of several states of Mexico. The larvae cause severe damage to the tubers through their extensive feeding and tunneling. The species did not attract attention until 1922 when Mexican potatoes infested with it were intercepted at New Orleans. There have been many interceptions at ports of entry since that time.

Distribution: Mexico (Mexico City and States of Puebla, Tlaxcala, Veracruz, Hidalgo and Mexico).

Hosts: Potato and Solanum sp.



General Distribution of Epicaerus cognatus

Life History and Habits: Adults emerge from the soil in May and feed on potato foliage. The females oviposit in batches of 10-15 eggs each on the foliage several times between May and October. Oviposition is heaviest in July and August. Under normal conditions the egg stage lasts from 18-20 days. The newly-hatched larvae drop to the ground and enter soil in search of the potato tuber. Tubers have been found infested at depths of 8 inches. After feeding in the potatoes for 3-5 months, the larvae leave and form cells in the soil where they pupate the following March. The larval excreta is characteristic in appearance, resembling very small grains of corn. Infested potatoes may not show an entrance hole but presence of the insect is indicated by the softness of the tuber.

Description: The ADULT is slightly reddish, dark-coffee colored. Length 11 to 15 mm. Thorax broad, constricted behind, its dorsal surface very coarsely sculptured, usually with a broad irregular groove along middle. In this species, the channel on the middle of the thorax is deep, and the costae on the wing-cases are distinctly elevated even on the part where they all join. Males more slender than females. LARVA whitish with a dark head. It has no legs and moves by body contractions. A full-grown larva is about 15 mm. in length. The PUPA is white. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(44):10-30-59.



Adult, Larva and Pupa of
Epicaerus cognatus and damaged potatoes

Major reference and figures (except map): Oficina Federal para la Defensa Agrícola de Mexico. 1931. Principales Plagas y Enfermedades de los Cultivos en la Republica Mexicana. 378 pp., Tacubaya, D. F.

MEANS OF RECOGNIZING LARVAE OF
JAPANESE BEETLE AND EUROPEAN CHAFER

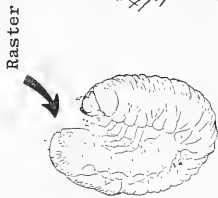
Rastrel Pattern of Some Common
Scarabaeid Grubs



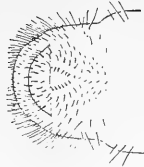
Japanese Beetle Adult and Larva



European Chafer Adult and Larva



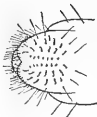
*Amphimallon
majalis*



*Popillia
japonica*



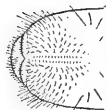
*Anomala
orientalis*



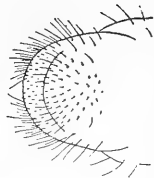
*Macroductylus
subspinosus*



*Autoserica
castanea*



*Phyllophaga
ephilda*



*Cyclocephala
sp.*



*Strigoderma
arboricola*

Grub showing location of raster. Raster of *A. majalis*,
P. japonica and *Cyclocephala* sp. courtesy of Cornell
University. Other illustrations USDA.

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Cooperative
ECONOMIC INSECT
REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Concentrated surveys for Sogata orizicola in Arkansas during past 3 weeks have been negative. Total of 13 parishes now found infested in Louisiana. WHEAT CURL MITE reported light in Kansas. (p. 977). Percentage of corn ears damaged by CORN EARWORM and CORN ROOTWORMS during fall of 1959 in Iowa averaged 31.2 and 5.1, respectively. (p. 978). Cooperative GRASSHOPPER CONTROL on rangeland during the 1958 season (map). (p. 979). Larvae of VELVETBEAN CATERPILLAR, FALL ARMYWORM and Mocis latipes have been unusually abundant on several legume crops and grasses in Alabama. (p. 980).

WOOLLY PEAR APHID observed on commercial orchards in Oregon. This species is generally a pest of nursery stock only in that State. (p. 981).

Adults of MELONWORM taken in light traps in California. No larval infestations found in commercial plantings. Up to 15 percent of onions damaged by ONION MAGGOT in some fields in Reno-Sparks area of Nevada. (p. 982).

COTTON LEAFWORM has been extremely heavy throughout central and southern Alabama. (p. 983).

ZIMMERMAN PINE MOTH infestations have been as high as 55 percent in pine plantings in La Porte, Indiana, area. (p. 983). MIMOSA WEBWORM damage to honeylocust has been moderate to heavy and LOCUST LEAF MINER has been heavy in areas of Indiana, Kentucky and Ohio. (p. 984).

Additional SCREW-WORM infestations reported in Louisiana. Eggs of HORSE BOT FLY extremely numerous on horses in areas of New Mexico. (p. 985).

INSECT DETECTION: New state records were alfalfa weevil in Kentucky (p. 980); American plum borer in Ohio (p. 981); and a bee mite (Acarapis sp., probably dorsalis) was reported in Massachusetts. (p. 986). In Wisconsin, several new county records were reported for apple maggot (p. 981) and native elm bark beetle and smaller European elm bark beetle (p. 984). Sogata orizicola was also recorded for the first time in Vermilion Parish, Louisiana (p. 977) and grape mealybug was recorded for first time on pear trees in Medford area of Jackson County, Oregon (p. 981).

CORRECTIONS (p. 986).

ADDITIONAL NOTES (p. 986).

KEY to the recognition of Musca domestica and M. autumnalis. (p. 988).

INSECTS not known to occur in the United States. (p. 989).

Reports in this issue are for the week ending October 30, unless otherwise indicated.

WEATHER OF THE WEEK ENDING NOVEMBER 2

Temperatures over the Nation this week remained on the cool side in most areas. Abnormal warmth continued throughout the week, however, in the Southeastern States (for the 5th consecutive week in the Florida Peninsular), in south Texas, and over the central valley of California and until midweek in the southern Rocky Mountains and Great Basin. New record maximum temperatures for so late in the season were reported at several points in central and southern Florida on the 30th. On 7 days in October, temperatures equaled or broke records for the dates concerned at Tampa. Moderate to excessive rainfall continued for the fourth straight week in Georgia and surrounding states as a result of general rains late in the week. Several stations in the Carolinas, Georgia, and Florida reported alltime record precipitation totals for October, and many others from 2 to 4 times normal amounts. Generous precipitation also occurred along the Gulf coast from Texas eastward. Following the development of an extensive low pressure area at midweek over the southern Great Basin, general heavy precipitation spread from central Arizona and Nevada across the Rockies to the central Great Plains. Snow and rain left 1 to 2 inches of water in many areas, with 4 to 10 inches of snow in parts of Arizona, Colorado, western Kansas, and Nebraska.

Strong winds over Utah, Nevada, Wyoming and California caused some damage and blowing dust, and along the Wasatch Range in Utah, where unofficial estimates of 100 miles per hour wind speeds were made, several million dollars damage resulted. In the Pacific Northwest rainfall was generally light, and the first freezes of the season were recorded in agricultural areas west of the Cascades and along the Columbia River. Mostly cloudy and cold weather prevailed from the northern Great Plains through the Great Lakes and central Mississippi Valley to the Ohio Valley. Temperatures have averaged below normal in the Iowa-Wisconsin area for the past 5 weeks. Precipitation was generally light, falling as snow early in the week from extreme northern Illinois to the Dakotas, and as rain, showers, and drizzle in other sections. In the Northeast, relatively uniform cool temperatures, with minima below freezing on 2 or 3 mornings, were recorded from Pennsylvania to New England. Precipitation late in the week totaled generally below one inch, with some snow reported from higher elevations. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Pyrausta nubilalis) - NORTH CAROLINA - Causing injury in late milo fields in Northampton County. (Harrell, Farrier).

FALL ARMYWORM (Laphygma frugiperda) - LOUISIANA - Infestations on oats have been reported from several areas of the State. Infestations appear to be heavy but spotty. One field in East Baton Rouge Parish was badly damaged. Heavy infestations reported on summer-planted sugarcane in St. James and St. Martin Parishes; controls have been required. (Spink). CALIFORNIA - Heavy on unopened corn tassels in the Pauma Valley, San Diego County. (Cal. Coop. Rpt.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - None noted in small grain fields checked in northeastern area of State. (VanCleave). Averaged 0.2 per linear foot in a fall-seeded wheat field in Bryan County. (Vinson).

GREENBUG (Toxoptera graminum) - OKLAHOMA - None noted in extensive survey of volunteer and fall-seeded small grain fields in northeastern area. Many of fields checked were same fields infested at this time in 1958. (VanCleave). Counts averaged 0.5 per linear foot in a fall-seeded wheat field in Bryan County (Vinson) and none were found in 2 small grain fields in Cotton County (Hatfield).

RUSTY PLUM APHID (Hysteroneura setariae) - ARIZONA - Remains very heavy in central area grain sorghum. Winged forms in flight are a problem around homes and in towns in the area. (Ariz. Coop. Sur.).

A LEAFHOPPER (Dikraneura carneola) - UTAH - Moderately numerous in some wheat fields in Box Elder County. (Knowlton).

A PLANTHOPPER (Sogata orizicola) - ARKANSAS - A concentrated survey for this vector of hoja blanca disease of rice has been conducted during the past 3 weeks in 26 counties and included 112 properties totaling approximately 10,500 acres. In some fields the rice had been harvested for some time and green regrowth, several inches to 1-2 feet or more high, was swept. A minimum of 500 sweeps per field was made. Identification of specimens collected has not been made. Additional surveys will be conducted until a killing frost. This work will be concentrated in the southeast corner of the State. Limited surveys in 1957 and 1958 did not pick up the vector in this State. (Ark. Ins. Sur., PPC).

LOUISIANA - Found for the first time in Vermilion Parish, bringing to 13 the total number of parishes found infested. These include St. Tammany, St. James, St. John the Baptist, St. Marys, St. Landry, La Fourche, Evangeline, Madison, Vermilion, Ascension, Assumption, Iberville and Terrebonne. (Spink).

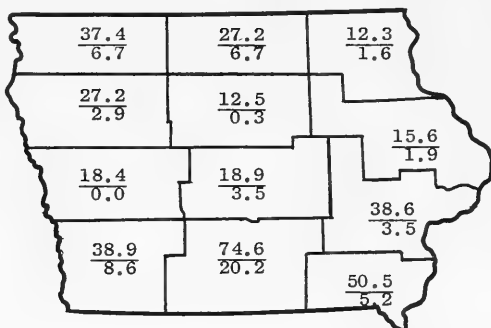
RICE STINK BUG (Oebalus pugnax) - TEXAS - Averaged 2 per 10 sweeps in rice fields, with good second growth in Fort Bend and Wharton Counties. (Hawkins).

WHEAT CURL MITE (Aceria tulipae) - KANSAS - A total of 190 collections of volunteer wheat from 49 central and western counties were examined; 52 samples had light infestations. A total of 26 counties were infested. About an equal number of planted wheat samples were examined and only 3 of these, representing a single field each from Rooks, Dickinson and Riley Counties, were lightly infested. (Peters).

SUGARCANE BORER (Diatraea saccharalis) - TEXAS - Heavy on cane in Fort Bend County. (Hawkins).

WHITE GRUBS - KANSAS - Approximately 82 larvae collected and reported in CEIR 9(41):913 as predominantly Cyclocephala maculata have been determined by W. H. Anderson as follows: Approximately 80 - Cyclocephala sp., probably maculata; 2 - Phyllophaga sp.; 1 - Anomala sp. (Burkhardt).

Corn Insect Survey in Iowa, Fall 1959 - The percentage of corn ears damaged by corn earworm and corn rootworms during the fall of 1959 averaged 31.2 and 5.1, respectively. The above line figures in the districts on the map below are the percentages of corn earworm damage and those figures below the line represent the percentages of corn rootworm damage. (Harris).



GRASSHOPPERS - NORTH DAKOTA - Data from completed egg survey generally supports that recorded in an adult grasshopper survey. Evidence shows grasshoppers may be potential problem over a wider area in 1960 than was the case in 1959. (N. D. Ins. Rpt.). TEXAS - Several species feeding on heads of second-growth rice in Fort Bend and Wharton Counties. Damage mostly light. (Hawkins).

RHODES-GRASS SCALE (*Antonina graminis*) - CALIFORNIA - Heavy on St. Augustine grass lawns in El Centro, Imperial County. (G. D. Peterson).

ALFALFA CATERPILLAR (*Colias philodice eurytheme*) - MARYLAND - Larvae averaged one per sweep in alfalfa at 2 localities in Montgomery County. (U. Md., Ent. Dept.). OKLAHOMA - Counts averaged 0.1, 1 and 1.2 per sweep in 3 alfalfa fields checked in Choctaw County (Goin) and 0.5 in one of 2 fields checked in Bryan County (Vinson). UTAH - Present but not numerous in Box Elder and Cache County fields. (Knowlton).

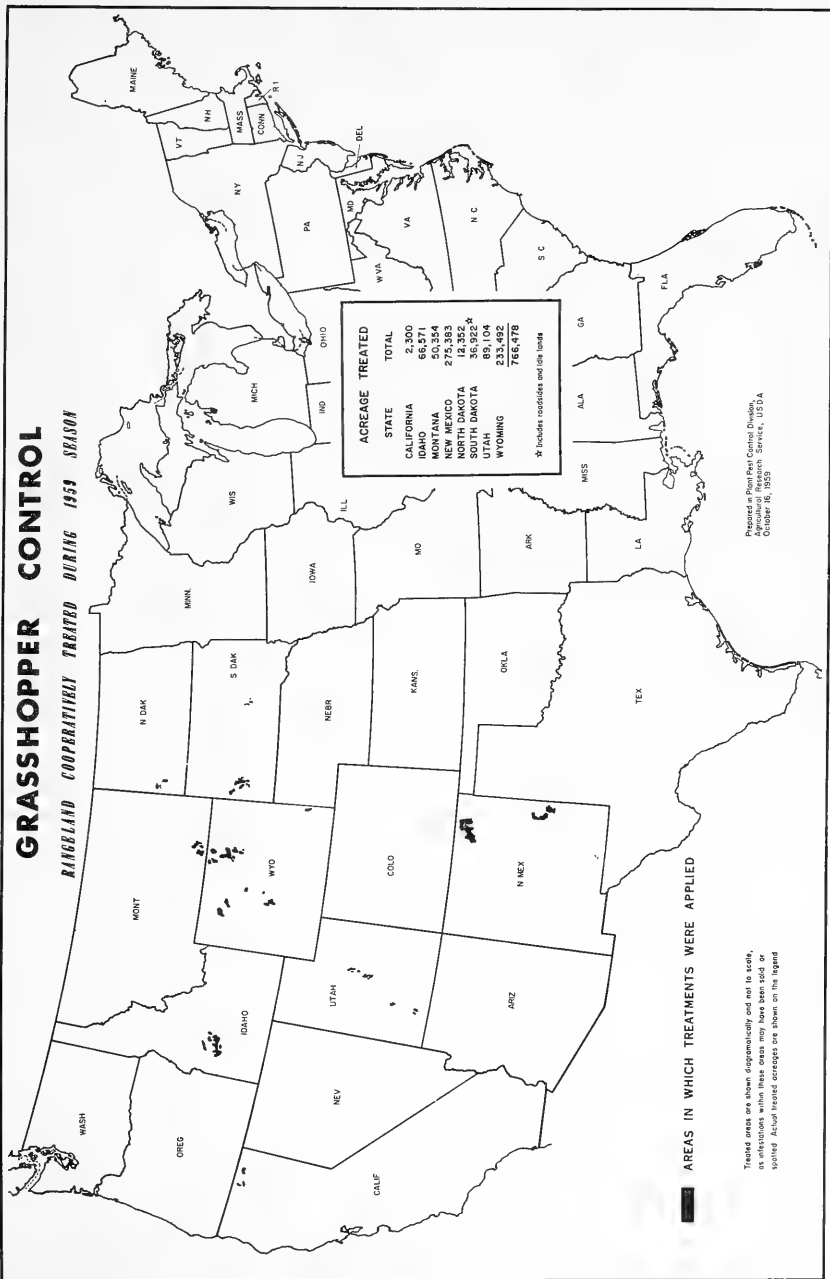
GREEN CLOVERWORM (*Plathypena scabra*) - OKLAHOMA - Averaged 0.5, 1 and 1.2 per sweep in 3 Choctaw County alfalfa fields checked. (Goin).

SALT-MARSH CATERPILLAR (*Estigmene acrea*) - ARIZONA - Infestations along edges of central area alfalfa fields have been reduced by a disease which has hit the larvae heavily. (Ariz. Coop. Sur.).

VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) - DELAWARE - Larvae on alfalfa in New Castle and Kent Counties; averaged 5 per 10 sweeps in one Sussex County field. Larvae averaged 4 per 10 sweeps in a late planting of soybeans in Kent County. (Burbutis, Mason).

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) - ALABAMA - Limited numbers present in fields of star millet in Lee County. (Guyton, Oct. 26).

GRASSHOPPER CONTROL RANGELAND COOPERATIVELY TREATED DURING 1953 SEASON



AREAS IN WHICH TREATMENTS WERE APPLIED

Treated areas are shown approximately and not to scale, in white outline areas which have been treated during the 1953 spring. Actual treated acreages are shown on the legend.

Prepared by Forest Fly Control District,
Department of Fisheries and Game, U.S.G.A.
October 16, 1953

LEGUME and GRASS INSECTS - ALABAMA - An unusual abundance of larvae has been present on several legume crops and grasses, with Anticarsia gemmatalis, Laphygma frugiperda and Mocis latipes the most prevalent species. A large acreage of alfalfa in several sections of the State has been completely defoliated and a large field of star millet in Lee County was also completely destroyed. In several sections, crabgrass on lawns and in gardens was completely stripped. (Grimes, Guyton, Ruffin, Oct. 26).

ALFALFA WEEVIL (Hypera postica) - KENTUCKY - Two adults taken July 7, 1959, in an alfalfa field 6 miles south of Horse Cave, Hart County, constitute the first record of this species for the State. Det. R. E. Warner. Another survey on September 24 and 25 revealed no additional specimens. (Starks). DELAWARE - Adults present in alfalfa fields in New Castle and Kent Counties. (Burbutis, Mason).

CLOVER ROOT CURCULIO (Sitona hispidula) - MISSOURI - Counts on alfalfa ranged 0-4 adults per sweep. Counts in one field of ladino clover in Callaway County ran as high as 15 per sweep. (Kyd, Thomas, Munson).

PEA APHID (Macrosiphum pisi) - DELAWARE - Present on alfalfa throughout the State and in clover in Kent and New Castle Counties. (Burbutis, Mason). MARYLAND - Averaged over 100 per sweep on alfalfa at 2 localities in Montgomery County. (U. Md., Ent. Dept.). MISSOURI - Counts ranged 0-7 per sweep on alfalfa in east central area. (Kyd, Thomas, Munson). OKLAHOMA - Averaged 0, 0.05 and 0.15 per sweep in 3 alfalfa fields in Choctaw County (Goin) and 1.5 per sweep in one of 2 fields checked in Bryan County (Vinson). UTAH - Moderately numerous on alfalfa in Cache and northern Box Elder Counties; occasionally seriously abundant in Brigham-Fielding area. (Knowlton). NEVADA - Late-season buildup on alfalfa hay fields in Pahump Valley, Nye County. (Lauderdale, Oct. 23).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEBRASKA - Special surveys conducted through most western and southeastern counties in mid-October revealed counts ranging 0-208 per 100 sweeps. Highest counts were reported from Red Willow and Nemaha Counties. (Howe, Thompson). KANSAS - Counts in established and fall-seeded alfalfa fields ranged from less than one to 5 per sweep in Riley, Clay, Cloud, Ottawa, Saline and Dickinson Counties. (Peters). OKLAHOMA - Averaged less than one per sweep in northeastern area alfalfa fields checked. (VanCleave). Counts averaged 0, 0.1 and 4 per sweep in 3 alfalfa fields checked in Choctaw County (Goin) and ranged 0-2.5 per sweep in 2 Bryan County alfalfa fields (Vinson). NEW MEXICO - Heavy infestations damaged or killed fall-planted alfalfa seedlings in Eddy, Chaves and Dona Ana Counties, where fields were not treated early enough. (N. M. Coop. Rpt.). ARIZONA - Infestations in central and southeast areas variable following control applications and cutting of alfalfa, but many fields remain heavily infested. A fungus disease has spread over most of central area and is reducing populations considerably in some fields. (Ariz. Coop. Sur.). CALIFORNIA - Medium on alfalfa generally in the El Centro area, Imperial County. (Cal. Coop. Rpt.). UTAH - Moderately numerous near Mantua, Box Elder County, and generally light to scarce in Cache and northern Box Elder Counties area. (Knowlton). OREGON - Taken along Antelope Creek in southern Wasco County, October 20, in relatively low numbers (averaged one per sweep). This area was infested in 1958. (Eppley).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Adults and nymphs on alfalfa numerous in New Castle County and common in Kent and Sussex Counties. Adults present on one late soybean field in Kent County and in a New Castle County clover field. (Burbutis, Mason). MARYLAND - Averaged 2 per sweep on alfalfa at 2 Montgomery County localities. (U. Md., Ent. Dept.). MISSOURI - Counts in alfalfa in east central area ranged 0-4 per sweep. (Kyd, Thomas, Munson). KANSAS - Counts ranged from less than one to 2 per sweep in alfalfa fields in Riley, Clay, Cloud, Ottawa, Saline and Dickinson Counties. (Peters).

LYGUS BUGS (Lygus spp.) - OKLAHOMA - In northeastern area alfalfa fields checked, counts averaged 1.5 per sweep. (VanCleave). Counts averaged 2 and 3 per sweep in 2 Bryan County alfalfa fields (Vinson) and 1.7 per sweep in 3 fields checked in Choctaw County (Goin). UTAH - Remain active in alfalfa and small grain fields in northern areas of the State. (Knowlton).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Counts averaged 2 per sweep in northeastern alfalfa fields (VanCleave); 3, 4 and 10 per sweep in 3 alfalfa fields in Choctaw County (Goin); and 3 and 4 in 2 Bryan County alfalfa fields (Vinson). ARIZONA - Heavy infestations in Yuma County alfalfa averaged 10.6 per sweep in 10 fields sampled. (Ariz. Coop. Sur.).

LEAFHOPPERS - DELAWARE - Adults and nymphs of Empoasca fabae common on alfalfa and present on clover in New Castle County and on alfalfa in Kent and Sussex Counties. (Burbulis, Mason). ARIZONA - Average number per sweep in 10 Yuma County fields sampled were 4.16 Empoasca spp. and 4.56 Aceratagallia curvata. (Ariz. Coop. Sur.).

A THRIPS (Frankliniella occidentalis) - ARIZONA - Heavy infestations in some central area seedling alfalfa fields. (Ariz. Coop. Sur.).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Apples infested in Adams, Marquette and Green Lake Counties, apparently for the first records of this species from these 3 counties. (Wis. Coop. Sur.).

EUROPEAN RED MITE (Panonychus ulmi) - MARYLAND - Eggs abundant on apple twigs in an orchard at Fairland, Montgomery County. (U. Md., Ent. Dept.).

AMERICAN PLUM BORER (Euzophera semifuneralis) - OHIO - Moderate infestation mixed with heavy Synanthedon pictipes infestation in peaches at Doylestown, Wayne County. This is the first record of the species in the State. (Rings).

GREEN PEACH APHID (Myzus persicae) - NEW MEXICO - Light infestations on peach and nectarine trees in Dona Ana County. (N. M. Coop. Rpt.).

WOOLLY PEAR APHID (Eriosoma pyricola) - OREGON - Reported damaging a commercial pear orchard near Independence, Polk County, in late summer. First time observed on commercial orchards in State. Generally a pest of nursery stock only. (Swenson, Oct. 23).

GRAPE MEALYBUG (Pseudococcus maritimus) - OREGON - Moderately heavy infestation found, July 31, on part of a block of Anjou pear trees in Medford area, Jackson County. This is first report of this species on pear trees in this area. Specimens collected August 3, determined by H. L. McKenzie. (Gentner).

PEAR LEAF BLISTER MITE (Eriophyes pyri) - OREGON - Observations in Medford area, Jackson County, on October 20, showed many mites still in blisters on green leaves. On shoots with yellow leaves, most of the mites had migrated to buds, where they clustered on buds and beneath the scales. (Gentner).

NAVEL ORANGEWORM (Paramyelois transitella) - CALIFORNIA - Medium in Aurea figs in Fresno, Fresno County, and occurring in walnuts in Cucamonga, San Bernardino County. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - An extremely heavy larval infestation reported in Lee County. (Ruffin, Oct. 26).

TRUCK CROP INSECTS

BEEET ARMYWORM (Laphygma exigua) - CALIFORNIA - Heavy on cabbage plants in Imperial Beach, San Diego County, and heavy infestations damaging carrot plantings in the Mettler Station area of Kern County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Eggs common on cauliflower in New Castle and Kent Counties. (Burbutis, Mason). ARIZONA - Heavy infestations (6-20 larvae per plant) occurring in some untreated central area cole crops. Light in lettuce. (Ariz. Coop. Sur.).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - Eggs and first-instar larvae common on cauliflower in New Castle and Kent Counties. (Burbutis, Mason).

HARLEQUIN BUG (Murgantia histrionica) - ALABAMA - Plentiful on collards in Lee County. (Guyton, Oct. 26).

CORN EARWORM (Heliothis zea) - ALABAMA - Larvae plentiful on pods of snap beans and squash in Lee County. (Guyton, Oct. 26).

MELONWORM (Diaphania hyalinata) - CALIFORNIA - One adult taken in light trap in Bard, Imperial County, and one in Blythe, Riverside County. No host association has been established and detection efforts failed to disclose larval infestations in commercial plantings. Detection continues within the State. (Cal. Coop. Rpt.).

PICKLEWORM (Diaphania nitidalis) - ALABAMA - Heavy infestations of all larval stages present on pumpkins in Lee County. (Guyton, Oct. 26).

GRANULATE CUTWORM (Agrotis subterranea) - CALIFORNIA - Heavy infestations damaging carrot plantings in the Mettler Station area, Kern County. (Cal. Coop. Rpt.).

A CURCULIONID (Rhyssomatus palmacollis) - ARKANSAS - Damaged sweetpotatoes on a farm in White County; one-third of sweetpotatoes unsaleable. Adults and larvae present. (Ark. Ins. Sur.).

A GRASSWORM (Mocis latipes) - ALABAMA - Larvae in limited numbers taken from sweetpotatoes in Lee County. (Guyton, Oct. 26).

ONION MAGGOT (Hylemya antiqua) - NEVADA - Onions in Reno-Sparks area, Washoe County, continue to show heavy maggot damage; up to 15 percent in some fields. (Galloway, Oct. 23).

GRASSHOPPERS - ALABAMA - Melanoplus femur-rubrum, M. differentialis and M. bilituratus were plentiful in and around garden plots in Lee County. (Guyton, Oct. 26).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Light trap surveys continue negative in Moapa Valley, Clark County. Trapping ended for season in Pahrump Valley, Nye County. (Zoller, Oct. 23). ARKANSAS - Through October 15, a total of 30,334 bushels of gin trash had been inspected, with recoveries of larvae from Cleveland, Crawford, Hempstead, Howard, Little River and Union Counties. The recovery in Union County was from a gin which gins cotton produced in both Arkansas and Louisiana. (Ark. Ins. Sur., PPC). LOUISIANA - Found in Sabine, Natchitoches and Union Parishes during examinations of gin trash and lint cleaners. (Spink).

COTTON LEAFWORM (Alabama argillacea) - ALABAMA - An extremely heavy infestation has been present throughout the central and southern parts of the State during 1959. Almost complete defoliation of cotton has occurred in several areas. Adults are still prevalent in the Auburn area, Lee County. (Guyton, Grimes, Ruffin, Oct. 26). ARKANSAS - Cotton that is still green is fairly heavily infested in many areas. Infestation is too late to be harmful and is not being treated. (Ark. Ins. Sur.).

CELERY LEAF TIER (Udea rubigalis) - CALIFORNIA - Heavy on cotton in the Tulare area of Tulare County. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

PINE NEEDLE MINER (Exoteleia pinifoliella) - OHIO - Infestations on pitch pine in Tuscarawas, Carroll and Harrison Counties reported as light. Heavy damage occurred on approximately 1,000 acres of pine in these counties from 1954 to 1958. Natural control factors apparently reduced population to present low level. Investigations in Tuscarawas County showed parasitism to be rather high; approximately 66 percent of collected larvae were parasitized. (Cent. States For. Exp. Sta., Sept. Rpt.).

SPRUCE NEEDLE MINER (Taneva albolineana) - WASHINGTON - Infesting blue spruce in Spokane. Det. V. M. Carolin. (Brannon).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - INDIANA - Continues to be important in pine plantings. Recent attacks have been reported in 11 counties, with heaviest damage around La Porte where infestations have been as high as 55 percent. ILLINOIS - An infestation reported from a small Scotch pine plantation at Palos Park, Cook County. (Cent. States For. Exp. Sta., Sept. Rpt.).

TURPENTINE BEETLES - VIRGINIA - Activity noted in 2 areas of Henrico County and one area in each of Fluvanna, Madison and Prince William Counties. Active on several trees in an area in Amelia County and an area in Cumberland County. Reported killing a 10-tree group and a 6-tree group near Williesburg, Charlotte County. Also active in a 20-year-old loblolly pine stand in Greensville County. Increased activity reported in shortleaf pine in 4 areas in northwestern Pittsylvania County and in scattered trees in one northeastern area of Campbell County, with most beetles attacking trees injured following cutting, disking or lightning. Found attacking single loblolly pines in one spot in Nansemond County and 2 spots in Accomack County. (Va. Div. For., Sept. Rpt.).

IPS BEETLES (Ips spp.) - VIRGINIA - Killing scattered loblolly pines in 4 areas in Henrico County. (Va. Div. For., Sept. Rpt.).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - OHIO - An infestation reported on blue spruce in Christmas tree plantings in Stark County. (Cent. States For. Exp. Sta., Sept. Rpt.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - OHIO - Light infestations occurred over widely scattered areas in southern and west central portions of the State on red, shortleaf, pitch and Scotch pines. (Cent. States For. Exp. Sta., Sept. Rpt.). VIRGINIA - Active in scattered areas in southeastern counties. (Va. Div. For., Sept. Rpt.). FLORIDA - Larvae collected on longleaf pine at Gainesville, Alachua County. Det. L. A. Hetrick. Many fourth-instar larvae defoliating a sapling longleaf pine in the Gainesville area. (Fla. Coop. Sur.).

WHITE-PINE SAWFLY (Neodiprion pinetum) - OHIO - Light infestations observed in scattered sections of State. Some isolated instances of dying due to larval defoliation. Parasitism was very high in a small plantation in Delaware County. Of 144 pupae reared, 102 (71 percent) were parasitized by Perilampus hyalinus. (Cent. States For. Exp. Sta., Sept. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - INDIANA - Heavy infestations occurred on white pine windbreaks in Dubois County. (Schuder, Sept.). OHIO - Light infestations have been observed throughout most of the State on black cherry, juniper, white pine and Norway spruce. Moderate to heavy defoliation has been reported in Warren and Guernsey Counties, mostly to ornamental plantings. (Cent. States For. Exp. Sta., Sept. Rpt.).

FALL WEBWORM (Hyphantria cunea) - OHIO - Light infestations were common throughout the State on several deciduous species. Heavy defoliation of willows was reported in Lake County. (Cent. States For. Exp. Sta., Sept. Rpt.).

MIMOSA WEBWORM (Homadaula albizziae) - INDIANA - Damage has been heavy on honeylocust throughout southern half of the State. (Schuder, Sept.). KENTUCKY - Moderate to heavy infestations noted on honeylocust in central and southern areas. The species has not yet been reported east of the Cumberland National Forest. OHIO - Damage has been moderate to heavy, with the pest being most common in the southwestern portion of the State. Delaware and Union Counties have been the northern limits of its range (Cent. States For. Exp. Sta., Sept. Rpt.).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - WISCONSIN - Recorded for the first time, as of October 30, in Pierce, Pepin, Buffalo, Eau Claire, Trempealeau, Jackson, Portage, Adams, Marquette, Washington, Grant, Lafayette and Green Counties. (Wis. Coop. Sur.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - Found for the first time in Dunn, Monroe, Vernon, Juneau, Outagamie, Brown and Manitowoc Counties, as of October 30. (Wis. Coop. Sur.).

A BORER (Saperda sp.) - CALIFORNIA - Heavy in Carolina poplar trees in Red Bluff, Tehama County. (Cal. Coop. Rpt.).

LOCUST LEAF MINER (Chalepus dorsalis) - INDIANA - Caused heavy damage in localized areas in Decatur and Rush Counties. (Matthew, Macklin). KENTUCKY - Damage has been heavy in many central counties. OHIO - Heavy damage has been observed in the southern part of the State. (Cent. States For. Exp. Sta., Sept. Rpt.).

PAINTED MAPLE APHID (Drepanaphis acerifoliae) - CALIFORNIA - Adults heavy on maples in Placerville, El Dorado County; light in Dixon, Solano County; and medium in Riverside, Riverside County. (Cal. Coop. Rpt.).

AN ARBORVITAE APHID (Cinara tujafilina) - DELAWARE - Common on stems of arborvitae in northern Kent County. (Burbutis, Mason).

WALKINGSTICK (Diaperomera femorata) - OHIO - A heavy infestation was reported at Hopewell, Muskingum County, on black locust and elm. Light to moderate populations were observed in adjacent counties. (Cent. States For. Exp. Sta., Sept. Rpt.).

A SPITTLEBUG (Clastoptera sp.) - CALIFORNIA - Probably C. arizonana, heavy on paloverde trees in San Diego, San Diego County. (Cal. Coop. Rpt.).

A PSYLLID (Psylla uncatoides) - CALIFORNIA - Heavy populations occurring on acacia trees in Old River, Kern County. (Cal. Coop. Rpt.).

SOUTHERN CABBAGEWORM (Pieris protodice) - CALIFORNIA - Heavy on sweetallysum in Hanford, Kings County. (Cal. Coop. Rpt.).

TEA SCALE (Fiorinia theae) - ALABAMA - Moderate to heavy on camellias in Lee County. (Grimes).

INSECTS AFFECTING MAN AND ANIMALS

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - Authenticated reports include an infestation of sheep in St. James Parish; an infestation of cattle in Richland Parish; 6 infestations of cattle and one in which the animal was unknown in East Carroll Parish; and 13 infestations of cattle, one of hogs and one in a dog in Madison Parish. (Spink).

HORSE BOT FLY (Gasterophilus intestinalis) - NEW MEXICO - Eggs extremely numerous on necks and forelegs of horses in Union, Harding and Colfax Counties. (N. M. Coop. Rpt.).

SHEEP BOT FLY (Oestrus ovis) - WEST VIRGINIA - Eighteen sheep dead in Hampshire County. First-instar larvae and eggs collected from turbinate bones of the nasal passages appear to be this species. Symptoms of affected sheep similar to those of infestations by this species, according to report of veterinarian. (W. Va. Ins. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Very small numbers (one per 300 animals checked) noted on beef cows and 2-year-old steers in Payne County. (Howell). NEW MEXICO - Three grubs found in back of a steer at Clayton, Union County. One grub had already made a hole in the skin. (N. M. Coop. Rpt.).

HORN FLY (Siphona irritans) - OKLAHOMA - Counts averaged 100 per head on range animals checked in northeastern area of State (VanCleave); 75-90 per animal in 2 dairy herds and 40-50 per animal in another dairy herd (15-18 cows per herd) in Noble County (Howell); 150 per head on 85 mature beef cows at Ft. Reno (Kinzer); and 150 and 200 per head in 2 herds of range cattle in Pushmataha County (Goin). NEW MEXICO - Moderately heavy on cattle in Harding, Colfax, San Miguel and Union Counties. (N. M. Coop. Rpt.).

HOUSE FLY (Musca domestica) - NEVADA - Unusually warm weather during October resulted in heavy adult populations in many areas of State. (Lauderdale, Oct. 23).

MOSQUITOES - CALIFORNIA - General populations are subsiding, probably resulting from hot daytime temperatures and cooler nights. (Cal. Coop. Rpt.).

FLEAS - OKLAHOMA - Pulex irritans and Ctenocephalides felis infesting some homes in north central area of State. (Howell). WASHINGTON - P. irritans heavy in several homes in Montesano, Grays Harbor County. (Weyrich, Brannon).

TICKS - OKLAHOMA - Unspecified species averaged 8 and 12 per head in 2 herds of beef cattle checked in Pushmataha County. (Goin). Infestations of Rhipicephalus sanguineus continue to cause concern in homes in Stillwater area. (Howell). NEW MEXICO - R. sanguineus a nuisance in a home at Silver City, Grant County. (N. M. Coop. Rpt.). NORTH CAROLINA - R. sanguineus found infesting a dog in Edgcombe County. (Jones, Farrier).

SHORT-NOSED CATTLE LOUSE (Haematopinus eurysternus) - OREGON - A representative sample from 4,000 calves in Wallowa County, October 26, found that this species was predominant species of lice present. All untreated animals examined were infested. All infestations noted were light. (Every).

STORED-PRODUCT INSECTS

AN ACARID MITE - NORTH CAROLINA - Undetermined species a pest in a flour mill in Gaston County. (Scott, Farrier).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - MARYLAND - All stages infesting stored foods in homes at localities in Prince Georges and Anne Arundel Counties. (U. Md., Ent. Dept.).

MISCELLANEOUS INSECTS

A BEE MITE (Acarapis sp.) - MASSACHUSETTS - Following a survey of several lots of bees, Acarapis sp., probably dorsalis, was recovered. In 4 colonies, an infestation of 5-6 mites per 100 bees occurred; in a fifth colony, 3 mites per 100 bees were found; and in a sixth colony, no infestation was found. The specimens were found in the groove between the scutum and the scutellum. Eggs and adults were found. A. dorsalis is not known to be of economic importance. (Shaw).

GREATER WAX MOTH (Galleria mellonella) - SOUTH DAKOTA - Larval infestation (attaching cocoons to bedspreads, sheets, under pillows in spare upstairs bedroom) in a home in Grant County. Past history of a swarm of bees between walls, several years ago. Apparently some avenue of access between bedroom and space between walls. Slight chewing damage to rayon bedspread at point of attachment of cocoons. (Spawn).

A WEEVIL (Trachyphloeus bifoveolatus) - OREGON - Adults entering homes in considerable numbers to seek overwintering quarters in northern and western areas of State. (Every, Oct. 23).

BOXELDER BUG (Leptocoris trivittatus) - OHIO - Entering residences in Defiance, Defiance County, and Hamilton, Butler County. (Rings). WYOMING - Continues to be a bothersome pest in many parts of the State. (Davison). MARYLAND - Causing a nuisance by entering buildings in Prince Georges and Montgomery Counties. (U. Md., Ent. Dept.).

A FALSE CHINCH BUG (Nysius raphanus) - NEW MEXICO - Adults attracted to lights in large numbers at Clayton, Union County, during past week. (N. M. Coop. Rpt.).

VESPIDES - OKLAHOMA - Large numbers of Vespa spp. seeking winter quarters in and around buildings and homes in north central portion of State. (Bieberdorf).

MILLIPEDES - OHIO - Entering residences in northern part of State for hibernation (Rings). IDAHO - Excessively abundant around homes and in orchards in the Lewiston area. Found in great numbers crawling over outsides of homes in the area. (Saxton, Kambitsch).

CORRECTIONS

CEIR 9(43):954 - A THRIPS (Gynaikothrips sp.) - CALIFORNIA - Should read: Medium to heavy infestations on Ficus retusa and nymphs and adults occurring on F. binjamina in San Diego, San Diego County.

CEIR 9(44):961 - SOUTHWESTERN CORN BORER - LOUISIANA - New parish record for Sabine Parish is in error. This parish was initially reported infested in 1955.

ADDITIONAL NOTES

OREGON - SPOTTED ALFALFA APHID (Therioaphis maculata) populations appear to be stabilized in the Milton-Freewater and Pendleton areas, perhaps somewhat reduced from last observation (October 9) west of Pendleton and around Hermiston the week of October 26. Counts remain about 8 per sweep in check point area between Ordnance and Boardman (relatively isolated alfalfa). (Eppley).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Feltia subterr.	Laphygma frug. exigua	Agrot. yps.	Perid. marg.	Prod. ornith.	Helio. zea	
ARIZONA								
Mesa 10/19-25		147		6236		2	219	183
ARKANSAS								
Fayetteville 10/8-28	12			10				285
Morrilton 10/8-28	42			30				136
Kelso 10/8-21	6							76
Hope 10/8-21	7			11	1			28
KANSAS								
Garden City 10/21-25				47				190
Hays 10/23-25, 27				5				73
Manhattan 10/24-30								47
Wathena 10/21-25				21				309
LOUISIANA								
Baton Rouge 10/23-29	5	1	9	3	1		5	9
Franklin 10/26	2						4	1
MARYLAND								
Fairland 10/13-25	6				11	7		8
NEBRASKA								
North Platte 10/20-26	35				286	8		98
Scotts Bluff 10/9-22	21		76		60	6		10
SOUTH CAROLINA								
Clemson 10/17-30	181	3	22		38		7	1
TENNESSEE (Counties)								
Monroe 10/20-26	37	1			16		2	2
Madison 10/20-26	144	8			2		2	70
Maury 10/20-26	12		4		5		1	15
Robertson 10/20-26	4				7	1	1	15
Cumberland 10/20-26	32	2	1		7	1	2	3
Greene 10/20-26	19		3		3		2	
Blount 10/20-26	6		2		6		4	8
Johnson 10/20-26	42	5	4		13	5	23	5
TEXAS								
Waco 10/24-30	96	92				76	8	227

RECOGNITION OF SPECIES OF MUSCA

Musca domestica Linnaeus
(house fly)

Musca autumnalis DeGeer
(“face fly”)

Both species with the familiar habitus
of Musca: 4 black stripes on thorax,
same wing venation, etc.

Both sexes

1. Typically slightly smaller, lighter in color; common indoors, on walls of stables, houses, etc., also found outside.

1. Typically slightly larger than domestica, and darker; an outdoor Fly, on animals, especially about eyes and nostrils of cattle, or sitting on nearby rocks, fence-posts, etc.; may be indoors in fall and winter.

2. Propleuron-haired.



2. Propleuron bare.



3. No tympanic tuft of bristles.

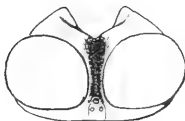


3. Strong tympanic tuft of bristles at base of calypteres (often seen by lifting upper (alar) calypter with a needle or insect pin).



Males only

4. Eyes well separated (frontal stripe broad and parallel-sided).



4. Eyes almost touching.



Females only

5. Dorsum of abdomen usually yellowish at sides, or at least narrowly so toward base, rarely all gray-black.

5. Dorsum of abdomen entirely black in ground color, with strong gray-and-black pattern.

6. Parafrontals often yellowish-tinted anteriorly, posteriorly narrow, each about one-third as wide as median frontal stripe.



6. Parafrontals (sides of front) bright gray, wide, nearly as wide as median frontal stripe.



Curtis W. Sabrosky
Insect Identification and Parasite
Introduction Research Branch,
U. S. Dept. of Agriculture

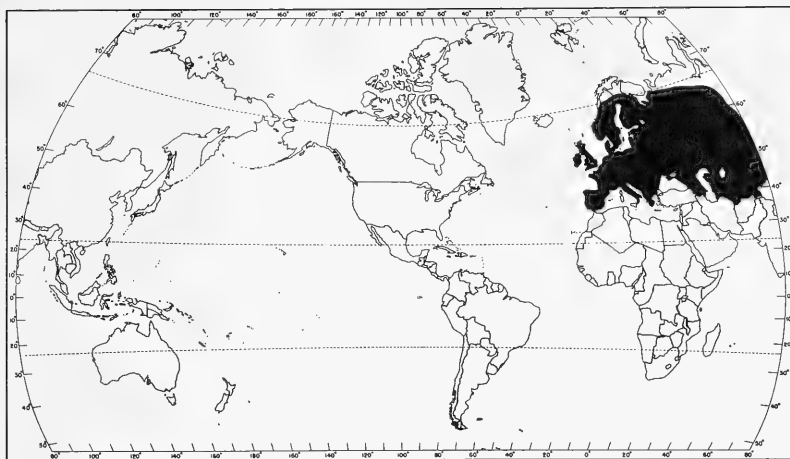
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

SUMMER CHAFER (Amphimallon solstitialis L.)

Economic Importance: This near relative of the European chafer (Amphimallon majalis) is an important pest of the roots of many plants. Although the adults feed on the leaves of various trees, the principal damage is caused by the larvae. Damage to crops and grasses is frequently reported in the European literature. Nursery stock is often injured also. The larvae girdle the young stem and roots causing retarded growth or loss of stand. Some of the more important crops attacked are grains, pastures, beets, potatoes and alfalfa.

Distribution: Europe, including the British Isles, and central Asia.

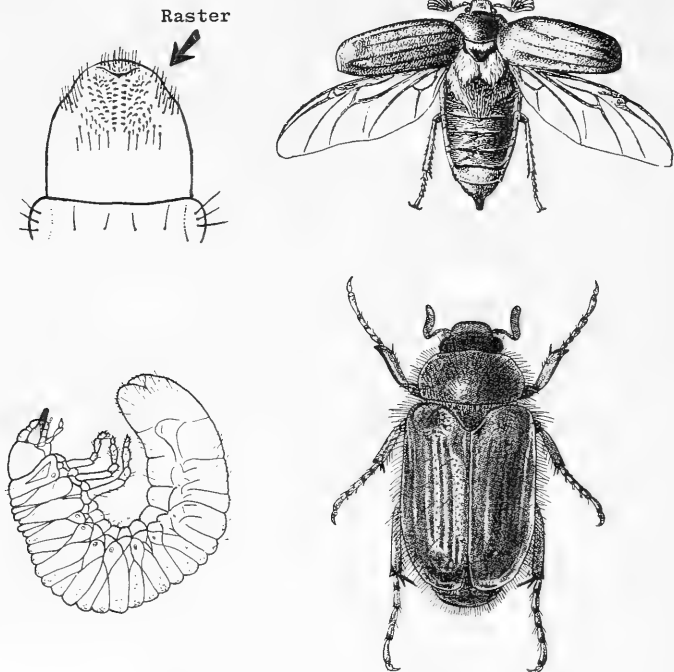
Hosts: General feeder: adults feed on foliage, larvae on roots.



General Distribution of Amphimallon solstitialis

Life History and Habits: Adults emerge in July and fly, often in dense swarms, in the evening, principally from 8:30 to 10 p.m. During the day the beetles seek shelter in the soil or undergrowth. The females burrow 3-5 inches into the soil in sunny situations to oviposit about 3 weeks after emergence. One series of eggs, 25-35, is laid singly or in groups of two or three. The egg stage lasts from 18-28 days. Average length of larval stage is about 21 to 31 months. Pupation occurs at soil depths of 6-8 inches. Some of the larvae pupate before July, the normal emergence period, others hibernate and pupate the following spring. Temperature and humidity are mainly responsible for the varying length of the life cycle, which may take 2 or 3 years. These factors are also apparently responsible for restricting the distribution of the insect within Great Britain.

Description: ADULT about 16 mm. long. Color light brown to yellowish. Antenna 9-segmented. Posterior angle of pronotum well-marked. Elytra glabrous, simply ornamented. Some large bristles on the sides. Fresh specimens are distinctly hairy. GRUB is typical of scarabaeid larva in appearance. It is about 31 mm. long when full-grown. The rastrel pattern, shown in the accompanying illustration, identifies the larva of A. solstitialis. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(45):11-6-59.



Mature Larva, Anal Segment of Larva and
Adults of Amphimallon solstitialis

Figures (except map): Anal segment of larva from Gt. Brit. Forestry Comm. Leaf. 17, 6 pp., 1927. Larva from Fidler, J. H. 1936. Ann. Appl. Biol. 23(1):114-132. Adult from Natvig, L. R. 1928. Norske Insekter. 315 pp., Oslo.



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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GREENBUG infestations reported in several panhandle counties in Texas. Light to heavy HESSIAN FLY infestations reported in northern Kansas. (p. 993). BLACK CUTWORM larvae unusually abundant and damaging rye and cole crops in Accomack and Northampton Counties, Virginia. (pp. 993, 995).

BARK BEETLES (Dendroctonus spp.) are damaging host trees in areas of several states. (p. 996).

INSECT DETECTION: New state records reported included Nasonovia ribis-nigri in Montana (p. 995), oak skeletonizer in North Carolina (p. 997), Lema sayi in Pennsylvania and Pogonomymex maricopa barnesi in Utah (p. 998). New records for imported fire ant in Louisiana were Jefferson Davis and Cameron Parishes. (p. 998).

CORRECTIONS (p. 999).

INTERCEPTIONS of special interest at U. S. ports of entry. (p. 1000).

INSECTS not known to occur in the United States. (p. 1001).

Reports in this issue are for the week ending November 6, unless otherwise indicated.

WEATHER OF THE WEEK ENDING NOVEMBER 9

All the Nation experienced below normal temperatures this week, except central and southern California coastal areas and the Atlantic Coastal States. The first outbreak of arctic air this season moved out of the northern Great Plains at midweek as a storm center developed in Kansas and moved northeastward over the Great Lakes. Mild temperatures in the Great Plains fell rapidly to the lowest level of the season, as the bitterly cold air moved rapidly southward on strong, gusty winds. Near blizzard conditions developed over the central and northern Great Plains, with locally heavy snow, strong winds and subzero cold. Temperatures reached -16° in North Dakota, -10° in South Dakota. In the midwest, Chicago recorded a maximum temperature on Friday, of 29° , the lowest for the date in an 88-year record. Over the Ohio Valley, the Southern States and the Atlantic Coast, unseasonably warm temperatures, including record maxima for the date on Thursday in several areas including Tampa, Florida; Louisville, Kentucky; Philadelphia, Pennsylvania; and Wilmington, North Carolina, were rapidly replaced by below normal readings as the cold front moved through on Friday and Saturday. Temperatures reached freezing as far south as northwest Florida, southern Louisiana and south Texas. Pensacola, Florida, recorded 30° and Mobile, Alabama, 27° on the 7th, while in Louisiana below freezing temperatures covered the entire state, except from New Orleans to the delta regions. The 34° recorded at New Orleans was the lowest temperature for so early in the season in an 86-year record. Record lows for so early in the season were also reported at many points from central Texas to Missouri and Kentucky. Temperatures over the Great Basin and the Pacific northwest remained below normal throughout the week, and freezing weather extended southward to the cotton district of southeastern Arizona.

Heaviest precipitation during the week was reported from the Arkansas-Oklahoma-Missouri area, where heavy rains and thunderstorms on Tuesday and Wednesday left up to 5 inches of water in local areas. Precipitation around the storm center in the upper Great Plains and the Great Lakes was locally heavy. Rains in eastern Nebraska and Iowa changed to heavy snow as the cold air moved in. Snow was reported from the central and northern Rocky Mountains and Oklahoma Panhandle to the Great Lakes. Amounts ranged from 1 to 3 inches in Oklahoma, Kansas, Missouri and the Dakotas; 4 to 8 inches in northern Iowa; up to 13 inches in north central Wisconsin; and 16 inches fell at Marquette, Michigan. Locally heavy rains fell in southern Nevada and fairly substantial amounts in coastal areas of the Pacific northwest early in the week. Light to moderate precipitation in the Northeastern, Middle Atlantic and Southern states fell mostly after midweek. Totals over 1 inch extended from New England to the Carolinas. Locally heavy rains fell at midweek in Louisiana and in extreme south Texas with the cold frontal passage. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - OKLAHOMA - Counts averaged 0.2 per linear foot of row in field of oats in Jefferson County and 6 per linear foot of row in wheat field in Marshall County. (Vinson). TEXAS - Infestations found in Potter, Deaf Smith, Castro, Randall, Moore, Swisher, Briscoe, Floyd, Hale, Roberts and Hemphill Counties in the panhandle of Texas. Found only in large volunteer clumps around irrigation ditches or where moisture had been abundant for some time. Greenbug not found in drilled wheat or in small volunteer wheat. Surveys were conducted during periods of September 11 to 29 and October 22 to 24, with total of 18 counties visited. (Daniels).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - TEXAS - Populations found in most counties surveyed in the panhandle. (Daniels).

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Not found in the panhandle counties surveyed. (Daniels).

HESSIAN FLY (Phytophaga destructor) - KANSAS - Light to heavy infestations of small larvae present in many fields over northern area. A heavy deposition of eggs occurred in that area on October 5. The general fall emergence of flies was delayed by a hot, dry midsummer. The heaviest infestations of larvae are present in Rooks, Norton, Graham and Decatur Counties in northwestern area. Samples taken on November 4 in southeastern counties of Neosho, Labette and Montgomery were 72, 92 and 81 percent infested, respectively, with mostly white puparia. (Jones).

BLACK CUTWORM (Agrotis ypsilon) - VIRGINIA - Larvae were unusually abundant and caused considerable damage to rye crops in Accomack and Northampton Counties during October. (Hofmaster).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - OKLAHOMA - Six fields of corn checked in Pawnee County found infested at following rates: 12 percent in one field, 6 percent in 2 fields, 5 percent in one field and 4 percent in 2 fields. All larvae were dead in fields that were underwater during recent flood. (Young). Counts averaged 40 larvae per 100 stalks in field of late sweet corn in Jefferson County. (Vinson).

ARMYWORM (Pseudaletia unipuncta) - CALIFORNIA - Heavy infestations damaging sorghum plantings in Santa Rosa, Sonoma County. (Cal. Coop. Rpt.).

A WEEVIL (Centrinaspis sp.) - DELAWARE - Larvae of Centrinaspis sp., probably penicellus, found tunnelling in upper corn stalks throughout State during October. Most abundant in eastern Kent County. (Burbutis, Mason).

MITES - MONTANA - Abundant on corn in Yellowstone County during September. (Roemhild).

GRASSHOPPERS - OREGON - Undetermined species reported in CEIR 9 (36): 821 in northern Baker County have been determined by A. B. Gurney as Melanoplus borealis palaceus, M. repetinus and Bradynotes sp. All three species appeared to be present in approximately equal numbers in the area with M. borealis perhaps slightly the predominant species. (Chinn).

MORMON CRICKET (Anabrus simplex) - MONTANA - Scattered crickets found in some wheat fields during September in Yellowstone County. (Roemhild).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Situation has not been severe in most Washington and Iron County alfalfa fields this fall. Numerous locally in Box Elder, Weber and Salt Lake Counties. Taken as far north as Lewiston in Cache County and Plymouth in Box Elder County. (Knowlton).

ARIZONA - Infestations decreased in central and southeastern areas following heavy rains in the areas during the past week. (Ariz. Coop. Sur.). KANSAS - Counts in east central and southeastern areas ranged from less than 1 to 5 per sweep. (Peters).

PEA APHID (Macrosiphum pisi) - MISSOURI - Heavy populations noted in northeastern area. Counts ranged 30-125 per sweep. (Kyd, Thomas, Munson). KANSAS - Counts ranged from 0-3 per sweep in southeastern and east central areas. (Peters).

LYGUS BUGS - UTAH - Active in alfalfa fields, with few numbers in fall grain fields. (Knowlton).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSOURI - Counts in alfalfa in northeastern area ranged 3-8 adults per sweep. (Kyd, Thomas, Munson). KANSAS - Counts ranged from less than 1 to 6 per sweep in east central and southeastern areas. (Peters).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Heavy populations continuing to move into alfalfa fields located near cotton, with considerable damage along edges in many cases. In some areas, populations being held down by a disease. (Ariz. Coop. Sur.).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ARIZONA - Medium to heavy infestations in some Maricopa County alfalfa fields. Large numbers observed entering soil for pupation along borders. (Ariz. Coop. Sur.).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - OREGON - Population increasing during 1959 season; noticeable damage to sweetclover plantings in Wallowa County on October 27. (Every).

CLOVER ROOT CURCULIO (Sitona hispidula) - MISSOURI - Adults found in alfalfa throughout northeastern area. Counts ranged 4-15 per sweep. (Kyd, Thomas, Munson).

FRUIT INSECTS

PEAR-SLUG (Caliroa cerasi) - MONTANA - Scattered infestations east of the mountains during September. (Roemhild).

A RUST MITE - MONTANA - Common on apples in western part of the State during September. (Roemhild).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Heavy populations occurring on olive trees in Willows and Orland, Tehama County, and medium in Oroville, Butte County. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - TEXAS - Larvae heavy in shucks of pecans in Concho and Gillespie Counties. (Garner).

TWIG GIRDLER (Oncideres cingulata) - TEXAS - Damaging pecan trees in Hunt, Gillespie and Gonzales Counties. (Davis, Turney, Garner).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Of 1,500 pecans examined in Payne County, 22 percent were found infested. Counts averaged 4 larvae per infested nut. (Edmonson, Bieberdorf).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Spread to a larger area of the Salt Lake City-Holladay area of the State during 1959, sometimes causing conspicuous damage. (Knowlton).

GRACILARIIDS (Marmara spp.) - ARIZONA - Heavy infestation in one grove of grapefruit near Mesa in Maricopa County. A few other groves in the area lightly infested. (Ariz. Coop. Sur.).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Trap inspections of 1,123 traps in California were negative for this species. As a precautionary measure resulting from one adult being trapped on October 2 in Tijuana, Mexico, 8,149 host trees were bait sprayed on the California side of the border area. (Cal. Coop. Rpt.).

AN APHID (Aphis sp., prob. spiraecola) - CALIFORNIA - Heavy populations on navel orange in Auburn, Placer County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

BLACK CUTWORM (Agrotis ypsilon) - VIRGINIA - Unusually abundant and caused considerable damage to some cole crops in Accomack and Northampton Counties during October. (Hofmaster).

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Remained a problem on host crops during first half of October in Accomack and Northampton Counties, but not as severe as earlier in the season. (Hofmaster).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - Eggs remain common on cabbage in Kent County and cauliflower in New Castle County. (Burbutis, Mason).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - CALIFORNIA - Medium on romaine lettuce in Lakeside, San Diego County. (Cal. Coop. Rpt.).

AN APHID (Nasonovia ribis-nigri) - MONTANA - Very abundant on lettuce near Missoula, Missoula County. Det. L. M. Russel. This is a new record for the State. (Roemhild, Sept.-Oct.).

A FALSE CHINCH BUG - MONTANA - An undetermined species damaged mustard in the north central part of the State during September. (Roemhild).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Adult and nymphal numbers greatly reduced from previous week; probably due to cold weather. Adults remain in one large field of spinach in Sussex County. (Burbutis, Mason).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Alate and apterous forms on turnips in southern New Castle County. (Burbutis, Mason).

IRIS WHITEFLY (Aleyrodes spiraecoides) - CALIFORNIA - Medium on yellow chili peppers in Vista, San Diego County. (Cal. Coop. Rpt.).

POTATO TUBERWORM (Gnorimoschema operculella) - UTAH - Appeared in a few potato fields at Beryl, Iron County. (Knowlton). VIRGINIA - Few moths observed in fields of fall potatoes in Accomack and Northampton Counties during October, although little foliage damage was apparent. (Hofmaster).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - OKLAHOMA - Checks in eastern and southeastern areas continued to give negative results. (Washum, Goin, Bower, Rogers). TEXAS - Light infestations attacking sweetpotatoes in Gonzales County. (Turney).

RASPBERRY ROOT BORER (Bembecia marginata) - OREGON - About 14 percent of eggs hatched in Marion County on October 25. (Rosenstiel).

A SAWFLY (Prionophorus pallipes) - UTAH - Larvae defoliating raspberry bushes at Provo, Utah County, on August 14. Det. by B. D. Burks. (Knowlton, Barlow).

A CURCULIONID (Rhyssomatus palmicollis) - OKLAHOMA - Limited numbers found infesting sweetpotatoes in some fields in east central and southeastern areas of State. Det. W. H. Anderson. (Washum, Goin, Bower, Rogers).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - LOUISIANA - Collected in gin trash in Rapides Parish. (Spink, PPC). CALIFORNIA - Approximately 3,972 bushels of gin trash were processed from 97 gins, 844 lint cleaner inspections were made, 25,800 green bolls were cut from 258 fields and 451 light trap collections were completed during the past week, with negative results. (Cal. Coop. Rpt.).

BEET ARMYWORM (Laphygma exigua) - CALIFORNIA - Light on cotton in the El Nido area, Merced County. (Cal. Coop. Rpt.).

COTTON SQUARE BORER (Strymon melinus) - CALIFORNIA - Light on cotton in Pinoche Valley, San Benito County. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SPRUCE BUDWORM (Choristoneura fumiferana) - MONTANA - Moths noticed among Douglas-fir trees locally on August 6. Infested ponderosa pines on Strawberry Mountain near Helena, Lewis and Clark County. (A. Tunnock, Jr.).

BARK BEETLES (Dendroctonus spp.) - CALIFORNIA - Dendroctonus brevicomis causing serious damage to Coulter pines on Palomar Mountain, Cleveland National Forest. Large pole to mature trees being killed singly and in groups up to 8 in a 100-acre stand. Controls are scheduled for this area. (J. Pierce). D. brevicomis and Ips spp. causing complete kill of ponderosa pines in southeastern part of Sierra National Forest in groups up to 50. Approximately 85 percent of these are still straw colored. Damage associated with 1958-1959 snow damage. Salvage logging and treatment being used where possible. (C. Sikora). MONTANA - Groups of ponderosa pines were attacked by D. ponderosae during September and October in the Sioux district of Custer National Forest. D. engelmanni attacked several spruce trees in a tenacious infestation area within Dicky Creek, Coran Ranger district, during October. (A. Tunnock, Jr.). ARKANSAS - Infestations of D. terebrans have appeared in trees along new pipeline right-of-way in Hollis area and in sales areas near Glenwood. (Ark. For. Pest Rpt., Nov.). FLORIDA - Active in a 60-acre plantation in Calhoun County. Also responsible for a moderate amount of tree mortality on 300 acres of pine in northern Wakulla County. (Fla. Coop. Sur.).

ENGMANN SPRUCE WEEVIL (Pissodes engelmanni) - MONTANA - Killed terminal tips of saplings and pole-size Engelmann spruce trees along Kishenehn Creek, Glacier National Park. Pupae in tips during September. Bush-like appearance of many trees indicates that infestation must have been active for several years. (A. Tunnock, Jr.).

A PINE RESIN MIDGE (Retinodiplosis sp.) - MONTANA - Flagging was noticeable on ponderosa pines near Ashland, within the Custer National Forest, during September and October. (A. Tunnock, Jr.).

PINE SAWFLIES - MONTANA - Lodgepole pines severely defoliated in several stands along Little Rockies, Lewis and Clark National Forest; probably by Neodiprion burkei. Examination of foliage in September revealed eggs and one female. A similar species was reported defoliating lodgepole pines within the Hyalite drainage near Bozeman during August. About 120 acres of ponderosa pine showed

heavy feeding by an unknown species north of Armells, Fergus County. Cocoons present in duff and a few needles held eggs in September. (A. Tunnock, Jr.).
ARKANSAS - N. lecontei remains active in a few areas, but damage appears to be generally light. (Ark. For. Pest Rpt., Nov.).

LARCH SAWFLY (Pristophora erichsonii) - MONTANA - Few infestations reported along the Blackfoot Valley on western larch during September and October. (A. Tunnock, Jr.).

PINE SCALES - CALIFORNIA - Phenacaspis pinifoliae and Aspidiotus californicus causing severe needle dieback and complete kill in sugar pines in the Redding district along the old Bateman road, east Shasta County. (J. C. Denny).

SPIDER MITES - MONTANA - A complex of undetermined species was abundant during September and October in the western mountain area. (Roemhild).

OAK SKELETONIZER (Bucculatrix ainliella) - NORTH CAROLINA - Skeletonizing oaks locally in Rockingham County on May 29. Det. H. W. Capps. (Foil). According to ARS records, this is the first record for the State.

A LYONETIID (Proleucoptera albella) - MONTANA - Several infestations in cottonwood trees reported from central part of State during September and October. (Roemhild).

PAINTED MAPLE APHID (Drepanaphis acerifolii) - CALIFORNIA - Heavy infestations on silver maples in Shafter, Kern County. (Cal. Coop. Rpt.).

POPLAR-PERIOLE GALL APHID (Pemphigus populi-transversus) - MONTANA - Common throughout eastern portion of the State during September and October. (Roemhild).

GRANULATE CUTWORM (Feltia subterranea) - CALIFORNIA - Heavy populations occurring in dichondra lawns in Riverside, Riverside County. (Cal. Coop. Rpt.).

A NYMPHALID (Agraulis vanillae) - CALIFORNIA - Causing heavy damage to passion-vines in Kelseyville, Lake County; heavy in Los Gatos, Santa Clara County; and medium in San Bruno, San Mateo County. (Cal. Coop. Rpt.).

A GALL MIDGE - MONTANA - Several hundred acres of sagebrush severely galled by an undetermined species, with some sagebrush mortality along the Montana-Wyoming border. (Roemhild, Sept.-Oct.).

SCALE INSECTS - CALIFORNIA - Diaspis manzanitae and Aspidiotus arctostaphyli light on manzanita in Cajon, San Bernardino County. (Cal. Coop. Rpt.).

A MEALYBUG (Pseudococcus nipae) - CALIFORNIA - Heavy infestation on aralia plants in Balboa Park, San Diego, San Diego County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - None noted in 72 treated steers in a herd in Pontotoc County; 6 of 10 untreated steers in same herd averaged 2 grubs per animal. (Young).

HORN FLY (Siphona irritans) - OKLAHOMA - Counts averaged 600 per animal on eight 1800-pound bulls and 200 per animal on two 200-pound steers checked in Jefferson County. (Vinson).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - One calf reported infested in East Carroll Parish. (Spink). TEXAS - Attacking hogs and cattle in Gonzales County. (Turney).

BLACK FLIES - UTAH - Undetermined species annoying hunters in Box Elder Canyon-Mantua areas, Box Elder County, and in local areas of Logan Canyon. (Knowlton).

CATTLE LICE - WYOMING - Populations of undetermined species building up rapidly on cattle in Hot Springs, Washakie and Sheridan Counties; noticed during spraying for cattle grub control. (Davison). UTAH - Controls have been applied to several herds in Box Elder, Millard and Sanpete Counties; 3,000 head were dipped in Tooele County. A total of 4,400 cattle (including calves) were treated in one area of Sanpete County and smaller treatments were made in a number of other counties. (Knowlton).

CHICKEN BODY LOUSE (Menacanthus stramineus) - OKLAHOMA - Heavy (over 500 per bird) noted in a flock of 3,300 laying hens checked in Pawnee County. (Young).

BLACK WIDOW SPIDER (Latrodectus mactans) - UTAH - Two more persons reportedly bitten, while sleeping, at Ogden, Weber County. (Knowlton).

BENEFICIAL INSECTS

LADY BEETLES - TEXAS - Undetermined species attacking greenbugs in the panhandle counties. At one location in Briscoe County, on large wheat clumps, around an irrigation well, individuals ranged 20-100 per clump. (Daniels).

MISCELLANEOUS INSECTS

BANDED WOOLLYBEAR (Isia isabella) - OREGON - Have been observed moving in numbers during past 2 weeks across open areas seeking hibernation quarters. (Eppley, Oct. 30).

A LEAF BEETLE (Lema sayi) - PENNSYLVANIA - A single specimen collected in sweeping of various plants. This is the first collection of this species in the State. Det. E. U. Balsbaugh. (Balsbaugh).

BOXELDER BUG (Leptocoris trivittatus) - WYOMING - A considerable nuisance to homeowners, stores and hotels in Sheridan, Sheridan County. (Davison). UTAH - Annoying in buildings in Tremonton, Box Elder County. Also annoying in homes in the Provo-Orem-Payson area. (Knowlton). PENNSYLVANIA - Entering homes in Dauphin County. (Drooz, Oct. 28). Heavy concentrations causing a nuisance in homes in Lackawanna County. Are much heavier than in recent years. (Nichols, Oct. 30).

A COREID (Arhyssus scutatus) - MONTANA - Large numbers migrating into houses in northern part of State. (Roemhild, Sept.-Oct.). CALIFORNIA - Medium infestation causing a nuisance in a home in Roseville, Placer County. (Cal. Coop. Rpt.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - LOUISIANA - Reported for the first time from Cameron and Jefferson Davis Parishes. (Spink, PPC). OKLAHOMA - Investigated reports continue to be negative in southeastern areas. (Goin). FLORIDA - Collected in a nursery and recreation area in Seminole County, October 26. The species was discovered in Seminole County several years ago, at which time it was treated and eradicated. (Fla. Coop. Sur.).

A HARVESTER ANT (Pogonomyx maricopa barnesi) - UTAH - Collected in Washington County on July 14. Det. by A. C. Cole. This extends range of this particular form from Arizona to Utah. (Knowlton, Cole).

RED HARVEST ANT (Pogonomyrmex barbatus) - OKLAHOMA - Surveys were conducted on roadside areas in several counties throughout the State during late summer and early fall. The number of hills (1 foot in diameter of cleared area or over) were recorded for the area to include 20 feet on both sides of the road surface. The average number of hills observed per mile in each county were: Comanche - 25; Cotton - 27; Oklahoma - 2; Logan - 1; Payne - 4; and less than one in Noble, Pawnee, Osage, Washington, Nowata, Craig and Mayes Counties. Populations were lower than those noted during the past several years. (VanCleave et al.).

BROWN-BANDED ROACH (Supella supellectilium) - WYOMING - Severe in an apartment house in Rock Springs, Sweetwater County. (Davison).

AN EARWIG (Pyragropsis buscki) - FLORIDA - Fairly common (17 specimens collected) under old petiole bases where the brown fiber overlaps on coconut palms at Crandon Park, Key Biscayne, Dade County, October 27. (Woodruff). This appears to be a rare species originally described from Cuba, but also recorded from Jamaica and the Dominican Republic. In Florida, it has been recorded only from the Miami area where it has always been associated with palms. The species is of no known economic importance. (Fla. Coop. Sur.).

MILLIPEDES - MONTANA - Abundant and annoying in south central areas of State. (Roemhild, Sept.-Oct.). LOUISIANA - Becoming a major nuisance in and around homes in Baton Rouge and in some other areas of the State. (Spink).

CORRECTIONS

CEIR 9(44):961 - A TINEID (Lindera tessellatella) - NEVADA - This note should have been carried under STORED-PRODUCT INSECTS, as the host involved was stored wheat. This species was found in association with several other species of stored-grain insects.

CEIR 9(45):977 - WHITE GRUBS - KANSAS - Cyclocephala maculata should read Cyclocephala immaculata.

CEIR 9(45):982 - GRANULATE CUTWORM (Agrotis subterranea) should read GRANULATE CUTWORM (Feltia subterranea).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Feltia subterr.	Laphygma frug. exigua	Agrot. yps.	Perid. marg.	Prod. ornith.	Helio. zea
KANSAS							
Garden City 10/28-29, 31,11/2				10			28
Hays 11/1-3				2			16
Manhattan 10/31-11/5				2			48
Wathena 10/26-11/3				8			470
LOUISIANA							
Baton Rouge 10/30- 11/5	34	15	80	7	19	37	9
Franklin 11/2	5	1	8		1	21	
NEBRASKA							
Lincoln 10/15-30	36		33		45	2	37
North Platte 10/27- 11/2	2				36		2
SOUTH CAROLINA							
Charleston 10/26- 11/1					5		
Clemson 10/31-11/6	147	16	11		33	6	6
TENNESSEE (Counties)							
Monroe 10/27-11/2	96		2		66	16	14
Maury 10/27-11/2	32		4		22	4	28
Robertson 10/27-11/2	26				6		37
Cumberland 10/27-11/2	68				26	1	47
Greene 10/27-11/2	51		1		2		9
Blount 10/27-11/2	40		1		10		7
Johnson 10/27-11/2	61		2		36	18	27
TEXAS							
Waco 10/31-11/6	173	121			1	229	8

ADDITIONAL COLLECTIONS - FLORIDA, Quincy (10/26,11/2) - CORN EARWORM (Heliothis zea) - 7; BLACK CUTWORM (Agrotis ypsilon) - 3.

INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

A pupa of PINK BOLLWORM (Pectinophora gossypiella) on cotton leaves in baggage from Jamaica at New York on January 29; about 100 live adults of EUROPEAN CHAFER (Amphimallon majalis) as stowaways on an airplane from France on June 22 at New York and also one stowaway adult on a plane at Wilmington on June 28; dead SNAILS (Theba pisana and Cochlicella ventrosa) in a small cargo of herb material from Italy on June 8 at San Diego; adults of a SCOLYTID (Hypoborus ficus (Erich.)), a fig pest of southern Europe, in Ficus sp. cutting in cargo from Yugoslavia on March 10 at New York; one larva of a CRAMBID (Chilo sp.) in fencing material made of Phragmites communis in cargo from Germany on July 10 at San Pedro; a heavy infestation by a BRUCHID (Bruchidius trifolii (Mots.)), a species not known to occur in the U. S., in a cargo of crimson clover seed from Italy on August 18; about 50 eggs of a FRUIT FLY, probably Dacus dorsalis Hend., in mangoes in baggage destined for California on May 24 at Honolulu; larvae of a WEEVIL (Hyperodes sp.), a species of apparent importance to carrots in some South American countries, in carrots in stores from Brazil on July 2 at Philadelphia; a SNAIL (Cochlicella barbara (L.)), an important economic species in some European countries, in new cars from Germany on July 22 at New Orleans; and larvae of MEDITERRANEAN FRUIT FLY (Ceratitis capitata (Wied.)) three times, twice in coffee berries for Miami destinations in baggage from Brazil at Miami on July 20 and August 18, and once in pears for a California destination in baggage from Greece at McGuire AFB on August 9. (Plant Quarantine Division).

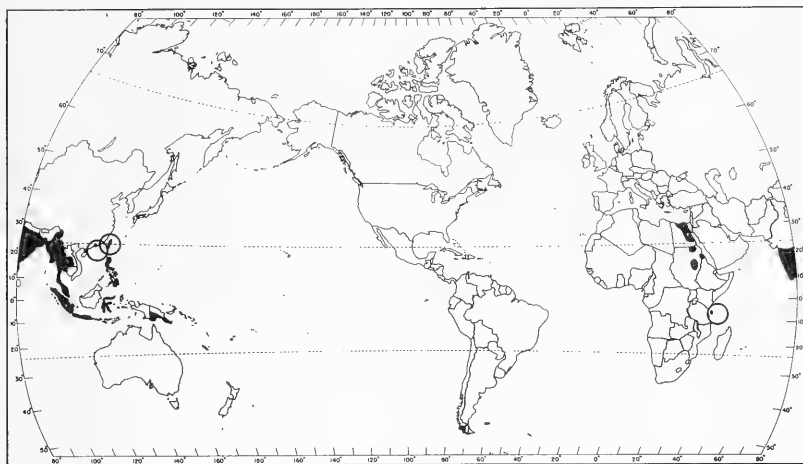
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

HIBISCUS MEALYBUG (*Phenacoccus hirsutus* Green)

Economic Importance: This mealybug is a troublesome pest on many plants in Egypt. Reports indicate it is one of the worst pests of cotton in North Bihar, India, where infestations hamper cultivation. Hibiscus in the Philippines is severely attacked. The insect feeds on a wide range of plants, principally on the growing terminals where it may cause severe deformity.

Distribution: Asia (India, Philippine Islands, Formosa, China (near Hong Kong), Pescadores Islands, Burma, Indonesia, Malaya, Pakistan, Thailand); Africa (Egypt, Sudan, Zanzibar) and New Guinea.

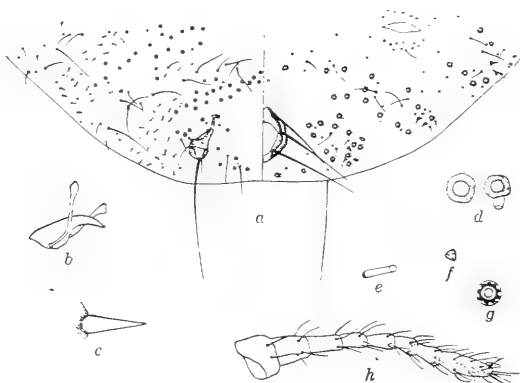
Hosts: Attacks many plants. Some of the most important are hibiscus, cotton, mulberry, guava, albizzia, peanut, beans, grape, quince:



General Distribution of *Phenacoccus hirsutus*

Life History and Habits: Females seek shelter in cracks and crevices on host plants to lay eggs. In such places several individuals congregate forming a colony. The ovisac increases in size while the female becomes smaller until she dies leaving an elongated ovisac full of shiny pink eggs. Each ovisac contains from 150-300 eggs. The egg stage lasts about 6-9 days, with hatching sometimes occurring before the last eggs are laid. The young larvae are very active leaving the ovisac soon after hatching for sites of new growth where they settle and start feeding. They molt twice before becoming adults. In Egypt there are about 6 generations a year. Reproduction is mostly parthenogenetic. Males are scarce in summer.

Description: ADULT female: length 2-3.5 mm., breadth 0.9-2 mm., slightly elongate and ovate, body pink to dark violet, sparsely covered with white secretion through which body color shows. Legs same color as body. No marginal wax filaments but there are one or two pairs at posterior extremities. The waxy threads composing the ovisac are brittle and easily broken when stretched on the tip of a needle. Absence of marginal filaments distinguishing characteristic of this species. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(46):11-13-59.



Figures of *P. hirsutus*, adult female; a, posterior apex of body, showing cerarii, glands, anal ring, apical setae and ventral chitinized area; b, tarsal claw; c, cerarian spine; d to g, four different types of gland pores found on body; h, antenna.

Major reference:

Beshir, M. and Hosny, M. 1939. Minist. Agr., Egypt. Tech. and Sci. Serv. Ent. Sect. Bul. 209, 16 pp.

Figures (except map) from Morrison, H. 1920. Philippine Jour. Sci. 17(2):147-202.

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

CABBAGE LEAF MINER (Phytomyza rufipes) has been recorded in Oregon. This species had not previously been known in the United States. (p. 1007).

RED-HEADED PINE SAWFLY caused partial defoliation of pines in 3 Texas counties. A THRIPS (Gynaikothrips sp.) is seriously damaging Ficus nitida trees in San Diego, California. (p. 1008).

IMPORTED FIRE ANT believed to be infesting several thousand acres in Seminole County, Florida. (p. 1010). Seminole County was first found infested several years ago. See CEIR 9(46):999.

INSECT DETECTION: New state records are European corn borer in Texas (p. 1005) and navel orangeworm in Utah (p. 1006). Sogata orizicola recorded for first time in St. Martin Parish, Louisiana; making total of 14 parishes now found infested in the State. (p. 1005). Pumpkin caterpillar (Diaphania indica) recorded for first time in the United States. (p. 1012).

CORRECTIONS (p. 1010).

Status of pumpkin caterpillar (Diaphania indica) in Florida. (p. 1012).

INSECTS not known to occur in the United States. (p. 1013).

Reports in this issue are for the week ending November 13, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-NOVEMBER TO MID-DECEMBER 1959

The Weather Bureau's 30-day outlook for the period mid-November to mid-December calls for temperatures to average below seasonal normals over the entire area between the Appalachians and the Continental Divide, as well as in the Pacific Northwest. Coldest weather is indicated for the Central and Northern Plains. Above normal temperatures are anticipated in the Far Southwest and also the Atlantic coastal strip. In unspecified areas near normal is predicted. Precipitation is expected to exceed normal over the eastern third of the Nation, the Northern Plains, and the far Southwest including the central and southern west coast. All other areas of the country are expected to record near normal amounts except for subnormal over the Pacific Northwest. The above prediction indicates continued wintry conditions over much of the Nation, with only transitory periods of warmth.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING NOVEMBER 16

The major features of this week's weather were two severe cold waves, with local blizzard conditions, which brought midwinter conditions to the central section of the Nation. Arctic air swept southward over the northern Rocky Mountains, the northern Great Plains, and the upper Mississippi Valley Wednesday and Thursday on strong, gusty winds, bringing record-breaking low temperatures for so early in the season and moderate to heavy snow. Temperatures on Friday reached -42° at Butte and -40° at Drummond in western Montana. As the cold air pushed rapidly to Texas by early Saturday, temperatures over the Great Plains States dropped as much as 55° to 60° within 24 hours, freezing levels extended to south Texas and northern Louisiana, and zero readings to northwestern Kansas, Iowa and Minnesota. Temperatures moderated rapidly in the northern Rocky Mountains on Saturday, but a second severe cold wave moved southward and eastward from Montana and Wyoming to Texas and the Appalachians on Sunday and Monday. Temperatures in this second mass of frigid air again brought new record-low temperatures for so early in the season to many stations in the Great Lakes, Mississippi Valley and Great Plains States on Monday and Tuesday mornings, breaking some records for early season cold established in the 1880's. Helena, Montana, recorded -39° on Monday morning. Below-zero readings extended from Montana and Wisconsin southward to Nebraska, Iowa and northern Illinois, and minima below 20° reached to southwest Texas, Arkansas, Tennessee and Ohio on Tuesday morning.

Precipitation occurring as snow, sleet, freezing rain, rain and drizzle ranged from moderate to heavy in the northern Rocky Mountains and generally light over the Great Plains to locally heavy in the Mississippi and Ohio Valleys. Snowfall during the week totaled well over 20 inches locally in southwestern Montana, 3 to 6 inches in the Dakotas and northern Illinois, 2 to 4 inches in Minnesota and Wisconsin, 8 to 10 inches in parts of Iowa and Nebraska, and 4 to 8 inches in Michigan and northern Indiana. Rain in the lower Mississippi and Ohio Valleys totaled generally $1/2$ to 1 inch, with local areas receiving greater amounts. Part of the cold air spilled over the mountains into the Pacific Northwest and the northern Great Basin, bringing generally cold and clear weather to these areas. In the Far Southwest fair, warm weather continued in California and southern Nevada throughout the week, while some scattered showers dotted southeastern Arizona. Virtually no precipitation has occurred over the Nevada-Utah area since October 1. In the eastern Gulf States and the Atlantic coastal region, temperatures averaged near normal, with cool readings at the beginning of the week and moderating to unseasonably warm levels, including 60° to 70° readings as far north as New England, late in the week. Rainfall in these areas was generally light, with only a few locally heavy totals being reported from southeastern Florida and New England. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Counts averaged 1.3 per linear foot of row in 5 of 6 fields of small grain checked in Marshall, Love and Jefferson Counties. (Vinson). None noted in 11 wheat fields checked in Kiowa, Washita and Caddo Counties. (Hudson). None noted in a wheat field surveyed in Hennessey area. (Owens).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Counts averaged 0.3 and 0.6 per linear foot in 2 fields of small grain in Marshall County. None noted in 4 other fields in Love and Jefferson Counties. (Vinson). None noted in 11 wheat fields checked in Kiowa, Washita and Caddo Counties (Hudson) nor in a wheat field in Hennessey area (Owens).

GREENBUG (Toxoptera graminum) - TEXAS - Spotted infestations in oats in Harris County. (Texas Coop. Rpt.). OKLAHOMA - Counts ranged 0.1-8 per linear foot (averaged 2.25) in 4 of 6 fields of small grain checked in Marshall, Love and Jefferson Counties. Populations increased slightly over last week in this area. (Vinson). None noted in 11 wheat fields surveyed in Kiowa, Washita and Caddo Counties. (Hudson). Counts averaged 3 per linear foot in a wheat field in Hennessey area. This is the first infestation noted in this area this fall. (Owens).

A PLANTHOPPER (Sogatia orizicola) - LOUISIANA - This vector of hoja blanca disease of rice found in St. Martin Parish. This brings to 14 the number of parishes found infested. (Spink).

EUROPEAN CORN BORER (Pyrausta nubilalis) - TEXAS - One larva taken from field of late corn at Texarkana, Bowie County. Det. H. W. Capps. This is the first record in the State. (Hawkins).

CORN EARWORM (Heliothis zea) - DELAWARE - Larvae present in New Castle County, fairly common in Kent County and common in Sussex County, with average of 4 per 10 sweeps on alfalfa. (Mason).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - TEXAS - Surveys were conducted in 17 early corn fields in San Augustine, Shelby, Panola, Harrison, Cass and Bowie Counties, with no overwintering specimens being found. One late field in Bowie County was 85 percent infested. (Hawkins). OKLAHOMA - Counts averaged 25 percent infestation in corn field in Love County. (Vinson).

SUGARCANE BORER (Diatraea saccharalis) - TEXAS - In old grain sorghum plants, counts range 3-10 per plant in Brazos River bottoms. (Randolph).

GRASSHOPPERS - IDAHO - Gravid females of Camnula pellucida, Melanoplus femur-rubrum and M. bivittatus found as late as October 29 in Latah County. Egg deposition was still occurring at that time. Carabid larvae were numerous wherever grasshopper eggs were found and occasional bombyliid larvae were also present. (Evans, Smith, Bishop). OKLAHOMA - Grasshopper counts very light in wheat field in Caddo County, light in alfalfa field in Washita County and none found in 10 other wheat fields in Caddo, Washita and Kiowa Counties. (Hudson). Averaged 15 per square yard along margin of wheat field in Hennessey area. (Owens).

SCALE INSECTS - ARIZONA - Odonaspis ruthae, Antonina graminis and Margarodes sp. found infesting Bermuda grass during recent surveys. (Ariz. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Counts averaged 48 per 100 sweeps in 10 Yuma County alfalfa fields. Infestations low in other areas of the State. (Ariz. Coop. Sur.). TEXAS - Averaged 1 per 5 sweeps in young alfalfa in Bowie County. (Hawkins). OKLAHOMA - Counts ranged 0.8-2 per sweep in an alfalfa field checked in Washita County. (Hudson).

LYGUS BUGS (Lygus spp.) - ARIZONA - Infestations increased in central area alfalfa. In Yuma County, counts averaged 8 per 100 sweeps in 10 fields sampled. (Ariz. Coop. Sur.).

LEAFHOPPERS - ARIZONA - Average number per 100 sweeps in 10 Yuma County alfalfa fields was as follows: Empoasca spp. - 34; Aceratagallia curvata - 17. (Ariz. Coop. Sur.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - DELAWARE - Adults remain present on legumes throughout the State, with average of 3 per 10 sweeps in alfalfa field in New Castle County and 5 per 10 sweeps in alfalfa field in Sussex County. (Mason).

PEA APHID (Macrosiphum pisi) - DELAWARE - Remains present on alfalfa throughout the State. (Mason).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Infestations in central and southeastern area alfalfa are low to medium, with heaviest fields averaging about 5 aphids per trifoliolate leaf. Number of diseased aphids is greatly reduced. (Ariz. Coop. Sur.). TEXAS - Averaged 2 per sweep in young alfalfa in Bowie County. (Hawkins). OKLAHOMA - Counts averaged 0.25 per sweep in alfalfa field in Marshall County (Vinson) and ranged 2.5-7 per sweep in alfalfa field in Washita County (Hudson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Activity of this species, Laphygma frugiperda and cutworms greatly reduced. Few adults still being attracted to lights in Auburn area. (Grimes, Nov. 6).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - MARYLAND - Infesting apples in home plantings at Adelphi, Prince Georges County. (U. Md., Ent. Dept.).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Heavy populations on olive trees in Cucamonga, San Bernardino County. (Cal. Coop. Rpt.).

PEAR LEAF BLISTER MITE (Eriophyes pyri) - UTAH - Fall spraying occurred in a number of pear orchards in Utah County. (Knowlton).

NAVEL ORANGEWORM (Paramyelois transitella) - UTAH - Infesting recently-harvested almonds at La Verkin, Washington County, during September. Det. H. W. Capps. (Davis, Knowlton). According to ARS records, this is a new State record. (PPC).

TWIG GIRDLER (Oncideres cingulata) - ALABAMA - Caused light damage to pecan and hickory twigs in southern Mobile County. (Seibels, Nov. 6).

BLACK-MARGINED APHID (Monellia costalis) - CALIFORNIA - Decreasing on pecan trees in Johnstown, San Diego County. (Cal. Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - The detection program for 1959 has been completed. The Frick trap was used extensively for the first time and proved considerably more satisfactory than the standard sticky board trap. A total of 62 traps was placed in walnut orchards from Medford to Portland for the duration of the season, with negative results. (Larson, Nov. 6).

TRUCK CROP INSECTS

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Infestations were heavy in late tomatoes in the San Juan Capistrano area of Orange County. (R. Campbell).

BET ARMYWORM (Laphygma exigua) - CALIFORNIA - Present in many cabbage fields in Orange County. (R. Campbell).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Eggs and young larvae common in cabbage and turnip fields of southern parts of the State. (R. Campbell).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Common in one field of turnips in southern New Castle County and appears to be building up. Present on spinach and turnips in Sussex County. (Mason).

CABBAGE LEAF MINER (Phytomyza rufipes) - OREGON - Owing to lack of sufficient information at the time of preparation, this species was reported in CEIR 9(40): 909, as an insect not known to occur in the United States. In a recent paper, "Synopsis of the species of agromyzid leaf miners described in North America (Diptera)", by Kenneth E. Frick, 1959, U. S. Nat. Mus. Proc. 108 (3407): 435-436, P. rufipes is recorded at Vernonia, which is in the mountainous region of central Oregon. Since this additional information has been brought to attention, this species should not be considered as an insect not known to occur in the United States. (PPC).

A LEAF MINER (Liriomyza munda) - CALIFORNIA - Damaged lima bean foliage in the Irvine area of Orange County. (R. Campbell).

LEAFHOPPERS - MARYLAND - Principally Aceratagallia sanguinolenta, abundant on strawberry plantings and border strips of lespedeza and grass at Fairland, Montgomery County, November 5. (U. Md., Ent. Dept.).

STRAWBERRY APHID (Pentatrichopus fragaefolii) - OREGON - Remains prevalent in strawberry fields in Washington and Multnomah Counties. No winged forms observed. (Every).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OREGON - Survey for 1959 revealed 14 fields infested out of 40 surveyed in Clackamas, Washington, Polk, Yamhill, Marion and Columbia Counties. Seven infestations are new this year; however, 3 fields of light infestation in 1958 were negative in 1959. All of the 1958 infested fields were resurveyed in 1959; 7 of these fields had been ploughed out. (Larson).

GRAY GARDEN SLUG (Deroceras reticulatum) - OREGON - Abundant in strawberry fields in Washington and Multnomah Counties, week of November 9-13. (Every).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

A PINE MOTH (Rhyacionia frustrana bushnellii) - MONTANA - Again damaged ponderosa pines during September and October in Whitcomb Draw, Sioux district of Custer National Forest. About 1,500 acres are infested. (A. Tunnoek, Jr.).

PINE WEBWORM (Tetralopha robustella) - ALABAMA - Scattered infestations present on under-plantings of loblolly pine in areas of Lamar, Marion, Pickens, Fayette and Tuscaloosa Counties. (Cantelou, Nov. 6).

BARK BEETLES (Dendroctonus spp.) - ALABAMA - D. frontalis activity increased slightly in selectively cut areas of loblolly pine in Colbert County. (Mitchell, Nov. 6). TEXAS - Epidemic of D. frontalis maintained about same proportions as in September; 14 spots of brood trees remained uncontrolled, with 4 of these containing 100-300 brood trees. (Gaines). CALIFORNIA - D. brevicornis and Ips spp.

causing heavy damage to ponderosa pines in Westfall Ranger district, Madera County. Top kill and complete kill in groups of 6-12 in a 4,000-acre stand of current infestation; increasing to epidemic. (L. M. Whitfield, C. B. Eaton). D. monticolae causing severe damage to sugar pines in the Mariposa district in groups of 3-5, with 1-5 trees killed per acre in a 12,000-acre stand. Salvage logging underway; area scheduled for 1959-1960 logging. (B. E. Minter).

IPS BEETLES (Ips, spp.) - ALABAMA - A heavy infestation is present in loblolly and short leaf pines in Marshall County. (Ramage, Nov. 6).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - TEXAS - Caused partial defoliation of pine reproduction in Cherokee, Polk and Trinity Counties. (Gaines).

ELM LEAF BEETLE (Galerucella xanthomelaena) - CALIFORNIA - Heavy on elm trees in Alameda, Alameda County. (Cal. Coop. Rpt.).

OBSCURE SCALE (Chrysomphalus obscurus) - NORTH CAROLINA - Attacking white oak in Wake County. Det. H. Morrison. (Harris).

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Medium on eucalyptus trees in Los Posas Valley, Ventura County. (Cal. Coop. Rpt.).

A MEALYBUG (Amonostherium lichtensioides) - CALIFORNIA - Medium infestation on sage in the Alturas area, Modoc County. (Cal. Coop. Rpt.).

A SPITTLEBUG (Clastoptera arizonana) - CALIFORNIA - Medium on Acacia sp. in Anaheim, Orange County. First occurred in San Diego County in 1957. Spread during 1959 to Los Angeles, Orange and San Bernardino Counties and is causing considerable damage to acacia and paloverde trees. (Cal. Coop. Rpt.).

A THRIPS (Gynaikothrips sp.) - CALIFORNIA - Continued heavy populations seriously damaging Ficus nitida trees in San Diego, San Diego County. Tests to determine potential relationship of this species on citrus are being conducted by confining numbers of living specimens in muslin sleeves on citrus terminals. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - CALIFORNIA - Generally populations have gone into hibernation. There was a heavy emergence of males in the Sacramento area during the past week. (Cal. Coop. Rpt.).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - An infestation of a calf reported from Franklin Parish. This is first authenticated infestation from the parish in 1959. (Spink).

CATTLE GRUBS (Hypoderma spp.) - OKLAHOMA - H. lineatum larvae averaged 1.5 per cow, one per bull and 0-1 per calf in a herd of 160 cattle checked in the Marietta area, Love County; approximately 10 percent of the calves and 50 percent of the cows were infested. (Vinson). Counts averaged 4 per animal on 30 head of 600-800 pound beef animals in Tillman County (Hatfield); less than one per animal on 80 yearling steers in Canadian County and approximately one per animal on 60 yearling bulls; largest number found was 5 (Howell). WYOMING - Spraying for control nearing completion in the State. (Davison).

HORN FLY (Siphona irritans) - OKLAHOMA - None noted on 35 cattle checked in Le Flore County after a freeze. (Goin). Averaged 25 per cow and 50 per bull on 160 cattle checked in Love County. (Vinson).

A FACE FLY (Musca autumnalis) - WISCONSIN - Additional collections of flies in barns were negative for this species. (Wis. Coop. Sur., Nov. 9).

CATTLE LICE - UTAH - In Wasatch County, 1,000 head of cattle have been recently treated, and additional treatments are contemplated. (Knowlton, Nov. 6).

HOG LOUSE (Haematopinus suis) - MARYLAND - Light to medium infestation noted on hogs at Denton, Caroline County. (U. Md., Ent. Dept.).

A REDUVID (Rasahus thoracicus) - CALIFORNIA - Biting people in Patterson, Stanislaus County. The species has been more prevalent in the Sacramento-San Joaquin Valleys this season than in the past few years. (Cal. Coop. Rpt.).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Counts averaged 40 per animal on 35 cows checked in Le Flore County. (Goin).

STORED-PRODUCT INSECTS

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - TEXAS - Heavy infestation of larvae and adults in stored grain sorghum in College Station area, Brazos County. (Garner).

FLAT GRAIN BEETLE (Cryptolestes pusillus) - OREGON - Found seriously infesting grain establishment at Dufur, Wasco County, week of November 9. (Foster). See CEIR 9(40):905 for reference to change of name. (PPC).

BENEFICIAL INSECTS

HONEY BEE (Apis mellifera) - WISCONSIN - During the 1959 season, 838 out of 32,655 colonies inspected were found infested with American foulbrood and destroyed. Colonies of bees which early in the season found conditions favorable for brood rearing, produced a large honey crop, and appear to be going into the winter in satisfactory condition. (Wis. Coop. Sur., Nov. 9).

MISCELLANEOUS INSECTS

MELONWORM (Diaphania hyalinata) - CALIFORNIA - A single specimen taken in a light trap in Winterhaven, Imperial County. This is the third moth taken in light traps. (Cal. Coop. Rpt.).

OLD-HOUSE BORER (Hylotrupes bajulus) - MARYLAND - Larvae infesting pine wood in a home at Adelphi, Prince Georges County, November 2. (U. Md., Ent. Dept.).

BOXELDER BUG (Leptocoris trivittatus) - MARYLAND - Causing a nuisance around homes at localities in Anne Arundel, Baltimore and Montgomery Counties. (U. Md., Ent. Dept.). OREGON - Observed in homes and other buildings around Salem, Marion and Polk Counties, seeking overwintering quarters, week of November 2-6. (Eppley).

BROWN-BANDED ROACH (Supella supellectilium) - SOUTH DAKOTA - Infesting a home in Mitchell, Davison County. (Spawn).

GERMAN COCKROACH (Blattella germanica) - ALABAMA - Heavy infestations in many homes and stores in Butler, Clarke, Conecuh, Escambia, Monroe and Wilcox Counties. (Lemons, Nov. 6). MARYLAND - Infesting a home at Berwyn Heights, Prince Georges County. (U. Md., Ent. Dept.).

AN EARWIG - LOUISIANA - Reports of infestation of homes by an undetermined species are being received from widely scattered areas of the State. (Spink)

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - FLORIDA - Infestations were discovered in Sanlando Springs, Seminole County, the latter part of October. Delimiting had not been completed by close of report period, but it is thought final survey may involve several thousand acres of infested properties. Rather sizeable extensions were found in Hillsborough, Jackson and Calhoun Counties and minor extensions of infestation in Bay, Manatee and Washington Counties during October. During the period, 61 collections were processed and 51 contained positive specimens. (Fla. Coop. Sur.). OKLAHOMA - Investigation of suspected hill in Tillman County proved negative. (Hatfield).

PAVEMENT ANT (Tetramorium caespitum) - MARYLAND - Troublesome around homes at localities in Queen Annes and Montgomery Counties, October 30 and November 3. (U. Md., Ent. Dept.).

BLACK WIDOW SPIDER (Latrodectus mactans) - SOUTH DAKOTA - Specimen found in a home by the owner in Moberidge, Walworth County. (Spawn).

MILLIPEDES - MARYLAND - Troublesome in a home at Silver Spring, Montgomery County, October 28. (U. Md., Ent. Dept.). LOUISIANA - Continue to be a nuisance in Baton Rouge homes. (Spink). OKLAHOMA - Causing concern to property owners and pest control operators in Oklahoma City. (Bower).

CORRECTIONS

CEIR 9(18):332 - A PEEL MINER (Mamara sp.) should read A GRACILARIID (Marmara sp.).

CEIR 9(45):982 - A CURCULINOID (Rhysomatus palmacollis) should read (Rhysomatus palmicollis).

CEIR 9(46):997 - LARCH SAWFLY (Pristophora erichsonii) should read (Pristiphora erichsonii).

CEIR 9(46):997 - PAINTED MAPLE APHID (Drepanaphis acerifolii) should read (Drepanaphis acericoliae).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Feltia subterr.	Laphygma frug. exigua	Agrot. yps.	Perid. marg.	Prod. ornith.	Helio. zea
ARIZONA							
Mesa 11/2-8			114		1	131	14
ARKANSAS							
Morrilton 10/29-11/11	20			1			38
Kelso 10/22-11/4	2			5			80
FLORIDA							
Gainesville 11/11				2			5
LOUISIANA							
Baton Rouge 11/6-12		4	2	1	6		
SOUTH CAROLINA							
Charleston 11/2-15	31	17	8	23		11	8
Clemson 11/7-13	14	2		4			
TENNESSEE (Counties)							
Monroe 11/3-9	69			32	1	1	10
Madison 11/3-9	43			13		11	9
Maury 11/3-9	25		2	9		2	23
Robertson 11/3-9	1			4	1		6
Cumberland 11/3-9	56			16		1	6
Greene 11/3-9	45		1	1		1	3
Blount 11/3-9	16		1	4		1	8
Johnson 11/3-9	22			6	6	6	9

Pumpkin Caterpillar in Florida; First Report for Western Hemisphere

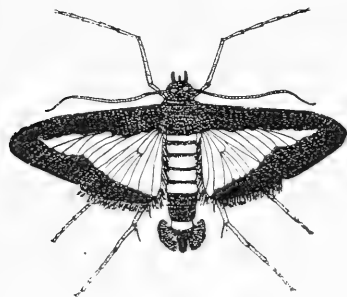
Adults of the pumpkin caterpillar (*Diaphania indica* (Saunders)) have been collected in light traps by C. P. Kimball in the following Florida locations: Bradenton, Manatee County, 1955; Siesta Key, Sarasota County, 1957; Homestead, Dade County, 1958. They were determined by E. G. Monroe in June 1959. This species has not previously been reported in the United States. (Fla. State Plant Board, September 1959). H. W. Capps, USDA, confirmed the determination, November 1959. Following the report of the Florida record, Mr. Capps examined undetermined specimens in the genus in the U. S. National Museum collection and found that the insect had been in the Western Hemisphere for some years, although apparently it had not been recognized and reported in the literature. Specimens were found in the collection from South America and the West Indies.

As far as known, no unusual amount of damage of the type the pest causes has been reported from these areas or from Florida. Its feeding may have been masked, however, by the activities of the closely related melonworm (*D. hyalinata*) and pickleworm (*D. nitidalis*), well-known pests of similar habits.

In the Old World, *D. indica* is recorded as a pest wherever it occurs, especially in the Indian Region, where it is considered one of the outstanding pests of cucurbitaceous plantings. Entire crops of cucumbers have been lost from its depredation in New South Wales, Australia. The larvae damage the foliage early in the season then attack the young fruit when it appears.

This pest is widespread in parts of Africa, Asia, Australia and the Indian and Pacific Ocean Islands. Cultivated cucurbits are preferred hosts but feeding has also been reported on such crops as beets, cotton, soybeans and eggplant.

The pumpkin caterpillar was included in "Insects Not Known to Occur in the United States", CEIR 8(39):9-26-58. This compilation carries a useful account of the insect, especially its life history, habits and description. (PPC).



Adult



Larva and Pupa

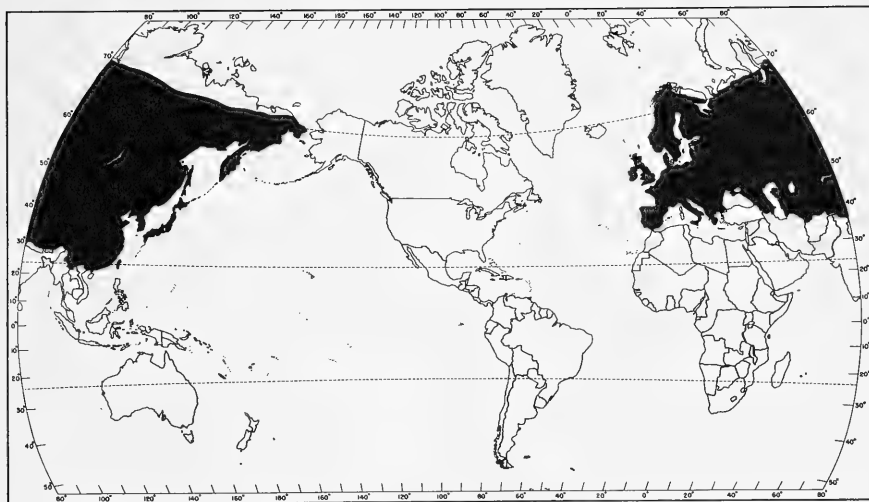
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

RED-TAIL MOTH (Dasychira pudibunda (L.))*

Economic Importance: This general defoliator is one of the most widespread pests in deciduous forests of the U.S.S.R. Severe outbreaks have been recorded in that country and in Germany and Sweden. Beech is a preferred host and reports of damage are generally associated with beech-forest areas. Many hosts are attacked, however, including deciduous fruits, hops and roses. Since the species feeds rather late in the season, defoliation of forest trees in any one year is not too serious, but repeated outbreaks may lead to severe damage. Cases of severe urtication in humans and cattle have been reported in outbreak areas.

Distribution: British Isles, through Europe and most of Asia.

Hosts: General feeder on many plants, especially deciduous forest trees and shrubs.

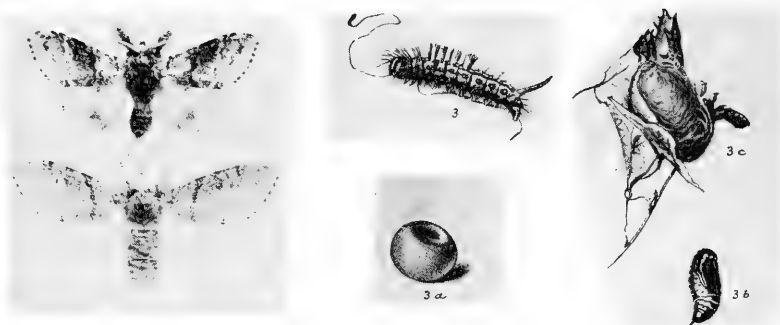


General Distribution of Dasychira pudibunda

Life History and Habits: Moths emerge at the time leaf buds begin to open. The females deposit eggs in clusters on host trees, chiefly in sheltered locations. Each egg mass contains about 115 eggs. Larvae appear in July and begin feeding. The young larvae are very active and spin threads by which they are blown from tree to tree. Older larvae migrate from host to host. There are five larval instars in a period of about 45 days. Pupation occurs in the fall in cocoons spun between fallen leaves or under debris. The winter is passed in the pupal stage.

*Also called hopdog and pale tussock moth

Description: ADULT - Wing expanse 38-60 mm., female larger than male. Forewings whitish-gray, with two dark cross lines and dark-flecked fringe. Hindwings dirty-gray with washed-out bar. Body reddish-white or grayish in front, white behind. LARVA - 40-45 mm. long, greenish-yellow with black cross bars, yellow brushes on fourth to seventh segments, eighth segment with a red hair-pencil. This latter character distinguishes this species from related lepidopterous larvae and permits ready identification under field conditions. PUPA - Brownish, abdomen reddish-brown, clothed with yellow hairs, in silken cocoon. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(47):11-20-59.



Figures of Dasychira pudibunda: Adults, Larva, Egg, Pupa, Cocoon

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Moderate to heavy HESSIAN FLY infestations reported in early-seeded wheat in Illinois. (p. 1017).

SPOTTED ALFALFA APHID populations now low throughout Arizona. (p. 1017).

MEXICAN FRUIT FLY trapped on October 2 at Tijuana, Baja California, Mexico. Treatment of host plants initiated in the area. (p. 1018).

Status of PINK BOLLWORM program in Arizona (p. 1019) and Federal-State Program map for United States. (p. 1020).

New SCREW-WORM infestations reported in Madison and East Carroll Parishes, Louisiana. (p. 1022). WINTER TICK counts medium on horses and cattle in Oklahoma. (p. 1023).

INSECT DETECTION: A scale (Aspidiotus densiflorae) recorded for first time in Humboldt County, California (p. 1022), and imported fire ant reported for first time in Butts County, Georgia (p. 1024).

INSECTS not known to occur in the United States. (p. 1025).

Reports in this issue are for the week ending November 20, unless otherwise indicated.

WEATHER OF THE WEEK ENDING NOVEMBER 23

The coldest weather of the season was recorded in many regions from the Rocky Mountains eastward as arctic air moved across the Nation during the week. Record breaking early season cold at midweek extended from northern Great Plains and Great Lakes States to southern Texas and freezing temperatures were reported from all areas east of the Continental Divide except the lower Rio Grande Valley, southern Louisiana and Florida Peninsula and southern Georgia. Below zero readings covered the northern Great Plains from northern Kansas and Missouri into the western Great Lakes region on Tuesday. A warming trend during the last half of the week returned temperatures to seasonal levels by the weekend in most areas. Precipitation in eastern two-thirds of the Nation was generally light and scattered except in southern Florida, where rainfall records were broken at several places as heavy thunderstorms formed along a stationary front which remained over the area for several days. A weekly total of 10.43 inches at Miami International Airport exceeded the previous record there for the entire month of November, while totals of 7.80 inches at Miami and 6.70 inches at Miami Beach broke the November 24-hour record. These heavy amounts boosted November and annual precipitation totals for 1959 to record levels. Large areas of the Great Plains reported no measurable precipitation. Heavy local snow was recorded in upper Michigan at midweek with 21 inches at Houghton along the eastern shores of Lakes Erie and Ontario where weekly totals up to 18 inches were recorded and in northern Maine where Limestone reported 5 inches on Saturday.

In the West generally fair, dry weather with above normal average temperatures continued from California to western Colorado and New Mexico as warm days and cool nights prevailed. San Francisco reported 74° on the 22nd to set a new record for high temperature this late in the season. The Pacific Northwest was covered by cold air early in the week with some snow and freezing rain east of the Cascades in Washington. Rapid warming, strong winds and very heavy rains late in the week over the western slopes of the Cascades and along the coast to central Oregon resulted in extensive flooding, landslides and washouts. Up to 6 inches of rain fell in local areas in 24 hours on Friday and again on Sunday. Unseasonably heavy precipitation also extended to northern Montana, west of the Continental Divide. The most serious flooding occurred along the Green, Snoqualmie and Snohomish Rivers in Washington which were above their alltime high flood stages on Monday. Most of the agricultural land along these rivers was under water, several hundred families were evacuated and several dairy herds isolated on high ground. Landslides and washouts blocked all rail and highway traffic across the Cascades on Sunday night and Monday. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

HESSIAN FLY (Phytophaga destructor) - ILLINOIS - Fall infestations in early-seeded wheat (2 weeks prior to recommended dates) ranged from 19 to 90 percent of plants infested and from 20 to 525 forms per 100 plants. (Ill. Ins. Rpt.).

GREENBUG (Toxoptera graminum) - MARYLAND - Killing two-thirds of an oat field in Worcester County on November 13. (U. Md., Ent. Dept.). OKLAHOMA - Limited survey of small grain fields in Hennessey-Enid area indicated very light populations present in only the Hennessey area. None found in Enid area. (Owens, Wood, VanCleave, Wooldridge). Counts ranged 0.3-11 per linear foot (aver. 5.8 per linear foot) in 4 of 6 small grain fields checked in Bryan, Marshall, Love and Jefferson Counties. Populations continue to increase very gradually in area. (Vinson). None noted in 4 small grain fields in Cotton and Tillman Counties. (Hatfield).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - None noted in small grain fields in Hennessey-Enid area. (Owens, Wood, VanCleave, Wooldridge). Averaged one per linear foot in wheat field in Bryan County. None noted in 5 small grain fields in Marshall, Love and Jefferson Counties. (Vinson). Averaged 20 and 60 per linear foot in 2 small grain fields in Tillman County. None noted in 2 additional fields checked in Tillman and Cotton Counties. (Hatfield).

A WHEAT APHID (Brachycolus tritici) - TEXAS - Light infestations found on volunteer wheat in 10 panhandle counties. (Daniels).

A PLANTHOPPER (Sogata orizicola) - MISSISSIPPI - Hoja blanca disease, transmitted by S. orizicola, was found for the first time in Harrison County. This new find was in a small rice planting on the Brodie Nursery at Biloxi. The vector, S. orizicola, had not been found as of October 31. (PPC, So. Reg.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Light populations noted in fields of small grain in Hennessey-Enid area. This species was most common aphid noted in these fields. (Owens, Wood, VanCleave, Wooldridge). Counts ranged 0.1-0.5 per linear foot (aver. 0.6 per linear foot) in 3 of 6 fields of small grain in Bryan, Marshall, Love and Jefferson Counties. (Vinson).

Sticky Board Aphid Collections in Arizona, November 9-16. - Collections per trap of rusty plum aphid (Hysteroneura setariae) and corn leaf aphid (Rhopalosiphum maidis) at several locations are as follows: H. setariae - Mesa, 81; Kyrene, 278; Waddell, 1023; Glendale, 2420; Deer Valley, 79. R. maidis - Mesa, 15; Kyrene, 39; Waddell, 15; Glendale, 32; Deer Valley, 21. (Ariz. Coop. Sur.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - WYOMING - Survey conducted November 16 and 17 in Goshen and Platte Counties failed to reveal presence of European corn borer. (Davison).

WHITE-FRINGED BEETLES (Graphognathus spp.) - LOUISIANA - Treatment was made of the last known infested acreage in Lafayette Parish during October, which completes treatment in 5 parishes as of October 31. SOUTH CAROLINA - All new infested acreage is being treated as found. (PPC, So. Reg., Oct. Rpt.).

GRASSHOPPERS - SOUTH DAKOTA - Egg survey has been completed and results agree with adult survey made earlier. (Burge).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Counts continue high in some Yuma County alfalfa, with heaviest fields averaging 22 per 10 net sweeps. (Ariz. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Counts averaged 0.6 per square foot of crown area in alfalfa in Bryan County (Vinson) and 5 per sweep in alfalfa field in Tillman County (Hatfield). ARIZONA - Infestations in alfalfa low throughout the State. (Ariz. Coop. Sur.).

A PYRALID (Nomophila noctuella) - VIRGINIA - Larvae of this species and Agrotis ypsilon caused some heavy damage to alfalfa in some Shenandoah County fields during early September. Det. H. W. Capps. (Morris, Blasser).

CLOVER LEAF WEEVIL (Hypera punctata) - CALIFORNIA - Light infestation on alfalfa plantings in Watsonville area of Santa Cruz County. (Cal. Coop. Rpt.).

FRUIT INSECTS

MEXICAN FRUIT FLY (Anastrepha ludens) - TEXAS - During October, 2,324 traps were operated on 120 properties in the following citrus-producing counties of the State: Cameron, 560; Hidalgo, 1,500; Willacy, 140; Webb, 34; and Dimmit, 90. Several collections of Anastrepha were taken from traps. Two specimens trapped on October 8 and October 20 were identified as "likely" and "probably" A. ludens, respectively. (PPC, So. Reg.). ARIZONA - During October, 27 traps in the Nogales area of Santa Cruz County were inspected, with negative results. CALIFORNIA - In San Diego and Imperial Counties, 3,126 traps were operated, with negative results. In addition, 3,578 property inspections were made and fruit cutting for larval examination was conducted on 131 properties, all with negative results. (PPC, West. Reg. Oct. Rpt.). MEXICO - A male A. ludens was trapped in city of Tijuana, Baja California, on October 2. Trapping operations continued in progress at Tijuana, Tecate and Ensenada, Baja California, and were resumed for the season at Mexicali, Baja California, and San Luis, R. C., Sonora. A total of 2,155 traps were in operation on 1,000 properties and 8,362 trap inspections were made, with one adult being caught in Tijuana. In Tijuana, a total of 27,635 host plants were treated on 6,861 properties. (PPC, Mex. Reg. Oct. Rpt.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Inspections were made in the chemical control zones in the states of Tamaulipas, Nuevo Leon, Sonora and Baja California during October. Total of 105,156 citrus trees on 1,677 properties were inspected, with infestations being found on 591 trees on 10 properties. Infestations were located as follows: One with one infested tree in Municipio Hidalgo, Tamaulipas; 2 with 2 infested trees in Montemorelos, Nuevo Leon; 8 with 385 trees in Allende, Nuevo Leon; 3 with 196 trees in Linares, Nuevo Leon; and one with 7 trees in Hermosillo, Sonora. Total of 4,516 trees received first eradication treatments in Municipios Allende and Linares, Nuevo Leon, and Hermosillo, Sonora. Infested leaves were removed from lightly infested trees in Hidalgo and Montemorelos and properties are under observation to determine if treatment is necessary. (PPC, Mex. Reg.).

A LEAF MINER (Liriomyza munda) - CALIFORNIA - A medium infestation damaged peach leaves in Lincoln, Placer County. (Cal. Coop. Rpt.).

GREENHOUSE THRIPS (Heliotrips haemorrhoidalis) - FLORIDA - Apparently as fully abundant as in previous years on avocado fruit in the Redlands area of Dade County. Det. D. O. Wolfenbarger. (Fla. Coop. Rpt., Nov. 10).

A THRIPS (Frankliniella sp.) - CALIFORNIA - Light infestations of adults on English walnut trees in Plymouth, Amador County. (Cal. Coop. Rpt.).

WALNUT APHID (Chromaphis juglandicola) - CALIFORNIA - Light infestations on English walnuts in Plymouth, Amador County. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - TEXAS - Heavy infestations damaged pecans in Coryell County. (Texas. Coop. Rpt.).

TWIG GIRDLER (Oncideres cingulata) - VIRGINIA - Damaged twigs and small limbs of several pecan trees in Prince Georges County. (Rowell, Ryburn).

TRUCK CROP INSECTS

LEAFHOPPERS (*Empoasca* spp.) - ARIZONA - Heavy infestations on table beets in Yuma County. (Ariz. Coop. Sur.).

A SPIDER MITE (*Tetranychus marianae*) - TEXAS - Infestations severely damaged summer and fall tomatoes in Cherokee County. (Texas Coop. Rpt.).

A FLEA BEETLE - INDIANA - Larvae, probably *Systema blanda*, caused heavy losses to turnips in Marion County in late October. The grower had 150 acres of turnips and had a satisfactory harvest in early October. An area left for later harvest had practically all turnips damaged by larval tunnelling and discoloration at sites of earlier feeding. A few larvae were found in turnips on November 3, while larvae and pupae were present in soil around turnips. (Gould).

MELONWORM (*Diaphania hyalinata*) - CALIFORNIA - Larva taken from native gourd in Bard Valley, Imperial County. This is first larva taken; 3 adults taken in Argon light traps previously. (Cal. Coop. Rpt.). See CEIR 9(45):982 and CEIR 9(47):1009 for references on adult collections.

GRANULATE CUTWORM (*Feltia subterranea*) - CALIFORNIA - Medium infestations damaging strawberry plantings in Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - The fall insecticidal program was commenced in Maricopa and Pinal Counties during early October. By the end of the month, a total of 1,072 cotton acres (347 in Maricopa County and 725 in Pinal County) had received, or were receiving, treatments. By the close of October, surveys had established presence of the pest in Arizona as follows:

<u>County</u>	<u>Number of Localities</u>	<u>Number of Properties</u>	<u>Number of Acres</u>
Central Arizona			
Maricopa	12	24	980
Pinal	4	23	1,212
Totals	16	47	2,192
Eastern Arizona			
Graham	4	40	1,409
Greenlee	2	2	39
Totals	6	42	1,448

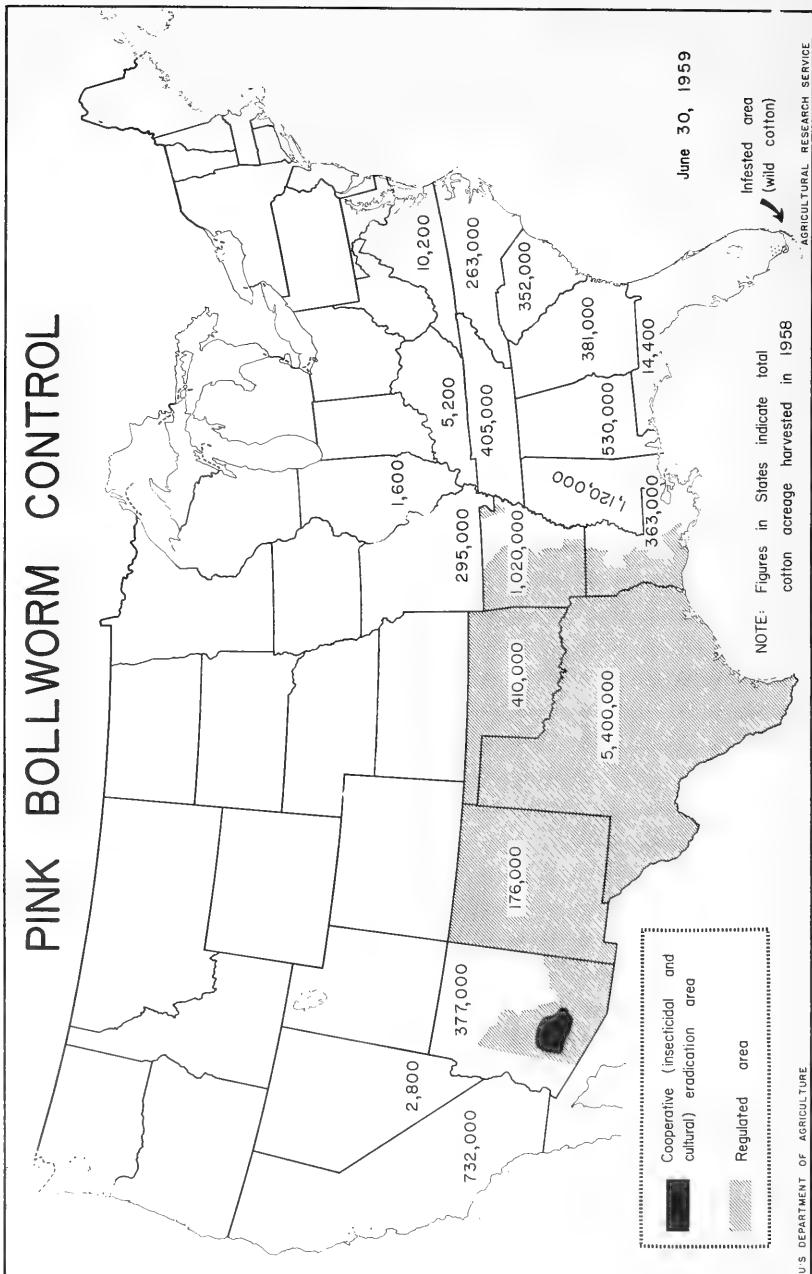
During October, a total of 131 Argon and black light traps were maintained and serviced in the cotton-growing areas of the State. So far during 1959, only 17 moths have been caught; 4 were taken from 3 light traps in thurberia in mountainous areas of Pinal and Santa Cruz Counties. (PPC, West. Reg., Oct. Rpt.).

ARKANSAS - Found for first time this season during October in 8 counties and positive specimens were collected in 4 counties, all within the regulated area.

LOUISIANA - Infestations found in 8 parishes during October, all of which are within the regulated area. (PPC, So. Reg.).

MEXICO - In Juarez and Delicias, Chihuahua, increases in population were noted. Rainy and cloudy weather in the Torreon district during October provided ideal conditions for an increase in infestation. Boll deterioration and fiber damage were high during the period and yield estimates have been lowered 8-10 percent. Monetary losses due to pink bollworm are being calculated up to 20 percent. Some fields that have been treated as many as 14 times have an estimated 20-30 percent damage. In states of Sonora and Baja California, 6,611 bushels of gin trash were inspected and 1,772 lint cleaner inspections were made. No pink bollworm was found. Light trap operations of 13 traps located in Baja California and San Luis, R. C., Sonora, were negative. (PPC, Mex. Reg., Oct. Rpt.).

PINK BOLLWORM CONTROL



A WEEVIL (Anthonomus sp.) - ARIZONA - Light infestations along edges of a few cotton fields in Pinal County. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

PINE WEBWORM (Tetralopha robustella) - VIRGINIA - Activity noted in one area in southeastern Henry County on young loblolly pine. Reported common in a 3-acre loblolly plantation in Princess Anne County. (Va. Div. For., Oct. Rpt.).

A PINE TIP MOTH - VIRGINIA - Attack in late fall growth of pines widespread throughout the extreme southeastern portion of the State. (Va. Div. For., Oct. Rpt.).

BARK BEETLES (Dendroctonus spp.) - VIRGINIA - Active and causing mortality in scattered shortleaf pines in a 4-acre tract in Fluvanna County. Involved in summer killing of shortleaf pines 4-12 inches in diameter on 10 spots in one Buckingham County area. Spot infestations involved 2-10 trees. Also involved in killing of 23 loblolly and Virginia pines in 2 spots in Northampton County. (Va. Div. For., Oct. Rpt.). CALIFORNIA - D. brevicomis and Ips sp. causing considerable top and complete kill of ponderosa pine, mostly on private property, in Grass Valley-Nevada City area, Nevada County. Groups of 10-12 trees dead, with new fades showing. Activity has been rather light in this area until now. Damage is result of spring logging and drought conditions. (L. Gunter, R. Burns, C. B. Eaton). These same species causing group kills of 15-25 ponderosa pines, with no unusual conditions present to trigger local epidemic in young stands in Placer and Sierra Counties. (W. P. Bemis, C.B. Eaton).

DOUGLAS-FIR ENGRAVER (Scolytus unispinosus) - CALIFORNIA - Causing a local outbreak, killing about 200 pole-sized Douglas-firs on an acre area in Yuba County, with no apparent reason for flareup. (F. H. Raymond).

WHITE-PINE WEEVIL (Pissodes strobi) - VIRGINIA - Extensive damage to white pines reported in Grayson County. (Va. Div. For., Oct. Rpt.).

WHITE GRUBS - SOUTH CAROLINA - Some stands of pine seedlings have been severely injured in Allendale County. (Nettles et al.).

PINE BARK APHID (Pineus strobi) - VIRGINIA - White pine in a mixture of shortleaf pine in Lee County suffering extremely heavy infestation by this species. Infestation appears heavy enough to cause some decline of affected trees. (Va. Div. For., Oct. Rpt.).

PINE SAWFLIES (Neodiprion spp.) - VIRGINIA - Larval activity noted on scattered loblolly pines in Prince George and Sussex Counties during October. Light defoliation noted during inspections of sawtimber and pulpwood cuttings. N. lecontei infested occasional 2-year-old loblolly pine seedlings in Charlotte County. (Va. Div. For.).

CARPENTERWORM (Prionoxystus robinae) - CALIFORNIA - Causing severe damage and killing local specimen trees of Quercus kelloggii in Sebastopol, Sonoma County. (D. Burns).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - VIRGINIA - Infestation on white oak in Rappahannock County is now on the decline. (Va. Div. For., Oct. Rpt.).

A GOUTY OAK GALL (Callirhytus punctata) - TEXAS - Infestations damaging oak trees in Culberson County and surrounding counties. (Texas Coop. Rpt.).

LOCUST LEAF MINER (Chalepus dorsalis) - VIRGINIA - Conspicuously absent in the southwestern portion of the State during 1959 in contrast to previous years. (Va. Div. For., Oct. Rpt.).

LOCUST TWIG BORER (Ecdytolopha insiticiana) - MARYLAND - Injury noticeable on 8 large black locust trees at Silver Spring, Montgomery County. (U. Md., Ent. Dept.).

LESSER PEACH TREE BORER (Synanthedon pictipes) - LOUISIANA - Heavily infesting laurelcherry trees in St. Tammany Parish. (Spink).

AN APHID (Chaitophorus salicicola) - CALIFORNIA - Heavy infestation present on willow trees in Oroville, Butte County. (Cal. Coop. Rpt.).

A PSYLLID (Aphalara pulchella) - CALIFORNIA - Adults heavy on leaves of Frankenia grandifolia in Avenal, Kern County. (Cal. Coop. Rpt.).

A SCALE (Aspidiotus densiflorae) - CALIFORNIA - Heavy on Ceanothus velutinus laevigatus in Hoopa, Humboldt County. This is a new county record and a new host record for the species in the State. (Cal. Coop. Rpt.).

BARNACLE SCALE (Ceroplastes cirripediformis) - LOUISIANA - Probably this species, heavily infesting Yaupon holly in greater New Orleans area. (Spink).

A MEALYBUG (Amonotherium lichtensioides) - CALIFORNIA - This species, previously known from the southern portion of the State and Palo Alto, Santa Clara County, and from Nevada and Texas, has now extended into the Alturas sageland area of Modoc County. (Cal. Coop. Rpt.).

SPIDER MITES - CALIFORNIA - Oligonychus platani, O. punicae and Tetranychus telarius light on silver maple in several locations in Orange County. Panonychus citri and T. telarius medium on same host in Irvine, Orange County. (Cal. Coop. Rpt.).

A SPITTLEBUG (Clastoptera arizonana) - CALIFORNIA - Medium on acacia and paloverde trees in San Diego, San Diego County. Species has been extending range since first noted in this county in 1957. Now reported also from Orange, Los Angeles, San Bernardino and Riverside Counties. Infested trees showing severe damage in many locations at present time. (Cal. Coop. Rpt.).

A COCKROACH (Blattella vaga) - CALIFORNIA - Medium infestation of nymphs in gourd flowers in Bard, Imperial County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Aedes sollicitans adults biting at breeding sites at rate of 10-15 per 10 minutes. Larvae of Anopheles bradleyi numerous in salt-marshes along the coast. (Ashton).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - Two new reports of infestations on cattle received from Madison Parish and one from East Carroll Parish. (Spink). ARIZONA - A total of 170 cases were reported during October from 9 cattle herds in Pinal County. Heaviest infestations appeared to be along the San Pedro and Gila Rivers. (Ariz. Coop. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Counts averaged 3 per animal on 40 milking cows and 6 per animal on yearling steers checked in Payne County. (Howell).

A FACE FLY (Musca autumnalis) - PENNSYLVANIA - On faces of cattle in Lebanon County, July 4. (Sleesman).

HORN FLY (Siphona irritans) - OKLAHOMA - Counts averaged 20 per animal on 60 beef cows checked in Pushmataha County. (Goin).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Counts of replete individuals averaged 20-30 per animal on 18 horses and 10 per animal on cattle checked in eastern Cherokee County. (Howell). Counts averaged 12 per animal on 60 beef cows checked in Pushmataha County. (Goin).

BROWN DOG TICK (Rhipicephalus sanguineus) - OKLAHOMA - Additional reports received of infestations in homes in Stillwater, Chandler and Tulsa. (Howell). CALIFORNIA - Medium on a dog and in a patio in Yuba City, Sutter County. (Cal. Coop. Rpt.).

SHEEP SCAB MITE (Psoroptes equi ovis) - VIRGINIA - Found on all of 77 sheep inspected during August. All infested sheep were dipped. (Morris).

BED BUG (Cimex lectularius) - GEORGIA - Seven infestations reported in Athens and surrounding area from July through October; 5 in new homes. (Lund).

STORED-PRODUCT INSECTS

INDIAN-MEAL MOTH (Plodia interpunctella) - PENNSYLVANIA - Very heavy infestation in ryegrass seed in a warehouse in Union County, November 10. (Gesell). MARYLAND - Larvae abundant in kitchen of a home at Easton, Talbot County. (U. Md., Ent. Dept.). NORTH CAROLINA - Adults present in kitchen of a home in Wake County, November 5. (Scott, Farrier).

KHAPRA BEETLE (Trogoderma granarium) - ARIZONA - Two infested properties were found in the Scottsdale area of Maricopa County during October. At the close of the month, 6 infested properties in the State, all in the Scottsdale-Mesa area, remained to be fumigated; the total volume involved is approximately one million cubic feet. (PPC, West. Reg.). MEXICO - During October, inspections were made in the states of Baja California, Sonora, Jalisco, Michoacan, Chihuahua, Nuevo Leon and Coahuila. Of a total of 288 inspections, 68 were initial and 220 repeat. No positive identifications were received during October of 137 specimen collections submitted. A total of 120 cloth trap inspections were made on 12 properties; 8 were submitted for determination; none were positive. (PPC, Mex. Reg.). Surveys were continued in ALABAMA, FLORIDA, OKLAHOMA and TEXAS during October, with negative results. Inspections were made of 158 grain establishments in 40 counties of the 4 states. (PPC, So. Reg.).

A SPIDER BEETLE (Ptinus ocellus) - CALIFORNIA - Heavy in fish meal and on pine boards in San Francisco, San Francisco County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Averaged 0.3 and 0.6 per linear foot in 2 fields of small grain in Jefferson and Love Counties, respectively. None noted in 4 other fields in south central area. Occasional adult noted in one of 4 small grain fields checked in Tillman and Cotton Counties. None noted in small grain fields surveyed in Hennessey-Enid area. (VanCleave et al.).

A BRACONID (Apanteles carpatus) - VIRGINIA - Parasitizing clothes moth larvae in a home in Page County. Det. C. F. W. Muesebeck. (Rowell, Allison).

MISCELLANEOUS INSECTS

A WEEVIL (Trachyploeus bifoveolatus) - WASHINGTON - Causing annoyance by entering homes in large numbers at Seattle, Richmond Beach, Kent and Port Blakeley. (Smith, Telford).

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - GEORGIA - Light infestation present in Butts County. This is a first record for this county. (Milner, Nov.6). A total of 17,917 acres was treated during October in ALABAMA, ARKANSAS, FLORIDA, GEORGIA, LOUISIANA, MISSISSIPPI and TEXAS. Inspections in FLORIDA, GEORGIA and MISSISSIPPI revealed considerable acreage increases in infestations. (PPC, So. Reg., Oct. Rpt.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Feltia subterr.	Laphygma frug.	Agrot. exigua yps.	Perid. marg.	Prod. ornith.	Helio. zea
ARIZONA							
Mesa 11/9-15			284		20	312	1
FLORIDA							
Quincy 11/16	1						2
LOUISIANA							
Baton Rouge 11/13-19	10	1	1	3			1
Franklin 11/16			1				
MARYLAND							
Fairland 11/2-19	22		1	12	3		
NEBRASKA							
North Platte 11/3-10				6			1
SOUTH CAROLINA							
Charleston 11/16-22	15	27	2	22		10	7
Clemson 11/14-21	21			4	1	1	
TENNESSEE (Counties)							
Maury 11/10-16	26			13		1	
Robertson 11/10-16	6			4			1
Cumberland 11/10-16	43			11		1	
Blount 11/10-16	2						
Johnson 11/10-16	11			3	5		

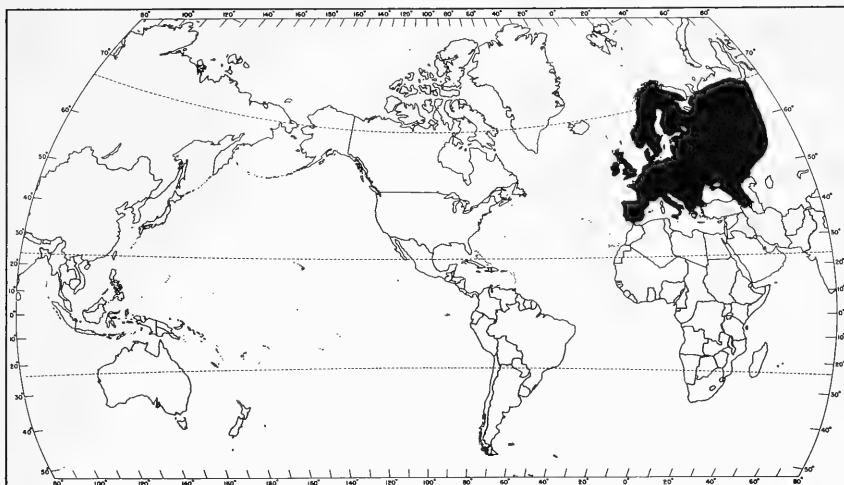
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

BROWN CHAFER (Serica brunnea L.)

Economic Importance: This scarab is a common pest in parts of Europe. The adults have been known to defoliate trees and shrubs in outbreak years, but the most important damage is caused by the root-feeding grubs. Studies have shown that larvae of this insect are one of the worst pests of nursery stock in Britain. Larval damage to golf links and other grass areas has also been reported. The grubs girdle the young stems and roots causing stunting or death of the plants.

Distribution: Europe, including British Isles; more common in northern areas.

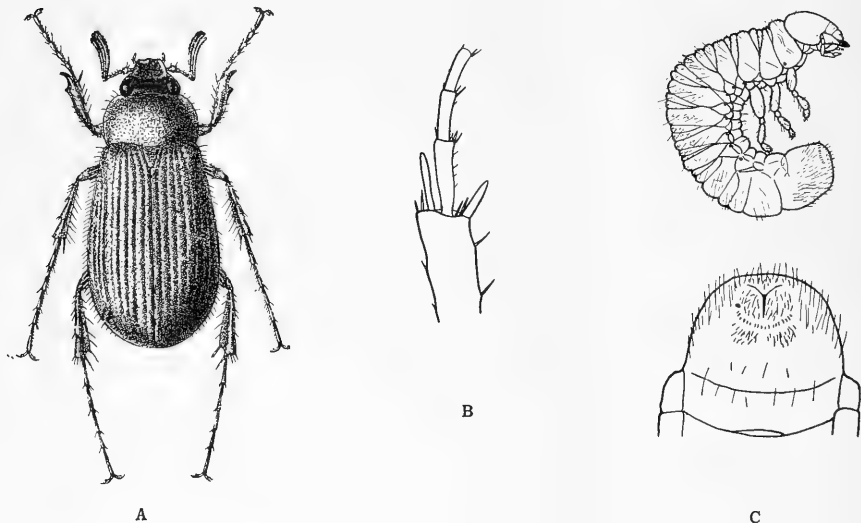
Hosts: Adults feed on trees and shrubs. Larvae feed on roots of a wide variety of hosts, especially grasses.



General Distribution of Serica brunnea

Life History and Habits: Adults emerge in early July and fly in swarms at sunset and the early evening. Eggs are deposited in sunny situations, 3 to 5 inches in the soil. The eggs are laid in a single series of 12-25 about 3 weeks after emergence. They are deposited in compact balls. Average length of the egg stage is 17 days, while the larval stage lasts about 22 months. Pupation takes place in the soil and lasts about 6 weeks.

Description: ADULT 8-10 mm. long. Head, thorax and wing covers dull, light reddish-brown, not noticeably hairy. Anterior tibiae toothed on external side. The extremities of the posterior tibiae show two widely-separated spurs. First segment of posterior tibia longitudinally striated on the inside. The claws are large and divided. The extremities of the elytra do not have a membranous border. LARVA white, markedly curved and wrinkled. Anal orifice longitudinal. Raster (see illustration) shows a single transverse row of spines. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 9(48):11-27-59.



Figures of Serica brunnea: A - Adult, greatly enlarged. B - Tibia and tarsus. C - Larva and larval raster.

Principal references: Great Brit. For. Comm. 1927. Lflt. #17, Fidler, J. H., 1936. Annals of Appl. Biol., 23, Pt. 40.

Figures (except map): Tibia and tarsus from Britton, E. B. 1956. Handbooks for the identification of British Insects (Roy. Ent. Soc. London) 5(2), 29 pp. Adult from Medvedev, S. I. 1952. Zool. Inst. Akad. Nauk. n. s. 52. Fauna SSSR. Coleoptera 10(2), 274 pp. In Rus. Larva and larval raster from Fidler, J. H. 1936. Ann. Appl. Biol. 23(1):114-132.

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

The annual CHINCH BUG hibernation survey completed in Oklahoma. The overall population in the State appears lighter than in 1958, with only the northeastern area expecting any serious infestations during spring of 1960. (p. 1029).

GRAY GARDEN SLUG infestations are heavy in areas of Oregon. (p. 1030).

MOUNTAIN PINE BEETLE (Dendroctonus monticolae) reported killing ponderosa pines in San Bernardino County, California; first report of such damage by this species in southern portion of the State. Damage to ponderosa pines by D. brevicomis and Jeffrey pines by D. jeffreyi also reported. (p. 1031).

KHAPRA BEETLE infestations found at 3 locations in California; first infestations reported in 8 months of intensive inspection. (p. 1032).

INSECT DETECTION: A scarab (Gronocarus autumnalis) recorded for first time in Florida. (p. 1030). A sod fly (Metoponia rubriceps) reported for first time in San Mateo County, California; extending its range from San Francisco. (p. 1029).

CORRECTIONS. (p. 1033).

HAWAIIAN insect notes. (p. 1034).

INSECTS not known to occur in the United States. (p. 1035).

List of COOPERATIVE SURVEY ENTOMOLOGISTS. (p. 1037).

Reports in this issue are for the week ending November 27, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

DECEMBER 1959

The Weather Bureau's 30-day outlook for December calls for temperatures to average below seasonal normals over the eastern half of the Nation, with greatest departures over states bordering the Ohio and lower Mississippi Valleys. Above normal temperatures are predicted for West Coast and northern Rocky Mountain States. In the remainder of the country near normal temperatures are indicated. Precipitation is expected to exceed normal from the Appalachians eastward and also along the Gulf Coast. Near normal amounts are in prospect for central portions of the country, and subnormal for the western third as well as the Northern Plains. From Virginia northward atmospheric conditions appear favorable for early season snow storms.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING NOVEMBER 30

Temperatures over the western third of the Nation and along the Atlantic coast from the Carolinas through New England were generally above normal this week. Unseasonable chill covered the Nation's midsection as outbreaks of cold Polar air continued to push southward. Temperatures in the upper Mississippi Valley and the western Great Lakes region have continued below normal for 4 weeks in Illinois and for 9 consecutive weeks in Iowa and Wisconsin. During November in south central Texas, freezing temperatures occurred on 10 days at Austin and on 8 days at San Antonio, and both stations recorded new record low monthly mean temperatures. Generally mild temperatures were prevalent in most areas early in the week, followed by colder readings as Polar air moved across the Great Plains to the Gulf coast and the Southeast by the weekend. Below-zero levels were recorded as far south as Colorado, Nebraska and Iowa, and freezing temperatures and frost extended to the Everglades and Immokalee in south Florida, the Louisiana-Alabama coast, and the lower Rio Grande Valley in Texas. Temperatures along the Atlantic coast reached much-above seasonal levels during part of the week, with 60's recorded as far north as Boston on 4 days. In the Pacific Northwest the 69° reading at Yakima, Washington, on the 23rd set a new record for so late in the season.

Precipitation of consequence was absent in the Western States, being confined to widely scattered light showers or snow in the mountainous areas, except in western Washington where over 1 inch was recorded. In the Great Plains and upper Mississippi Valley precipitation was general, falling as snow from Missouri and the Texas Panhandle northward. Snow totals ranged from near 6 inches in North Dakota to 2-5 inches in Minnesota, up to 3 inches in Oklahoma and 1-2 inches in many other sections. Water totals were generally below 0.50 inch. Rain in the Southern States was generally light, ranging up to 1-2 inches in local areas in Texas and Florida. Rains and snows from the Ohio Valley and the southern Appalachians to New England left some heavy precipitation totals over a wide area. In the Northeastern States precipitation was recorded almost daily. Heavy rain and snow extended from Tennessee and North Carolina northward along the mountains into New York and New England late in the week. Up to 12 inches of new snow was reported along Lake Erie, 5-10 inches in northern New England and the first important fall of the season in southern New England. Rainfall totals ranged from 2 to 5 inches in New England and from 3 to 4 inches in the Adirondacks, Catskills and Poconos. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CHINCH BUG (Blissus leucopterus) - OKLAHOMA - The annual hibernation survey was conducted during the period of November 16-23. The results indicate an average county rating of very severe (2,000 or more bugs per square foot) in Craig County only; severe (1,000-2,000 per square foot) in Delaware and Wagoner Counties; moderate (500-1,000 per square foot) in Kay, Lincoln, Rogers and Washington Counties; light (250-500 per square foot) in 10 counties; and noneconomic in 27 counties. Total of 44 counties were surveyed. Compared with the average county ratings in 1958, 8 counties increased in rating, 10 counties remained constant and 26 counties dropped in average ratings. With the exception of Lincoln and Kay Counties, only the northeastern area had any counties with an average county rating of moderate or above. The overall trend for the State appears to be lighter again in 1959, with only the northeastern area expecting any severe or very severe infestations during the spring of 1960. Damaging infestations may occur in isolated localities, however, in the central and north central areas. (PPC, State Dept. of Agr., Okla. State Univ. (cooperating)).

A PLANTHOPPER (Sogata orizicola) - ARKANSAS - Surveys of 112 rice fields during October were negative. Other species of Sogata taken were S. furcifera (4 males) and Sogata sp., probably furcifera (15 males). (Ark. Ins. Rpt.).

GREENBUG (Toxoptera graminum) - OKLAHOMA - Found in very limited numbers in a few fields of small grain in Stillwater area. (Wood). Infestations continued very light, with little or no increase in populations noted in Hennessey area. (Owens). Populations continued light (4.7 per linear foot) with little or no increase over previous week in 4 fields of small grain checked in Marshall and Love Counties. (Vinson). None noted in field checked in Jackson County (Presgrove) and in 3 fields checked in Washita County (Hudson). TEXAS - Counts ranged 0-1 per linear foot in wheat in Hansford County in the panhandle. (Daniels).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Present in very light numbers in 4 wheat fields checked in Hennessey-Bison area. (Owens). Averaged 1.5 per linear foot in 2 of 4 fields of small grain checked in Marshall and Love Counties. (Vinson). None noted in 4 fields checked in Jackson and Washita Counties. (Presgrove, Hudson).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Counts averaged 4.6 per linear foot in 4 fields of small grain checked in Marshall and Love Counties. (Vinson).

ENGLISH GRAIN APHID (Macrosiphum granarium) - DELAWARE - Common in large field of winter rye in Kent County. (Burbutis, Mason).

Sticky Board Aphid Collections in Arizona, November 16-23 - Collections per trap of rusty plum aphid (Hysteroneura setariae) and corn leaf aphid (Rhopalosiphum maidis) at several locations are as follows: H. setariae - Mesa, 21; Kyrene, 23; Waddell, 110; Glendale, 705; Deer Valley, 41. R. maidis - Mesa, 1; Kyrene, 2; Waddell, 7; Glendale, 12; Deer Valley, 4. (Ariz. Coop. Sur.).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Heavy infestation damaged 5 acres of young oats in Rockwall County. (Davis).

DATE MITE (Oligonychus pratensis) - OKLAHOMA - Caused appreciable browning of Bermuda grass in Altus area during October. Det. E. W. Baker. (Hatfield).

GRASSHOPPERS - UTAH - Eggs numerous in some Box Elder County dryfarm areas and soilbank lands. (Thornley, Knowlton).

A SOD FLY (Metoponia rubriceps) - CALIFORNIA - Light in sod in a golf course in Daly City, San Mateo County. The species has extended its range in San Francisco, where it is known to occur. This is the first record for San Mateo County. (Cal. Coop. Rpt.).

A SCARAB (Gronocarus autumnalis) - FLORIDA - An adult collected on St. Augustine grass at Panama City, Bay County, on November 11. (Hollister). This is a very rare species. These specimens represent the first record for Florida. The female is wingless and therefore spends its life in the soil. (Fla. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OREGON - Still present in Hermiston area on November 23, after a period with temperatures reaching zero and sub-zero levels. (Bierman). OKLAHOMA - Counts ranged 10-25 per square foot in an alfalfa field in Washita County. (Hudson).

PEA APHID (Macrosiphum pisi) - ARIZONA - Light infestations in central and southeastern area alfalfa. (Ariz. Coop. Sur.). DELAWARE - Present on alfalfa throughout the State. (Burbutis, Mason).

LYGUS BUGS (Lygus spp.) - ARIZONA - Infestations in 12-inch alfalfa averaged 17 per 10 sweeps in 10 fields in Maricopa County. (Ariz. Coop. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - LOUISIANA - Totaled 126 per 100 sweeps in alfalfa in Bossier Parish. (Spink). DELAWARE - Adults fairly common in alfalfa throughout the State. (Burbutis, Mason).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - LOUISIANA - Totaled 24 per 100 sweeps in alfalfa in Bossier Parish. (Spink).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Adults fairly common in Kent and Sussex Counties and present in New Castle County on alfalfa. (Burbutis, Mason).

CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) - DELAWARE - Adults numerous on alfalfa in Kent and Sussex Counties. (Burbutis, Mason).

A THRIPS (Frankliniella occidentalis) - ARIZONA - Heavy infestations in central and southwestern area alfalfa. (Ariz. Coop. Sur.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - LOUISIANA - Totaled 194 per 100 sweeps in alfalfa in Bossier Parish. (Spink). DELAWARE - Adults common in Kent and Sussex Counties and present in New Castle County in alfalfa. Adults also present on cover crop in Kent County. (Burbutis, Mason).

ALFALFA WEEVIL (Hypera postica) - DELAWARE - Adults present in Sussex County and common in Kent County alfalfa. (Burbutis, Mason).

GRAY GARDEN SLUG (Deroceras reticulatum) - OREGON - Severely damaging fall-sown seedling plants of crimson clover and hairy vetch in Washington County. Observations made from October 25 to November 12. In large areas of an 80-acre hairy vetch field, plants were almost entirely destroyed; also, 100 feet of border of a crimson clover field had to be plowed up. Damage by slugs continues high in Willamette Valley. (Prescott, Nov. 20).

FRUIT INSECTS

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Adult taken in a Frick trap for the first time in Lan Luis Obispo, San Luis Obispo County. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Counts averaged 1.5 per nut in grove of native pecans in Marshall County (Vinson) and 2-3 per nut in Payne County (Howell).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Counts averaged 0.2 larva per nut in a grove of native pecans in Marshall County. (Vinson).

RED-BANDED THRIPS (Selenothrips rubrocinctus) - FLORIDA - All stages reported on mango at Goulds, Dade County. Approximately one percent of nursery stock reported to be losing leaves. Similar infestation not seen for at least 4 to 6 years. Det. D. O. Wolfenbarger. (Fla. Coop. Sur., Nov. 20).

TRUCK CROP INSECTS

MELONWORM (Diaphania hyalinata) - CALIFORNIA - Two additional larvae taken from wild gourds in Bard Valley, Imperial County, at different locations. (Cal. Coop. Rpt.).

SEED-CORN MAGGOT (Hylemya cilicrura) - CALIFORNIA - Heavy infestation in onions in Durham, Butte County. (Cal. Coop. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Adults present on turnips in New Castle and Sussex Counties and present on spinach in Sussex County. (Burbutis, Mason).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Numerous on turnips in New Castle County, causing light feeding injury to the leaves. (Burbutis, Mason).

TURNIP APHID (Rhopalosiphum pseudobrassicae) - DELAWARE - Apterous forms fairly common on turnips in Sussex County. (Burbutis, Mason).

POTATO APHID (Macrosiphum solanifolii) - DELAWARE - Apterous forms present in large commercial planting of spinach in Sussex County. (Burbutis, Mason).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES (Dendroctonus spp.) - CALIFORNIA - D. brevicomis and D. monticolae killing pole-size ponderosa pines in Lake Gregory area, San Bernardino County. D. monticolae is a frequent killer of pole-size stands in northern areas of the State, but this is first report of such from southern portion of the State. Drought and disease are probably contributing factors. Groups now being treated under a control program. (W. Swearingen, C. B. Eaton). D. jeffreyi causing complete kill and some top kill of Jeffrey pines in Big Bear Valley and Holcomb Creek areas, San Bernardino County, in groups up to 18 trees in a large area. Outbreak is above normal in a sanitation-salvage area and is believed due to lightning-struck trees coupled with drought. (J. B. Pierce).

A PINE SAWFLY (Neodiprion excitans) - FLORIDA - Eggs and larvae (second and third instars) reported on pond pine (Pinus serotina) in Alachua County. Det. L. A. Hetrick. (Fla. Coop. Sur.).

FALL CANKERWORM (Alsophila pometaria) - INDIANA - First emergence observed November 22 in Lafayette area, with silver maple principal host. (Chandler).

LEAFHOPPERS - CALIFORNIA - A medium infestation of Empoasca neaspersa and Circulifer tenellus occurring in Jacalitos Canyon, Fresno County, on Lepidospartum squamatum. (Cal. Coop. Rpt.).

A TULIP BULB APHID (Anuraphis sp.) - CALIFORNIA - Medium infestation on tulip bulbs in Redwood City, San Mateo County. (Cal. Coop. Rpt.).

A LATANIA SCALE (Aspidiotus lataniae) - CALIFORNIA - Heavy infestation of palms occurring in San Ysidro, San Diego County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - CALIFORNIA - Populations increased along the Sacramento River. Unseasonably warm weather brought out hibernating females to annoy residents. (Cal. Coop. Rpt.). UTAH - Mosquitoes have generally disappeared from the fields. Some Anopheles freeborni found in homes in northern part of State. (Knowlton).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Averaged 3 per animal on 17 yearling steers in the Oakland area and 0-3 per animal on 84 head of cattle in the Madill area, both in Marshall County. Eighty percent of the Oakland group were infested while only 30 percent of the Madill group had grubs. (Vinson).

CATTLE LICE - OKLAHOMA - One bull found infested in a cattle herd checked in the Madill area, Marshall County. (Vinson). WYOMING - Linognathus vituli heavy on calves at Laramie, Albany County. (Davison).

FLEAS - MARYLAND - Unspecified species troublesome in homes at localities in Allegany and Montgomery Counties. (U. Md., Ent. Dept.).

TICKS - OKLAHOMA - Bobwhite quail in Blaine and Major Counties heavily infested with Haemaphysalis leporis-palustris; over 300 taken from one bird. (Steele). WYOMING - Otobius sp. present on cattle at Wheatland, Platte County. (Davison).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - CALIFORNIA - Medium in bins and salt sacks in a mill in Brawley, Imperial County; medium on salt sacks in a mill in San Diego and in a storage building in Borrego, San Diego County. Believed to have been brought in on a salt shipment from outside the State. These are first infestations in 8 months of intensive inspection. (Cal. Coop.Rpt.).

LESSER GRAIN BORER (Rhyzopertha dominica) - OREGON - Heavy in grain storage facilities in eastern Malheur County, November 18. A mixed culture of other major grain pests also present, but this species by far the predominant one. (Wallin).

CONFUSED FLOUR BEETLE (Tribolium confusum) - SOUTH DAKOTA - Infesting a home in Brookings, Brookings County. (Mast).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - ARIZONA - Infestations, primarily this species, average 5-10 per 10 sweeps in alfalfa statewide. (Ariz. Coop. Sur.). OKLAHOMA - Counts ranged 0.1-1.0 per linear foot in 3 of 4 fields of small grain checked in Marshall and Love Counties. (Vinson).

NABIDS (Nabis spp.) - ARIZONA - Counts average 2-6 per 10 sweeps in alfalfa in central area of State. (Ariz. Coop. Sur.). OKLAHOMA - Averaged 0.2 per linear foot in one of 4 fields of small grain checked in Marshall and Love Counties. (Vinson).

MISCELLANEOUS INSECTS

AN OTITID (Chrysomya demandata) - SOUTH DAKOTA - A heavy infestation of larvae found in silage in Hughes County. (Hantsbarger).

A CHERMID - TEXAS - An unknown species annoying residents in the College Station and Bryan areas, Brazos County. (Hawkins).

AN EARWIG (*Forficula* sp.) - GEORGIA - Numerous infestations in Richmond, Putnam, Wilcox and Decatur Counties; infesting homes and annoying residents. (Johnson).

CORRECTIONS

CEIR 9(46):997 - PAINTED MAPLE APHID (*Drepanaphis acerifolii*) should read (*Drepanaphis acerifoliae*). Delete correction in CEIR 9(47):1010.

CEIR 9(48):1021 - All notes under BARK BEETLES for VIRGINIA refer to *Ips* spp. rather than *Dendroctonus* spp. (PPC). In spite of a recent special survey, *Dendroctonus* spp. have not been found active to date in Virginia this year. (C. L. Morris).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Feltia subterr.	Laphygma frug.	Agrot. yps.	Perid. marg.	Prod. ornith.	Helio. zea
ARIZONA							
Mesa 11/16-22			377		22	587	4
FLORIDA							
Gainesville 11/25						3	
LOUISIANA							
Baton Rouge 11/20-25	9	3	6	1	2	7	1
Franklin 11/23			5	3		3	1
SOUTH CAROLINA							
Charleston 11/23-29	8	12	2	9		4	4
Clemson 11/21-27	8	1		5			1

HAWAIIAN INSECT NOTES

Numerous complaints being received concerning large numbers of CRICKETS entering homes at Ewa, Oahu, and doing considerable damage by chewing holes in clothing. An ANT (Anoplolepis longipes) has become established in Makiki in the vicinity of Roosevelt High School. A BEETLE (Lasconotus sp.) was collected for the first time in Hawaii at Hickam Air Force Base, Waipio, and Honolulu. Specimens were determined by Mr. Ford by comparison with specimens from Guam determined by R. H. Arnett. A second specimen of a CICADELLID (Acinopterus angulatus), previously reported in Hawaii in 1959, was collected at Hickam Air Force Base in a black light trap, August 1959. During September 1959, large numbers of adults and nymphs of a LYGAEID (Graptostethus manillensis) were observed on hairy morning-glory, Merremia aegyptia, which was growing on a fence on the southern slope of Diamond Head, Honolulu. The bugs were mostly concentrated on well-developed to mature seed capsules. Adults were piercing the capsules and feeding on the immature seeds. Frequently, from 4 to 6 adults were seen feeding on a single capsule. Newly hatched nymphs found feeding within capsules which had matured sufficiently to crack open slightly. Examination of many mature capsules disclosed a large destruction of their contained seeds, which were collapsed and decaying. No eggs were found in or on the capsules, or elsewhere on the plants though the presence of many nymphs in all stages of development clearly indicated that the bug was actually breeding on this plant. This insect was first collected in Hawaii in a windtrap at Kunia, Oahu, July 21, 1942. From time to time, this bug has been reported on various plants; but in only one case have nymphs been previously observed together with adults, on any plant in Hawaii. Merremia tuberosa was the host in that instance. G. manillensis has been recorded in Sumatra, Java, Philippine Islands, Australia, Hawaii, southern Marianas and the western Carolina Islands.

A MARSH FLY (Sepedon macropus) was recovered and found established at Waiahole, Windward Oahu. On September 23, while installing traps at Waiahole, Oahu, for the recovery of S. macropus, numerous egg rafts were observed on the dorsal leaf surfaces of Monochoria vaginalis and other aquatic plants growing around the perimeter of a taro patch. In addition, 7 flies were observed on taro, Colocasia esculenta, stems and one third-instar larva and one pupa noted in shallow water. In the course of an hour, a crushed liverfluke snail (Fossaria ollula), placed in an invaginated McPhail glass trap, attracted 6 adults. On the following day, 16 adults were trapped within an hour in another taro patch and 4 adults were observed on taro stems and 6 larvae and 6 pupae in shallow water. One third-instar larva was actively feeding on a mature liverfluke snail. This is the first recovery and establishment of S. macropus on Oahu since the initial release of this snail predator on December 5, 1958, and together with an earlier recovery on Kauai, marks the first successful attempt to establish an introduced aquatic snail predator in Hawaii. The first release at Waiahole was made on January 6, 1959, and the last release on July 6, 1959. The possibility of establishment on all major islands appears very promising. (Hawaiian Entomological Society, October 12 meeting).

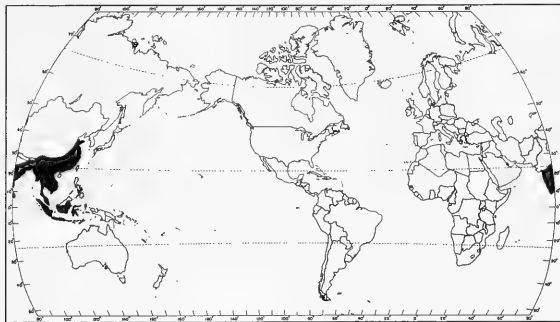
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

RICE STEM GALL MIDGE (*Pachydiplosis oryzae* (Wood-Mason))

Economic Importance: This gall-forming insect causes considerable losses to rice in various areas of Asia. Total damage may amount to 75 percent or more in India and losses of 50-100 percent have been reported in Indochina. When both the mother culm and primary tillers of the rice plant are attacked, loss in grain is greater than 60 percent; however, losses may differ considerably in various varieties of rice even if the incidence of infestation is the same. Characteristic damage to rice is evidenced by the forming of a long tube or gall with a green tip, known as "silver shoot" or "onion-shoot," in place of the main stem. As a result of this gall, apical growth of the plant ceases.

Distribution: Occurs throughout most of India, East Pakistan, Burma, Ceylon, Thailand, Indochina, Indonesia and southern China. In addition, specimens which appear to be this species have been determined by H. F. Barnes from the French Sudan and the Sudan.

Hosts: Rice (*Oryza sativa*) is the principal host, both upland and irrigated varieties. Some other grasses, generally species of *Panicum* or *Paspalum*, have been recorded or doubtfully suggested as host plants, but as far as known there has been little, if any, biological experimentation with these hosts.

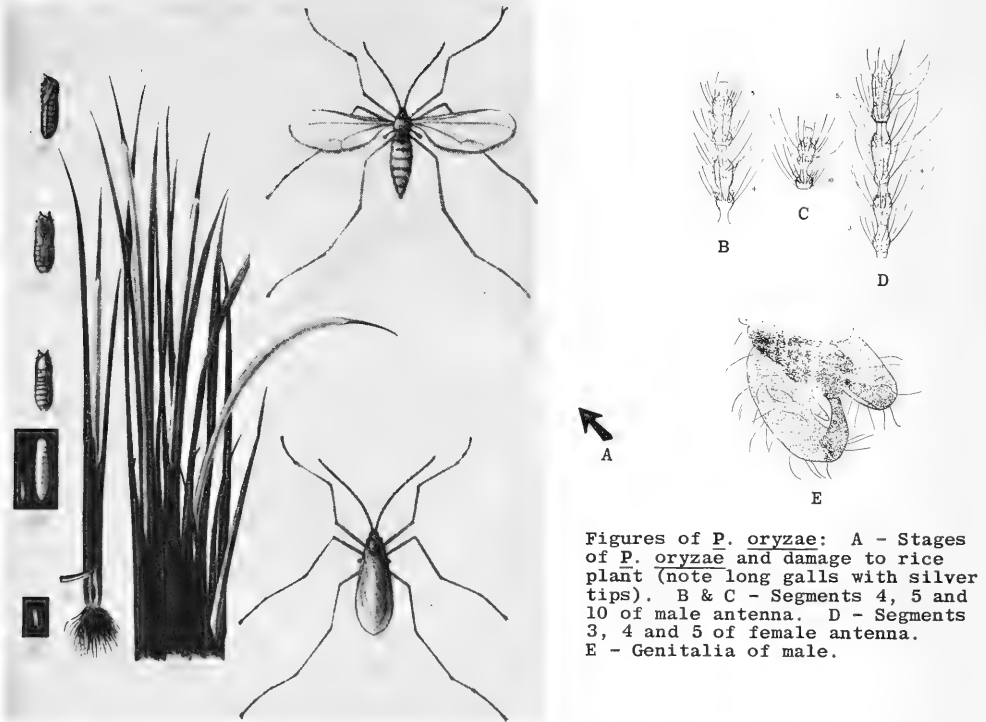


General Distribution of *Pachydiplosis oryzae*

Life History and Habits: Details of the biology as recorded in southern China by Yen, Liu and Kuo are as follows: There are 5 generations a year. Overwintering takes place in the larval stage within the rice stubble. Midges are first seen during late March and are most numerous in early August. The egg, larval and pupal stages last for 3-4, 14-28 and 4-5 days, respectively, between July and October. Females lay about 131 eggs each, with a maximum of 285. Midges are nocturnal, living for 1-3 days. Eggs are laid singly, or in groups, on the leaves. Newly-hatched larvae will survive immersion in water for 2-5 days. Larvae usually pupate by the time the tubular gall is noted.

Additional observations of the life history from other sources are as follows: The young larvae migrate down the plant until they reach the central shoot of the apical or side buds. As a result of feeding on the growing tip, the gall is formed from the leaf-sheaths which grow like an empty tube, carrying with it the blade, auricles and ligule. After emergence of the midge, the empty gall loses turgidity, becomes discolored and falls off. A single larva lives in each gall. Pupation occurs in the gall. The pupa works its way up the tube and emergence takes place. The empty pupal case is left protruding from the exit hole.

Description: The ADULTS, as described by M. S. Mani, are as follows: **Male** - Body yellowish-brown, sparsely haired. Length 3 mm. Antennae dark reddish-brown, thickly haired, nearly equal in length to body, segments 14 (see illustrations); palpi quadriarticulate, short, sparsely setose. Mesonotum brown, submedian lines sparsely haired. Scutellum dirty yellowish-brown, post-scutellum darker. Halter stem light yellowish; head grayish-brown. Legs densely hairy and dark brown. Claws simple on all legs, evenly and slightly curved. Abdomen brownish-yellow, sparsely setose. Genitalia pale-brown, somewhat thickly setose (see illustration). **Female** - Body bright reddish-brown, thickly haired. Length 3.5 mm. Antennae dark brown, moderately thickly haired, about half length of body, segments 14 (see illustration); palpi quadriarticulate, sparsely setose. Mesonotum dull reddish-brown at sides and brownish-black between submedian lines, which are thickly haired. Scutellum reddish-brown, post-scutellum dark reddish-brown. Legs brownish and sparsely setose. Claws simple on all legs, diverging and somewhat curved at very tip only. Abdomen bright reddish-brown in older specimens, moderately setose. Ovipositor short, conical, terminal lobes of lamellae with length $2\frac{1}{2}$ times its greatest width, sparsely setose. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies). CEIR 9(49):12-4-59.



Figures of *P. oryzae*: A - Stages of *P. oryzae* and damage to rice plant (note long galls with silver tips). B & C - Segments 4, 5 and 10 of male antenna. D - Segments 3, 4 and 5 of female antenna. E - Genitalia of male.

Figures (except map): All stages and damage from Fletcher, T. B. (Editor). 1917. Report of the Proceedings, Second Entomological Meeting, Pusa, India, Feb. 5-12, 340 pp. Antennal segments and male genitalia from Mani, M. S. 1934. Records Indian Mus. 36(4):371-452. Major reference: Barnes, H. F. 1956. Gall Midges of Economic Importance. Vol. VII. Gall Midges of Cereal Crops. pp. 204-210, London.

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ECONOMIC INSECT

REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Heavy HESSIAN FLY infestations noted in early-planted wheat in some areas of Missouri. (p. 1041).

SPRUCE BUDWORM and a SCALE INSECT (Matsucoccus paucicatricis) are damaging pines in areas of California and EUROPEAN PINE SHOOT MOTH has been recorded for second time in Washington, (p. 1043).

HOUSE FLY is heavy in central and southwestern areas of Arizona. (p. 1044).

INSECT DETECTION: Southwestern corn borer now recorded in Bolivar, Tunica, Panola, Tate, Quitman, De Soto and Coahoma Counties, Mississippi. (p. 1041). Walnut husk fly taken at Dos Palos in Merced County, California. This is the farthest west this fly has been taken in this county. (p. 1042).

CORRECTION (p. 1044).

INSECTS not known to occur in the United States. (p. 1045).

Reports in this issue are for the week ending December 4, unless otherwise indicated.

WEATHER OF THE WEEK ENDING DECEMBER 7

Temperatures this week averaged above normal from California, New Mexico and the northern Rocky Mountains across the northern half of the country to the Middle Atlantic and New England States. Persistently above-normal readings continued over most of California and no rain was reported in the State again this week. Some sections of the Far Southwest are now entering the fourth month without measurable precipitation. The long period of below-normal temperatures in the western Great Lakes-upper Mississippi Valley region ended after 6 to 10 weeks of abnormally cold conditions, as mild and generally dry weather prevailed for most of the week. Unseasonably warm weather was recorded in the northwestern Great Plains, where the weekly averages were mostly 10° to 15° above normal. Temperatures in the low 60's were reported as far north as southeastern Montana, where Billings recorded 62° on Wednesday and the mercury reached 64° at Omaha, Nebraska, and 74° at Goodland, Kansas, on Thursday -- record high temperatures for the date at these places. Temperatures averaged near normal in the Pacific Northwest and precipitation ranged from light to moderate west of the Cascades. In the Texas-Oklahoma area, temperatures averaged near normal and precipitation was spotty and light. Gradual warming continued through Thursday when daytime temperatures reached the upper 60's and low 70's. Colder weather moved southward again over the weekend and minimum readings fell to near 20° as far south as central Texas. The coldest week of the season, averaging 8° to 10° below-normal levels, was recorded in the Southeastern States as dry Polar air covered the area. Freezing temperatures extended as far south as interior southwestern Florida and near 20° readings were reported from southern Alabama and Georgia and northern Florida early in the week. Maximum temperatures remained in the 60's or low 70's throughout the week in Florida. Below-freezing temperatures extended into northern Florida again on the 8th.

Unseasonably mild and dry conditions prevailed in the Northeastern States through Friday. General precipitation developed over the weekend as a storm center moved northward from the southern Appalachians, with rain changing to snow over the mountains from Georgia and Tennessee northward. On Monday the storm became intense, as winds reached 40 to 45 m.p.h., with gusts to near 70 in New York and New England. Precipitation amounts of 1-2 inches were common in New England, and snow depths of 4-6 inches were general over most of Pennsylvania and New York. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

HESSIAN FLY (Phytophaga destructor) - MISSOURI - Heavy infestations noted in early-planted wheat in some areas of the State. In one field in Carroll County (west central area), 92 percent of the plants were infested with 475 forms (mostly white maggots) per 100 plants. Other counts in that area ranged from 30-65 percent of the plants infested with from 50-195 forms per 100 plants. In central area, from 5-40 percent of the plants were infested with from 10-160 forms per 100 plants. Several fields in northeast area were checked and none were found infested. Observations were made in very early-planted fields; all were seeded before the fly-free date. (Kyd, Thomas, Munson).

GREENBUG (Toxoptera graminum) - OKLAHOMA - Present in 8 of 21 fields of small grain examined in Payne, Logan, southeastern Garfield and Noble Counties. Populations were very light in all infested fields, with highest counts averaging 5 per linear foot. Only a trace found in most infested fields. All fields checked were early fall plantings, with plants now showing the maximum amount of growth when compared with surrounding fields. (VanCleave). Populations continued light (up to 3 per linear foot), with no noticeable increase in numbers in wheat fields checked in Hennessey area. Present in 2 of 5 fields surveyed in Hennessey-Bison area. (Owens). None noted in 5 wheat fields in Washita and Kiowa Counties. (Hudson). None noted in 3 fields of small grain in Tillman County. (Hatfield).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Present in very limited numbers (up to 0.1 per linear foot) in 3 of 5 wheat fields checked in Hennessey-Bison area. (Owens). None noted in 5 wheat fields in Washita and Kiowa Counties. (Hudson). Counts averaged 0.5 and 20 per linear foot in 2 of 3 small grain fields surveyed in Tillman County. (Hatfield). MISSOURI - Counts in early wheat in central area ranged 0.5-2 per foot of row and west central area counts ranged 0-0.5 per foot of row. (Kyd, Thomas, Munson).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Present in very limited numbers (less than 0.5 per linear foot) in 4 of 21 small grain fields examined in Payne, Logan, southeastern Garfield and Noble Counties. (VanCleave).

Sticky Board Aphid Collections in Arizona, November 23-30 - Collections per trap of rusty plum aphid (Hysteroneura setariae), corn leaf aphid (Rhopalosiphum maidis) and spotted alfalfa aphid (Therioaphis maculata) at several locations are tabulated below. (Ariz. Coop. Sur.).

<u>Location</u>	<u>M. setariae</u>	<u>R. maidis</u>	<u>T. maculata</u>
Mesa	10	3	1
Kyrene	6	1	0
Waddell	9	1	2
Glendale	140	1	0
Deer Valley	24	1	0

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Present in 4 of 21 fields of small grain checked in Payne, Logan, southeastern Garfield and Noble Counties. Counts ranged 10-50 per linear foot. (VanCleave).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - MISSISSIPPI - Adults of this species have been reared from larval collections made in Bolivar, Tunica, Panola, Tate and Quitman Counties. Determinations of the adults were confirmed by H. W. Capps on November 24. Suspect larvae were previously reported in CEIR 9(36):822 in these counties. Subsequent to this report, larvae have been found damaging corn in De Soto County. Prior to the previously mentioned reports, this species had been known only from Coahoma County in Mississippi. (Cox).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Medium infestation of corn leaves in Walnut Grove, Sacramento County. (Cal. Coop. Rpt.).

GRASSHOPPERS - UTAH - Egg surveys in the Blue Creek - Snowville area of Box Elder County show that 35,000 acres of soil bank lands have potential for abundant to very abundant grasshopper populations in 1960. This land is weedy with Russian thistle and sunflowers, with some alfalfa and crested wheatgrass on it. Fifteen percent of the eggpods were infested by blister beetle larvae. Some bee fly larvae and carabid larvae also present. Many margins of fall grain fields that were bordering on soil bank lands had to be replanted. (Thornley, Knowlton).

A WHITE GRUB (Phyllophaga rubiginosa) - TEXAS - Infested 6,000 acres of rangeland in Bandera County. (Garner).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Counts averaged 8 per linear foot of row in newly planted alfalfa field checked in Bison area. (Owens). Counts averaged 22 per square foot of crown area in alfalfa field checked in Davidson area. (Hatfield). ARIZONA - Infestations very low in alfalfa over the State, but hanging on in all areas. (Ariz. Coop. Sur.).

PEA APHID (Macrosiphum pisi) - ARIZONA - Infestations increasing in central area alfalfa, but they still remain low. (Ariz. Coop. Sur.).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - MARYLAND - Infesting apples in home orchard at Pikesville, Baltimore County. (U. Md., Ent. Dept., Nov. 25).

A FRUIT FLY (Rhagoletis symphoricarpi) - CALIFORNIA - An adult taken in a Frick fruit fly trap in a peach tree in Pinole, Contra Costa County. This represents the first record of occurrence of this fly south of the Carquinez Strait. (Cal. Coop. Rpt., Nov. 6).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - An adult taken in a Frick trap in Dos Palos, Merced County. This is the farthest west the fly has been taken in Merced County. (Cal. Coop. Rpt.).

Citrus Insect Situation in Florida - (End of November) - The slight PURPLE SCALE (Lepidosaphes beckii) increase of November has ended. Activity will decline in December and infestations will remain below average in all districts. FLORIDA RED SCALE (Chrysomphalus aonidium) activity is holding at a low level and little change is expected during December. Infestations generally will drop below average by the end of the year. Highest activity is in the Indian River, Bartow and Ridge districts. CITRUS RED MITE (Panonychus citri) activity increased in November but is expected to hold at the present moderate level during December. Infestations generally are low over the State. Highest activity is in the west coast and Brooksville districts. CITRUS RUST MITE (Phyllocoptera oleivora) activity recently increased and further rise is expected during the next two weeks. Infestations will be in the high range in most districts during December. Highest activity is in the Bartow, west coast, Ridge, Indian River and Gainesville districts. (Simanton, Thompson, Johnson (Citrus Experiment Station, Lake Alfred)).

TRUCK CROP INSECTS

APHIDS - CALIFORNIA - Macrosiphum solanifolii and Aphis gossypii heavy on squash in Spring Valley in San Diego County. (Cal. Coop. Rpt.).

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Light infestations on sugar beets and several weed hosts in central area. (Ariz. Coop. Sur.).

A THRIPS (Frankliniella occidentalis) - CALIFORNIA - Medium infestations on bell peppers in San Diego, San Diego County. (Cal. Coop. Rpt.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - CALIFORNIA - Heavy on eggplant in National City, San Diego County. (Cal. Coop. Rpt.).

TOMATO PINWORM (*Keiferia lycopersicella*) - CALIFORNIA - Heavy infestations of tomatoes in Spring Valley in San Diego County. (Cal. Coop. Rpt.).

POTATO TUBERWORM (*Gnorimoschema operculella*) - CALIFORNIA - Light infestation in tomato fruit in San Clemente area, San Diego County. (Cal. Coop. Rpt.).

CORN EARWORM (*Heliothis zea*) - CALIFORNIA - Heavy infestations damaging lettuce in Guadalupe area of San Luis Obispo County and medium in El Centro area of Imperial County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (*Trichoplusia ni*) - ARIZONA - Light infestations continue as a problem in central area lettuce fields. (Ariz. Coop. Sur.).

HARLEQUIN BUG (*Murgantia histrionica*) - TEXAS - Heavy infestation on cabbage just prior to harvest in Frio County. (Texas Coop. Rpt.).

A BROAD-NOSED WEEVIL (*Nemocestes incomptus*) - CALIFORNIA - Heavy populations damaging strawberry plantings in Los Osos Valley, San Luis Obispo County. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SPRUCE BUDWORM (*Choristoneura fumiferana*) - CALIFORNIA - Severely damaging an area of white fir occurrence just south of the Modoc National Forest boundary, Lassen County. Severe defoliation and top dieback occurred which has practically wiped out the Christmas tree potential for this year. Defoliation this year has been particularly severe in a 1,000-acre area in the Horse Mountain area in the South Warners. Infestations have occurred in the North Warners for many years. (J. C. Denny, B. Wickman).

EUROPEAN PINE SHOOT MOTH (*Rhyacionia buoliana*) - WASHINGTON - Infesting pines in nursery at Summer. This is the second record of this species in the State. Det. H. W. Capps. (Breakey, Nov. 27).

A SCALE INSECT (*Matsucoccus paucicicatricis*) - CALIFORNIA - Stem feeding by this species is causing swelling and necrotic tissue lesions which are resulting in heavy "flagging" of nearly all sugar pines in a widespread area in the Dillon Mountain district of Siskiyou County. (N. E. Dirksen). Similar damage occurred in the Greenview area in mid-September in Siskiyou County. (C. B. Eaton).

FLATHEADED BORERS - CALIFORNIA - Two undetermined species working in ponderosa and sugar pines in a 3,000-acre stand in the Miami Mountain Pilot Peak area of Mariposa County. Borer activity increasing in this area where trees have been damaged by fire. (B. E. Minter).

A GALL WASP (*Disholcaspis cinerosa*) - OKLAHOMA - Heavy infestation on live oak tree in Oklahoma City. Det. W. A. Drew. (Thomas).

PAINTED MAPLE APHID (*Drepanaphis acerifoliae*) - CALIFORNIA - Heavy infestations on maples in San Diego, San Diego County, and in Auburn, Placer County. (Cal. Coop. Rpt.).

A WHITEFLY (*Aleyrodes pruinosa*) - CALIFORNIA - Heavy infestations on christmasberry (toyon or California holly) in Rancho Santa Fe, San Diego County. (Cal. Coop. Rpt.).

A PSYLLID (*Psylla uncatoides*) - CALIFORNIA - Heavy infestations occurring on albizzia in San Diego, San Diego County. (Cal. Coop. Rpt.).

COTTONY-CUSHION SCALE (*Icerya purchasi*) - TEXAS - Infestations damaging ornamentals in Gregg and Runnels Counties. (Texas Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

HOUSE FLY (Musca domestica) - ARIZONA - Heavy populations a problem in central and southwestern areas. (Ariz. Coop. Sur.).

SALT-MARSH MOSQUITO (Aedes sollicitans) - NORTH CAROLINA - Eleven adults biting per minute in Carteret County on November 23. (Ashton).

BENEFICIAL INSECTS

HONEY BEE (Apis mellifera) - WASHINGTON - During 1959, 756 colonies were found infected with American foulbrood and 161 with European foulbrood out of a total of 24,600 colonies that were inspected. (Breedlone, Brannon).

PARASITES AND PREDATORS - OKLAHOMA - None noted in 21 fields of small grain checked in Payne, Logan, southeastern Garfield and Noble Counties. (VanCleave).

MISCELLANEOUS INSECTS

A BROWN-DOTTED CLOTHES MOTH (Acedes fuscipunctella) - CALIFORNIA - Heavy adult population in a house in Potrero, San Diego County. (Cal. Coop. Rpt.).

OLD-HOUSE BORER (Hylotrupes bajulus) - VIRGINIA - Damaging floor joists in a home in Henry County. (Rowell; Mar. 20, May 29).

CORRECTION

CEIR 9(32):736 - EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - The note under this species for COLORADO should be deleted. Further investigation by Dr. T. O. Thatcher, to determine the species of lepidopterous larvae that were mining the needles of ponderosa pine in the Colorado Springs area of El Paso County during the week ending July 27, revealed that R. buoliana was not involved in this damage. Dr. Thatcher further states that R. buoliana has yet to be taken in Colorado.

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Perid. marg.	Feltia subterr.	Prod. ornith.	Laphygma frug.	Helio. exigua	zeae
ARIZONA								
Mesa 11/23-29			7		171		86	
FLORIDA								
Monticello 11/24					13			1
Quincy 11/23	1	2		3	7			5
MARYLAND								
Fairland 11/21-12/3	10	1	3					
SOUTH CAROLINA								
Charleston 11/30-12/6	1	4		1				
Clemson 11/28-12/5	7	3	1	1		1		1

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

PINE PROCESSIONARY MOTH (Thaumetopoea pityocampa (Denis & Schiffermuller))

Economic Importance: This defoliator is a serious pest of pine forests in Italy, Spain and Switzerland. Outbreaks have been reported also from other countries

including Yugoslavia and France. The night-feeding larvae often cause complete defoliation of infested trees. Trees weakened by T. pityocampa are frequently attacked by bark beetles. Outbreaks may involve whole forests but do not usually last more than two years. The larvae are capable of producing cases of severe urtication in humans.

Distribution: Southern Europe, Syria, Turkey.

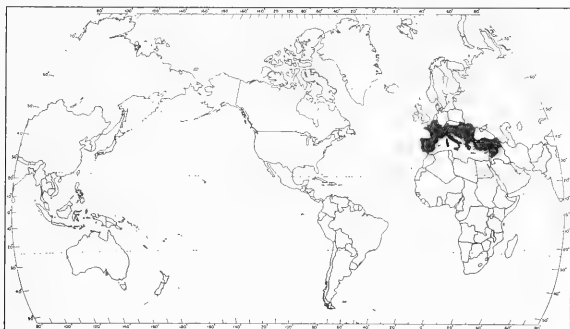
Hosts: Pinus spp.

Life History and Habits: South of the Alps, moths emerge at end of June or beginning of July. The females deposit from 100-150 eggs around a cluster of 2 or 3 pine needles, forming a cylinder. The eggs hatch in about 4 weeks and larvae begin feeding on the foliage. Feeding takes place at night. The caterpillars are gregarious and move about in processions of single or double rows. They spin a tough, conspicuous web on the branches

in which they retreat during the day and in which they hibernate. The larvae molt 3 times; once in autumn, twice in spring. In May, the caterpillars cease feeding and descend the trunks in processions to pupate in the ground.



Defoliated Pine



General Distribution of Thaumetopoea pityocampa

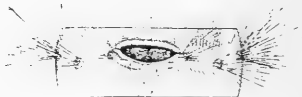
Description: ADULT - Male wing expanse 30 mm., female 35 to 40 mm. Body of moth yellowish with segments bordered transversally with brown bands. The front of the head is ornamented with a chitinized protuberance formed like a cock's comb. Forewings are dirty gray traversed by dark bands. Frings are spotted. Hindwings white, each with a small deep gray spot on posterior edge. LARVA 30 to 40 mm., blackish on the back, yellowish on the ventral side with red-brown spots arranged on the upper part and the sides. Each segment carries tufts of yellowish hairs. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 9(50):12-11-59.



A



B



C



E



D

Figures of *Thaumetopoea pityocampa*: A - Typical mass of larvae in a web. B - Adult. C - Second abdominal segment of larva, dorsal view. D - Third throacic and first abdominal segments of larva, lateral view. E - Deposit of eggs (without protective covering).

Figures (except map): Egg mass from Cuellar, A. R. 1956. Organizacion de la Lucha contra la Procesionaria del Pino. Minist. Agr. (Madrid) Ser. B., No. 3, 23 pp. Adult, also larval characters from Silvestri, F. 1911. Dispense di Entomologia Agraria (2nd Ed.). 575 pp., Portici. Pine defoliation and closeup of larvae in web - USDA photographs.

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DECEMBER 18, 1959

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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Season's Greetings

Highlights of Insect Conditions

Annual SOUTHWESTERN CORN BORER survey in Missouri and CHINCH BUG hibernation survey in Kansas is reported. (p. 1049).

FALL CANKERWORM emergence reported in Indiana, Pennsylvania and Connecticut. (p. 1050).

CORRECTIONS (p. 1052).

INSECTS not known to occur in the United States. (p. 1053).

DISTRIBUTION MAPS - Special distribution maps on important insect pests, mostly introduced species, have been carried in the CEIR for several years. The maps have recently been revised and combined in a single compilation of 43 pages involving 82 species. This compilation is available on request to Survey and Detection Operations. Other special material available includes "Insects Not Known to Occur in the United States" and "Survey Methods."

Reports in this issue are for the week ending December 11, unless otherwise indicated.

WEATHER OF THE WEEK ENDING DECEMBER 14

Mild temperatures covered all sections of the Nation this week, with the exception of central California and Oregon, portions of the northern Plateau States and the extreme Southeastern States where frost and freezing temperatures extended southward to central Florida early in the week.

Precipitation west of the Cascades in Washington and Oregon was moderate to heavy, with 2 inches or more along the coast, and rain extended southward to central California late in the week. Showers at midweek in southern California and the Desert Southwest left up to 1/2 inch of water, with some locally heavier amounts, and a developing storm late in the week brought snow from Nevada and the mountains of central Arizona to New Mexico, western Texas and Oklahoma and northward to Wyoming. Ten inches of snow covered the ground at Albuquerque, New Mexico, by Tuesday morning. Yuma, Arizona, received 0.65 inch of rain this week, exceeding the 0.56 inch measured there since January 1. Extreme drought continues to plague the Southwestern States, however, and is particularly severe over Utah and Nevada.

Unseasonable warmth covered the Great Plains States as maximum temperatures reached into the 40's and 50's on most days as far north as Montana, the Dakotas, and Minnesota, into the 60's in Oklahoma, and the 70's to 80's in south Texas. General freezing minimum temperatures reached as far south as southwest Texas, but remained in the teens and 20's in the northern areas and well above the freezing mark in the southern portions most of the week.

Precipitation was very light over the Great Plains with little or none reported in most areas. Precipitation in the past 6 weeks over parts of the central Great Plains has been very light. Goodland, Kansas, for example, has reported only a trace since October 30. Heavy precipitation accompanied the passage of a low-pressure area from Texas and Oklahoma northeastward to New England late in the week. Weekly totals of more than 1 inch were reported in the area from Arkansas through the Ohio Valley and central Great Lakes to Pennsylvania, New York and New England, as general rains fell in the Ohio and Tennessee Valleys almost without interruption from Thursday night through Saturday, and in the Northeastern States on Saturday and Sunday. Local totals exceeded 4 inches in Arkansas and 2-4 inches in the Northeast. Locally moderate snow was recorded in the Appalachians, west of the Appalachians and northern New England. Temperatures were generally mild and unusual warmth was experienced in New England as temperatures were above normal for the third consecutive week from the Middle Atlantic States northward. The temperatures reached 61° late Saturday and early Sunday at Boston and 58° at New York.

Cold temperatures in the Southeastern States early in the week were replaced by warmer weather at midweek, but cooler readings returned over the weekend. Precipitation was moderate to heavy over all sections except the peninsula of Florida, where generally light totals were reported, with none along the southeast coast. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (*Toxoptera graminum*) - TEXAS - None found in small grain fields checked in 10 counties in north central and west cross timber areas. (Hawkins).
OKLAHOMA - Populations continued low throughout central and south central areas, with no significant increase noted over previous weeks. A higher percentage of fields checked were found infested than during the previous week. Hymenopterous parasites were common in fields in south central area, but their effectiveness in reducing greenbug populations will depend on temperatures in the next few weeks. (VanCleave). Counts ranged 1.5-3.5 per linear foot in 5 wheat fields in Hennessey area (Owens) and 0.1-1.1 per linear foot in 6 out of 7 fields of small grain checked in Bryan, Marshall and Jefferson Counties (Vinson). Counts averaged 3 per linear foot in one of 3 fields checked in Cotton County and none noted in 4 other fields checked in Tillman and Jackson Counties. (Hatfield). None noted in wheat field checked in Jackson County and in 3 wheat fields in Greer County. (Presgrove, Hudson).

CORN LEAF APHID (*Rhopalosiphum maidis*) - OKLAHOMA - Counts ranged 0.5-6 per linear foot in 4 of 7 small grain fields checked in south central area (Vinson) and averaged 2 per sweep in a wheat field checked in Jackson County (Presgrove). None noted in 7 fields checked in southwestern area and 7 checked in central area. (Hatfield, Hudson, Owens, Pela, Chandler).

APPLE GRAIN APHID (*Rhopalosiphum fitchii*) - OKLAHOMA - Populations generally low or not detected in small grain fields in central, south central and southwestern areas. (VanCleave et al.).

WINTER GRAIN MITE (*Penthaleus major*) - TEXAS - Infestations medium to heavy in Johnson and Cook Counties. (Hawkins). Causing damage to small grain fields in Hunt, Kaufman, Rockwall, Collin and Ellis Counties. (Davis).

SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) - MISSOURI - The 1959 survey was conducted in portions of 3 crop reporting districts (southwest, west and central). The counties with the highest percent girdled stalks were all in the extreme southwestern area. A total of 20 counties were surveyed, 5 fields per county. The average percent of girdled stalks by counties is as follows:
Barry - 9.6, Lawrence - 4.4, Jasper - 2.8, Newton - 3.8, McDonald - 13.6,
Stone - 2.4, Hickory - 0.4, St. Clair - 0.8, Cedar - 1.4, Vernon, 3.2,
Bates - 0.2, Henry - 0, Johnson - 0, Cass - 0, Christian - 2.0, Green - 7.4,
Barton - 2.4, Dade - 1.4, Polk - 1.0 and Dallas - 0.2. (Kyd, Thomas, Munson).

CHINCH BUG (*Blissus leucopterus*) - KANSAS - Results of annual hibernation survey conducted in 54 counties during November and December show that populations were noneconomic in 41 counties (8-247 bugs per square foot), light in 8 counties (277-441 per square foot), moderate in 4 counties (505-800 per square foot), severe in Sedgwick County (1544 per square foot). (Bell, Guldner, Peters).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - OKLAHOMA - None noted in 3 alfalfa fields checked in Choctaw County. (Goins). Counts averaged 0.2 per sweep in Jackson County (Presgrove) and are increasing slightly (averaged 12 per linear foot) in field of fall-seeded alfalfa in Bison area (Owens).

FRUIT INSECTS

A BAGWORM (*Apterona crenulella*) - UTAH - Cases, by the thousands, are attached to cherry tree limbs and twigs in an orchard east of Spanish Fork, Utah County. Each case contains 6-12 larvae, apparently first instar. (Knowlton, Davis).

A NITIDULID (Stelidota geminata) - CALIFORNIA - Heavy in dropped sapote and figs in Encinitas, San Diego County. (Cal. Coop. Rpt., Oct. 23). Records of this species in the State are August 6, 1957, July 8, 1958, and October 21, 1959, in Orange County and October 7, 1959, in San Diego County. It is believed that this beetle has become established in the State. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

COWPEA WEEVIL (Callosobruchus maculatus) - CALIFORNIA - Heavy infestation in black-eyed peas in Ducor, Tulare County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Light to heavy infestations on cabbage in Dimmit County. (Harding).

WESTERN BLACK FLEA BEETLE (Phyllotreta pusilla) - TEXAS - Heavy, widespread infestation on turnips in Dimmit and Zavala Counties. (Harding).

THRIPS (Thrips tabaci, Frankliniella occidentalis) - TEXAS - Light to medium in onion seedbeds with an average of 1-5 per plant in Dimmit County. Some scarification is evident. (Harding).

STRAWBERRY CROWN MOTH (Ramosia bibionipennis) - CALIFORNIA - Medium infestations in raspberry plants in Vallejo, Solano County, and heavy infestations on loganberry in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

FALL CANKERWORM (Alsophila pometaria) - INDIANA - Emergence continued and increased through December 10 in Lafayette area. Heavy flight of males noted on December 4. (Chandler). PENNSYLVANIA - Adults seen flying in woods in Perry County (Balsbaugh) and males and females appear to be fairly heavy in forest areas in Dauphin and Perry Counties (Sleesman, December 2). CONNECTICUT - Males and females numerous in woodland in Branford and on shade trees in New Haven on December 12. (Johnson).

LODGEPOLE NEEDLE MINER (Recurvaria milleri) - CALIFORNIA - Infesting an area of about 200 acres in Inyo County; severely damaging lodgepole pine. The moth has a two-year cycle and the next flight is due in July and August of 1960 in this area. Continued infestations may result in the defoliated trees dying, especially if Dendroctonus monticolae moves in on the weakened trees. (L. O. Hayes, G. Struble, E. B. Eaton).

A PYRALID (Aglossa caprealis) - CALIFORNIA - Medium infestation in old palm blossoms in San Bernardino, San Bernardino County. (Cal. Coop. Rpt.).

A NYMPHALID (Euptoieta claudia) - SOUTH CAROLINA - Larvae almost completely destroyed a pansy patch at Anderson in early November. Losses will amount to several hundred dollars. Specimens determined by H. W. Capps. (Nettles et al.).

A NOCTUID (Prodenia sp.) - CALIFORNIA - Heavy leaf damage by Prodenia sp., probably P. ornithogalli, to begonias in Lemon Grove, San Diego County. (Cal. Coop. Rpt.).

MITES - CALIFORNIA - Phytoptus hedericola adults medium on Hahns ivy in Colma, San Mateo County, and Aculus linguistri heavy on privet on a property in Millbrae, San Mateo County. (Cal. Coop. Rpt.).

AN APHID - OKLAHOMA - Undetermined species heavy on some ornamental pepper plants in the southwestern area. (Hatfield).

INSECTS AFFECTING MAN AND ANIMALS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Counts averaged 3 per animal on 52 beef cows checked in Pushmataha County (Goin) and 21 head checked in Bryan County (Vinson), 9 and 16 per animal in 2 groups of cattle checked in the Altus area (Hatfield), ranged from 3-5 per animal on cattle checked in Hobart area (Hudson) and averaged 11 per animal in 30 yearling steers in Canadian County (VanCleave).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Counts averaged 6 per animal on 52 beef cattle checked in Pushmataha County; 20 per animal on 57 cattle and 35 per animal on 6 horses in Le Flore County. (Goin).

BED BUG (Cimex lectularius) - TEXAS - Annoying residents in Bryan. (Garner).

BLACK WIDOW SPIDER (Latrodectus mactans) - UTAH - Causing concern to homeowners at Provo, Springville and Spanish Fork. (Knowlton).

STORED-PRODUCT INSECTS

A FLOUR BEETLE (Tribolium destructor) - CALIFORNIA - Heavy populations of adults in a warehouse in San Francisco, San Francisco County. (Vector Control).

RICE WEEVIL (Sitophilus oryza) - TEXAS - Medium infestation in 2,000 bushels of stored grain in Fayette County. (Turney).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - TEXAS - Medium infestation in 2,000 bushels of stored grain in Fayette County. (Turney).

AN APHID (Rhopalosiphoninus sp.) - WASHINGTON - Moderate infestation on tulip bulbs in storage at Sumner. (Doucette).

FOXGLOVE APHID (Myzus solani) - WASHINGTON - Moderate infestation on sprouts of tulip bulbs in storage at Sumner. (Doucette).

TULIP BULB APHID (Anuraphis tulipae) - WASHINGTON - Moderate to heavy infestation on iris bulbs in storage and a few found on tulip bulbs in storage at Sumner. (Doucette).

BENEFICIAL INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Present in very limited numbers in approximately one-fourth of the small grain fields checked in central, south central and southwestern areas. (Owens, Pela, Chandler, Vinson, Hatfield, Presgrove, Hudson).

PARASITES - OKLAHOMA - Hymenopterous parasites are active and common (0.1-1.5 per linear foot) in most small grain fields checked in south central area. (Vinson, Hatfield).

MISCELLANEOUS INSECTS

A SHIELD BEARER CRICKET (Platypleis tessellata) - CALIFORNIA - Specimens collected in July and reported as abundant in the Timbuctoo area of Yuba County. This is the first record in this county. (J. Helfer).

NITIDULIDS - CALIFORNIA - Carpophilus hemipterus, C. dimidiatus and Haptoncus luteolus infesting fruit dumps in heavy populations in Clovis area of Fresno County. All stages were present. (Spittler, Yearington).

CLOVER MITE (Bryobia praetiosa) - UTAH - Entering dozens of homes in Salt Lake City area and elsewhere in Salt Lake County. (Knowlton, Parrish).

A BROWN DOTTED CLOTHES MOTH (Acedes fuscipunctella) - CALIFORNIA - Heavy adult population in a house in Potrero, San Diego County. (Cal. Coop. Rpt., Dec. 4).

CORRECTIONS

CEIR 9(49):1030 - A SCARAB (Gronocarus autumnalis) - FLORIDA - Change collection date to November 16.

CEIR 9(44):964 - HARLEQUIN BUG (Murgantia histrionica) - WISCONSIN - Delete portion of note that states "As far as can be determined, this is the first record of this species for the State". Records have been found in the literature that show this species had previously been collected in Wisconsin.

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Perid. marg.	Feltia subterr.	Laphygma frugiperda	Heliothis zea
FLORIDA						
Monticello 12/3	1					
SOUTH CAROLINA						
Clemson 12/5-11	1	5	2			1
TEXAS						
Brownsville 11/3-13	4	5	1	2	12	

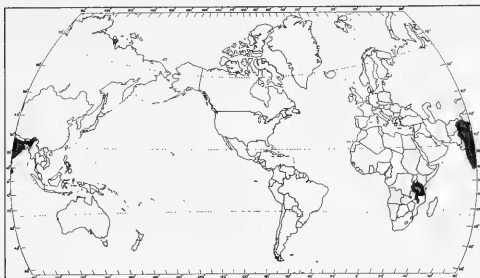
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

MAIZE AND JOWAR BORER (Chilo zonellus (Swinhoe))

Economic Importance: This crambid borer is a very serious pest of corn and sorghum in areas of India and Pakistan; perhaps the major pest of those crops in that area. Damage can be quite severe, with infestations in corn and sorghum ranging from 2.6 to 24.3 percent annually in India and reaching as high as 20 percent in the Lohman Valley of Afghanistan. During 1957 and 1958, infestations caused moderate to severe injury in West Pakistan. This species has been recorded under several former names, the one of greatest importance being Chilo simplex; however, since 1928 this species has been considered distinct. Chilo suppressalis (also previously known as C. oryzae) was also recorded as C. simplex prior to 1928. Consequently, older literature records may be in reference to both C. suppressalis and C. zonellus.

Distribution: Known to occur in India, Pakistan, Afghanistan, Ceylon and Sikkim in Asia and Tanganyika and Nyasaland in Africa.

Hosts: Corn and sorghum are preferred hosts. Sugarcane is attacked only when it is grown adjacent to corn and sorghum. Additional recorded hosts are ragmillet, goosegrass, pearl millet and Jobstears.

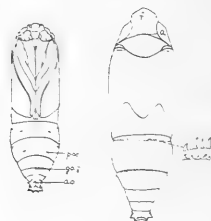
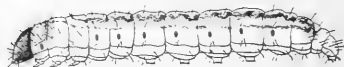
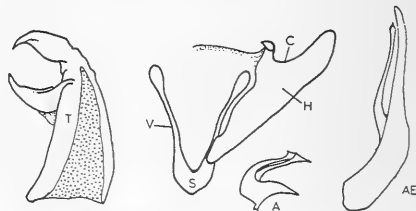
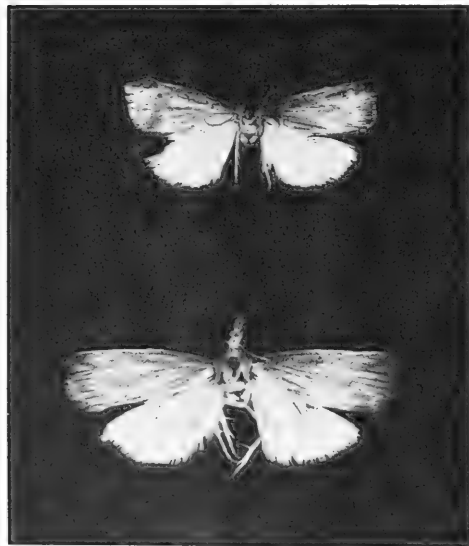


General Distribution of Chilo zonellus

Life History and Habits: The biology of C. zonellus as observed in India is as follows: The adults are nocturnal and short-lived. Maximum emergence of adults begins when the temperatures reach 86-90° F. Eggs are laid in clusters of 10-36, within 2-5 cm. of the leaf base, and hatch in 2-4 days. Each female will lay about 100 eggs. The larvae pass through 5 instars in 15-31 days. Young larvae begin feeding on the leaf tissues, sometimes mining them, and later, when they become more mature, bore into the stalks or cobs of corn. Larval borings in the stalks may cause the plants to bend, twist over and produce branches. "Deadhearts" are commonly encountered in young plants. Ears are also damaged. The larvae may migrate from plant to plant. Pupation takes place in the stems of the plants and lasts from 2-9 days. A total of 6-7 overlapping generations are reported. The total duration of the life-cycle is 29-33 days in the summer and as much as 83-210 days in the winter. The insect hibernates as a mature larva in the stems, stubble and cobs of corn, and the stems and stubble of sorghum. In corn, the stubble seems to be preferred for hibernation, while in sorghum, the stems are preferred. Plantings of corn made between July 15 and July 30 are about twice as heavily infested as those made 4-6 weeks later. Larvae prefer the younger plants. Outbreaks in Nyasaland have been associated with low rainfall years.

Description: ADULT - Male: Forewing whitish-brown to straw-colored, with dark brown to piceous scales usually forming a streak on costa; three rather diffuse spots on disk and a shadowy band running from apex towards center of hind margin

but stopping halfway. Series of spots on termen small, usually entirely piceous or black; fringe slightly darker near base. Hindwings very light straw-colored. Frons conical, with a distinct corneous point; ventral surface not flattened, but smooth and without a ridge. Labial palpi two and one-half times length of head, covered with dark brown to whitish scales. Wing expanse 21-26 mm. Female: Usually much larger than male; forewing much lighter in color, with darker scales sparser and more diffuse; bands usually indistinct. Hindwing whitish. Wing expanse 28-30 mm. *C. suppressalis* is distinguished from *C. zonellus* in that the ventral surface of the frons is partly flattened and produced as a ridge. LARVA - Length about 25 mm. skin well chitinized, setae well developed. Head prominent, reddish-brown, mandibles with 6 teeth, lower 3 being pointed. Prothoracic shield well chitinized and prominent, yellowish-brown. Four longitudinal stripes on abdomen, 2 sub-dorsal and 2 lateral. Striped reddish-brown. Coloration may vary, however. Posterior trapezoidal tubercles slightly more lateral in position than anterior trapezoidal tubercles. Spiracles closed (no clear space inside), elongate oval, and lie along lower margin of lateral stripes. Crochets on abdominal prolegs are arranged in complete circles. PUPA appears bent; color usually reddish-brown; eyes darker. Length of female 12.5-17 mm.; male 10.5-13 mm. Greatest width of female 3-4 mm.; male 2.5-3 mm. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies.). CEIR 9(51):12-18-59.



Figures: Left, male and female of *C. zonellus*; upper right, male genitalia of *C. zonellus*; right center, larva of *Chilo* sp.; lower right, ventral and dorsal views of *C. zonellus*.

Major references and figures (except map): Larva of *Chilo* sp. from Fletcher, T. B. (Editor). 1919. Report of Proceedings of Third Entomological Meeting, Pusa, India, Feb. 3-15, 417 pp. Pupal characters of *C. zonellus* from Isaac, P.V. and Venkatraman, T.V. 1941. Indian Jour. Agr. Sci. 11(5):804-815. Male genitalia from Jepson, W.F. 1954. A Critical Review of the World Literature on the Lepidopterous Stalk Borers of Tropical Gramineous Crops. 127 pp., London. Description of male and female of *C. zonellus* from Kapur, A.P. 1949. Roy Ent. Soc. London Trans. 101(11):399.

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PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

Annual CHINCH BUG hibernation survey in Arkansas, Missouri and Nebraska is reported. (p. 1056).

The PINK BOLLWORM program in Arizona is summarized. (p. 1057).

SCREW-WORM infestations reported in Louisiana. (p. 1059).

BOLL WEEVIL hibernation surveys in Texas, Missouri, Tennessee, Louisiana and Mississippi are reported and summarized. (pp. 1061-1063).

Recent INTERCEPTIONS of special interest at U. S. ports of entry. (p. 1064).

INSECT DETECTION: Sweetclover weevil reported for first time in Kentucky. (p. 1056). In California, Oligonychus aceris now occurs in both southern and northern areas, recorded for first time in El Dorado County (p. 1058); and a katydid (Neoconocephalus robustus) recorded for the first time in the State (p. 1060). Imported fire ant found for first time in Newton County, Georgia, and in Franklin County, Mississippi (p. 1060) and pink bollworm recorded in Yell County, Arkansas, for first time. (p. 1058).

Reports in this issue are for the week ending December 18, unless otherwise indicated.

CEREAL AND FORAGE INSECTS

CHINCH BUG (Blissus leucopterus) - ARKANSAS - The annual hibernation survey was conducted in 18 counties in the northeast, east central and southeastern areas of the State. The highest counts were 1,901 per square foot in Lawrence County. Ratings were noneconomic (0-250 bugs per square foot) in 14 counties, light (250-500 per square foot) in one county, moderate (500-1,000 per square foot) in 2 counties and severe (1,000-2,000 per square foot) in one county. Populations appear to be lighter this fall than they were in 1958 and 1957. (Ark. Ins. Sur.). MISSOURI - Annual hibernation survey was conducted in 24 counties in 8 districts of the State. Ratings were noneconomic in 6 counties, light in 11 counties, moderate in 5 counties and severe in Barton and Jasper Counties (southwest district). (Kyd, Thomas, Munson). NEBRASKA - Populations of hibernating chinch bugs were noneconomic in all counties surveyed during the fall of 1959 with the exception of Lancaster County where 917 bugs per square foot were found (moderate rating). The survey was conducted in 29 counties in the east, northeast and southeastern districts. (Simpson).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - KENTUCKY - Adults taken in a sweetclover field near Horse Cave, Hart County, on July 7. Specimens determined by R. E. Warner. This was the first official record of the species in the State. (Starks).

A TINEID (Lindera tessellatella) - CALIFORNIA - Heavy infestation on alfalfa hay in Coalinga, Fresno County. (Cal. Coop. Rpt.).

A SOD FLY (Metoponia rubriceps) - CALIFORNIA - Heavy infestation in grass sod in a cemetery in Colma, San Mateo County. (Cal. Coop. Rpt.).

FRUIT INSECTS

CITRICOLA SCALE (Coccus pseudomagnoliarum) - ARIZONA - Light to medium infestations present on a ranch near Peoria in Maricopa County. Edges of a few groves are heavily infested but the infestations decrease rapidly on inner trees. (Ariz. Coop. Sur.).

BLACK SCALE (Saissetia oleae) - CALIFORNIA - A heavy infestation occurring in a local olive grove in Shasta County. This is the only known infestation in Shasta County. (Cal. Coop. Rpt.).

COTTONY-CUSHION SCALE (Icerya purchasi) - ARIZONA - Infestations which have been hanging on in a few groves in Maricopa County are now almost nonexistent. Some yard plantings in Yuma County are lightly infested. (Ariz. Coop. Sur.).

CALIFORNIA RED SCALE (Aonidiella citrina) - ARIZONA - Light activity occurring in Yuma County yard plantings. One new infestation found during the past week. (Ariz. Coop. Sur.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - A very light infestation found in Monterrey, Nuevo Leon, on November 14; first infestation found since March 1958. Surveys in the chemical and free zones of the states of Tamaulipas, Nuevo Leon, Sonora and Baja California were conducted on 2,367 properties. Fifty-five trees were found infested, of 62,264 inspected, on 8 properties. The infested properties were located as follows: One with one tree in Monterrey; 4 with 30 trees in Allende and 2 with 23 trees in Linares, Nuevo Leon; one with one tree in Marroquin of the Municipio Hidalgo, Tamaulipas. This latter infestation involved only one leaf which was destroyed and the property put under observation without treatment. (PPC, Mex. Reg., Nov. Rpt.).

MEXICAN FRUIT FLY (*Anastrepha ludens*) - ARIZONA - Total of 146 traps on 21 properties in Yuma Valley and Yuma Mesa in Yuma County and 27 traps on 16 properties in Santa Cruz County were serviced weekly, with negative results. CALIFORNIA - Trapping operations continued in San Diego and Imperial Counties, with negative results. Larval inspections on 105 properties in San Diego County were also negative. (PPC, West. Reg., Nov. Rpt.). TEXAS - First official determination of *A. ludens* made of a female collected on November 24 in an orange grove adjacent to the city limits of Weslaco, Hidalgo County. Total number of traps operated during November was 2,364; 40 more than the total number operated during October. (PPC, Sou. Reg., Nov. Rpt.). MEXICO - Trapping operations continued at Tijuana, Tecate, Ensenada and Mexicali in Baja California and at San Luis R. C., Sonora. A total of 2,141 traps on 996 properties were operated, with negative results, during November. In Tijuana, the final spray application of the season was completed. (PPC, Mex. Reg., Nov. Rpt.).

TRUCK CROP INSECTS

CORN EARWORM (*Heliothis zea*) - CALIFORNIA - Light infestation of artichoke buds in San Gregorio, San Mateo County. (Cal. Coop. Rpt.).

SWEETPOTATO WEEVIL (*Cylas formicarius elegantulus*) - The harvest season of sweetpotatoes reached its peak in most of the areas affected by the program. In ALABAMA, 42 new infestations were found in 5 counties, with about two-thirds of these being found in Geneva and Mobile Counties. By the end of November, 82 properties were actively infested in 6 counties in southern Alabama. Total of 27 new infestations found in 5 GEORGIA counties during November, which brings to a total of 77 the actively infested properties in 11 counties. Inspections in LOUISIANA revealed 88 properties in 10 parishes with new infestations, bringing to a total of 519 the number of infested properties in 15 parishes. In MISSISSIPPI, 29 properties found infested in 6 counties. By the end of November, a total of 160 properties were infested in 10 counties. In SOUTH CAROLINA, no new infestations found during November. As far as known, only 11 infestations in 3 counties exist. (PPC, Sou. Reg., Nov. Rpt.)

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - As of the end of November, surveys had established the presence of pink bollworm in the State as follows:

<u>County</u>	<u>Number of Localities</u>	<u>Number of Properties</u>	<u>Number of Acres</u>
Central area			
Maricopa	15	31	1,424
Pinal	5	30	1,545
Santa Cruz	1	1	16
Total	<u>21</u>	<u>62</u>	<u>2,985</u>
Eastern area			
Cochise	2	5	240
Graham	4	41	1,443
Greenlee	2	2	39
Total	<u>8</u>	<u>48</u>	<u>1,722</u>
Grand total	29	110	4,707

The 1959 fall aerial pink bollworm insecticide program in the State was concluded on November 10. Treatments were made in October and November on 37 fields in Maricopa and Pinal Counties as follows:

<u>County</u>	<u>No. of Fields</u>	<u>Field Acreages</u>	<u>Cumulative Acreage</u>
Maricopa	15	359	1,671
Pinal	22	1,239	3,250
Total	37	1,598	4,921

(PPC, West, Reg., Nov. Rpt.)

MISSOURI - Inspections of gin trash and lint cleaners, which began on September 14, were completed on November 13. A total of 5,526 bushels of gin trash was inspected in Butler, Dunklin, Mississippi, New Madrid, Pemiscot, Scott and Stoddard Counties. Thirty-seven lint cleaner inspections were made of 43,864 bales of cotton at 10 locations other than where gin trash was secured. All inspections were negative. (PPC, Cent. Reg., Nov. Rpt.). ARKANSAS - Found for first time in Yell County during November. OKLAHOMA - Recovered from new locations in Custer, Beckham, Greer, Harmon, Jackson, Kiowa and Tillman Counties during November. The Custer County find was the first for this season in that county. (PPC, Sou. Reg., Nov. Rpt.). MEXICO - In West Mexico, states of Baja California and Sonora, 8,514 bushels of gin trash were inspected and 3,648 lint cleaner inspections were made, with negative results. Light trap catches were also negative. In the regulated area of East Mexico, states of Durango and Coahuila, 35 lint cleaner inspections were made and 1,713 pink bollworm larvae were recorded. (PPC, Mex. Reg., Nov. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

WESTERN PINE BEETLE (Dendroctonus brevicomis) - CALIFORNIA - Causing severe damage to young ponderosa pine saw timber by top and complete kill in groups of 2-5 in a 100-acre stand in the Bass Lake area of Fresno County. This insect is increasing and involves both private and public lands. Salvage control or treatment is recommended. (L. Barlow, C. B. Eaton).

PINE ENGRAVERS (Ips spp.) - Heavy infestation of I. integer and I. radiatae on Monterey pine in Colma, San Mateo County. (Cal. Coop. Rpt.).

A SPIDER MITE (Oligonychus aceris) - CALIFORNIA - Light infestations on maple trees in Placerville, El Dorado County. This mite has now been taken in both southern and northern areas of the State. This is the first record for El Dorado County. (Cal. Coop. Rpt.).

GYPSY MOTH (Porthetria dispar) - NEW YORK - Scouting around site of single moth catch in Greenville, Orange County, during summer of 1959 was negative. Scouting is underway at sites of single moth catches in Cornwall, Orange County (1957 treatment area) and Maryland, Otsego County (1959 treatment area), with negative results to Nov. 30. Ten acres were negatively scouted in Davenport, Delaware County, but in Deerfield, Oneida County, a single infestation of 2 egg masses was discovered. This is the site of 2 1959 trap recoveries. CONNECTICUT - Three large areas in northwestern area were scouted, with indications that intensity of infestation has declined in this area. NEW JERSEY - Extensive scouting in Montague area was negative. Scouting was resumed at Jockey Hollow Park, Morristown, as a delimiting operation. PENNSYLVANIA - Scouting in Luzerne, Pike and Perry Counties was negative. (PPC, East. Reg., Nov. Rpt.).

CYPRESS BARK BEETLE (Phloeosinus cupressi) - CALIFORNIA - Medium infestation on Thuja sp. in Concord, Contra Costa County. (Cal. Coop. Rpt.).

SAN JOSE SCALE (Aspidiotus perniciosus) - CALIFORNIA - A medium infestation in conjunction with Aleuroplatus coronatus on white oak leaves in Loomis, Placer County. (Cal. Coop. Rpt.).

A WOOLLY PINE NEEDLE APHID (Schnizolachnus pini-radiatae) - CALIFORNIA - Heavy population on Monterey pine on a property in Redwood City, San Mateo County. (Cal. Coop. Rpt.).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - NORTH CAROLINA - Severe infestations locally on privet in Union County and undetermined host in Rowan County. (Marsh, Corriher, Farrier).

A SPIDER MITE (Eotetranychus lewisi) - CALIFORNIA - Heavy infestation of poinsettia in Riverside, Riverside County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

COMMON CATTLE GRUB (Hypoderma lineatum) - ARIZONA - Untreated animals in Yuma and Pinal Counties averaged 3 grubs per head in 300 head examined. (Ariz. Coop. Sur.).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - Two reports of infestations of cattle have been received from West Carroll Parish. Four reports from Madison Parish involving cattle and in two of these more than one animal was reported infested. (Spink). ARIZONA - In Pinal County, 19 cases were reported in cattle during November in 6 herds. All cases were in the range area. (Ariz. Coop. Sur.).

SHEEP SCAB MITE (Psoroptes equi ovis) - VIRGINIA - Found on all of 40 sheep inspected during October and 110 of 130 sheep inspected during November. (Va. Livestock Health Bull.).

CATTLE GRUBS (Hypoderma spp.) - UTAH - Appeared in backs of cattle at St. George and elsewhere in Washington County. (Knowlton).

CATTLE LICE - UTAH - Moderately numerous in Washington County. Three thousand cattle were sprayed recently. (Knowlton).

STORED- PRODUCT INSECTS

Stored-grain Insect Survey in Nebraska: Insect infestations present in 51.2 percent of the wheat and 80 percent of the corn bins examined throughout the State. Saw-toothed grain beetle (Oryzaephilus surinamensis) and flat grain beetle (Cryptolestes pusillus) were more numerous than other insects, both in wheat and corn. Other insects found were cadelle (Tenebroides mauritanicus), rice weevil (Sitophilus oryza), granary weevil (Sitophilus granarius) and dermestids. All corn sampled was originally stored in 1952 and 1953. (Kantack).

LESSER GRAIN BORER (Rhyzopertha dominica) - OREGON - Light to moderate infestations found in stored barley in a mill in northwest Portland on December 8. (Eppley, Chinn, Foster).

MISCELLANEOUS INSECTS

AN EARWIG (Labidura riparia)-LOUISIANA - Specimens reported in CEIR 9(47):1010 have been determined by A. B. Gurney as this species. (Spink).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - Infestations found for first time in Newton County, GEORGIA, and in Franklin County, MISSISSIPPI, during November. (PPC, Sou. Reg.).

A KATYDID (Neoconocephalus robustus) - CALIFORNIA - This eastern species was collected in the Timbuctoo area of Yuba County in July and the Folsom area of Sacramento County. This is the first record of this katydid in the State. (J. Helfer, Dec. 11).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrotis ypsilon	Perid. marg.	Feltia subterr.	Prodenia ornith.	Laphygma exigua
<hr/>						
SOUTH CAROLINA						
Clemson 12/12-18	11	3	4		1	
Charleston 12/7-13	9	8		4	1	
LOUISIANA						
Baton Rouge 12/11-18	6	2		2	2	
Franklin 12/11-18				1	9	
ARIZONA						
Mesa 12/7-13			1		114	70
<hr/>						

BOLL WEEVIL HIBERNATION SURVEYS - FALL 1959

Collections of surface trash samples (two square yards per sample) were made in seven cotton-producing states during the fall of 1959 by cooperating State and Federal agencies to determine the number of boll weevil (*Anthonomus grandis*) adults that went into hibernation during the fall of 1959. This is the first year that collections of trash samples from Texas have been reported. These hibernation counts indicate only a potential, however, and the degree of infestation in 1960 will depend largely on weather and other factors that affect the weevils during the winter, spring and early summer of 1960. In addition, spring surveys are normally conducted in the same locations where the fall hibernation surveys were made to determine the percentage of weevils that survive the winter.

The data from the fall collections are tabulated on page 1062. A map is shown on the next page which illustrates the counties in which samples were taken and average number of weevils per acre in the areas involved. In the North Carolina-South Carolina area, only one district is included in this report. The additional districts that are being surveyed in this area will be reported in a later issue of the Cooperative Economic Insect Report.

Details of the Hibernation Survey by States

TEXAS - Woods trash collections were made in McLennan, Falls, Hill and Limestone Counties in central Texas during November, 1959. Three samples were taken from each location and either 6 or 7 locations were sampled in each county. A total of 75 samples were taken from 25 locations in the 4 counties. The average number of weevils found per acre in McLennan, Falls, Hill and Limestone Counties was 9,438, 8,760, 5,227 and 2,710, respectively. The average for the 4-county area was 6,631. Comparative figures are not available for previous years, but observations indicate that weevils in greater than normal numbers were available to enter hibernation this fall. The first freeze was earlier than usual, occurring on November 6. (C. R. Parencia et al.).

MISSOURI - From 10 trash samples collected in northern Dunklin County on November 19, an average of 6,292 weevils per acre were found. This is the first time that weevils have been recovered from trash samples in Missouri. (S. Kyd, G. Thomas, R. Munson).

TENNESSEE - A survey was made in McNairy County this past fall because it usually represents the heaviest weevil infestations in the State. A total of 18 samples were taken. The average number of weevils per acre was 1,882 compared with 1,214 in 1958. This is the highest number of weevils per acre that went into hibernation since the average of 2,365 in 1957 and is a relatively large number of hibernating weevils for this area. Observations of weevil migration into the northern counties of the State were made and after the first of November a large number could be found as far north as Lake County. Weevils in this area do not usually survive the winter, however. (J. H. Locke).

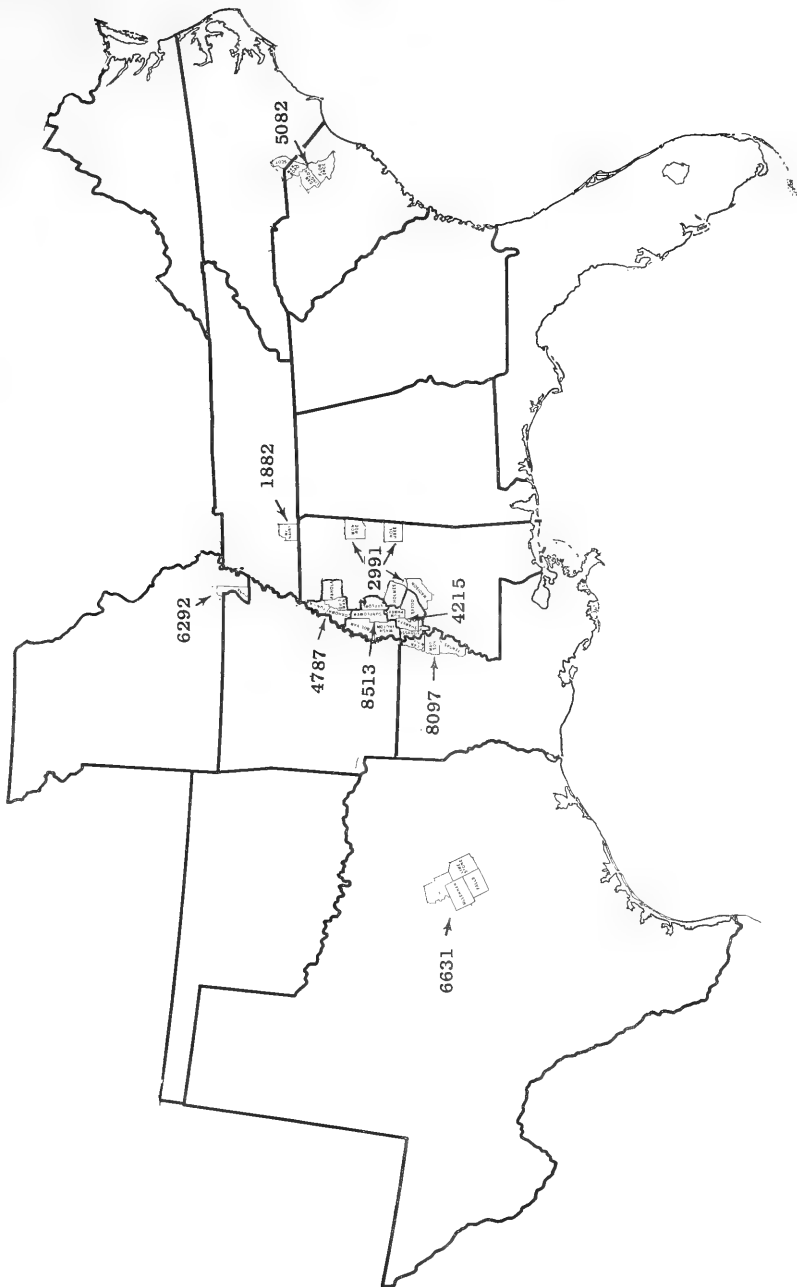
LOUISIANA - Collections of trash samples were made from November 9 through 23 in the northeastern area, composed of Madison, East Carroll and Tensas Parishes. A total of 90 samples were taken at 30 locations in the area. The average number of weevils per acre was 4,923 in Madison Parish, 5,810 in East Carroll Parish and 13,558 in Tensas Parish, with a 3-county area average of 8,097 compared with 5,756 in 1958 and 8,043 in 1957. For the past 24 years similar records have been made in Madison Parish. During this period larger numbers of boll weevils have been found in ground trash in the fall of 1953, 1955, 1957 and 1958 than the 4,923 found in the fall of 1959. (G. L. Smith et al.).

MISSISSIPPI - Collections of trash samples were started on November 9 and completed on November 20. Three samples were taken from each location and either 7 or 8 locations were sampled in each area. A total of 90 samples were taken at 30 locations in 4 areas. The areas surveyed were lower delta (Sharkey, Issaquena, Yazoo and Humphries Counties), central delta (Washington, Bolivar, Sunflower and Leflore Counties), north delta (Coahoma, Tunica, Quitman and Panola Counties) and the hill section (Holmes, Madison, Noxubee and Monroe Counties). The average number of weevils per acre in the lower delta, central delta, north delta and hill section was 4,215, 8,513, 4,787 and 2,991 in 1959 compared with the 1958 averages of 4,242, 4,909, 2,960 and 3,057, respectively. A 1959 State average of 5,127 live weevils per acre was found in trash examinations compared with 3,792 in 1958, 6,715 in 1957 and 2,091 in 1956. (M. E. Merkl et al.).

Fall Surface Trash Examinations for Hibernating Boll Weevils

State	Area or District	Number of Live Weevils Per Acre	
		1958	1959
Texas	Central		6,631
Tennessee	McNairy County	1,214	1,882
Missouri	Dunklin County (northern)		6,292
Louisiana	Northeastern	5,756	8,097
Mississippi	Lower delta	4,242	4,215
	Central delta	4,909	8,513
	North delta	2,960	4,787
	Hill section	3,057	2,991
North and South Carolina	Coastal Plains	4,625	5,082

NUMBER OF HIBERNATING BOLL WEEVILS
in Districts Surveyed - Fall 1959



RECENT INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

Larvae of MEXICAN FRUIT FLY (Anastrepha ludens) 4 times in baggage from Mexico for Florida or California destinations, including 2 interceptions at El Paso on August 22, also one at Nogales on July 31; larvae of ORIENTAL FRUIT FLY (Dacus dorsalis Hendel) in mango in baggage at Honolulu destined for the mainland on June 14; larvae of a FRUIT FLY (Anastrepha sp., possibly dissimilis Stone) in Passiflora in stores from the Dominican Republic at Philadelphia on July 27 (this represents the first interception of Anastrepha from Passiflora from the West Indies aside from Trinidad and also the first association, although indefinite, of A. dissimilis with a host and with port interception records); larvae of MEDITERRANEAN FRUIT FLY (Ceratitis capitata (Wied.)) 18 times from several sources, at Miami, Honolulu and New York; larvae or pupae of EUROPEAN CHERRY FRUIT FLY (Rhagoletis cerasi (L.)) in cherries 10 times from Europe, once at Houston and 9 times at New York; larvae and/or adults of KHAPRA BEETLE (Trogoderma granarium) 10 times, at Baltimore (one in each of stores and cartons of tinned tuna fish), at Philadelphia (one in ship's hold), at Houston (2 in stores), at Honolulu (one in stores) and at New Orleans (2 in stores); WHITE GARDEN SNAIL (Theba pisana (Muller)) 13 times, at Charleston (2 on military cargo), at New Orleans (4 on old and new autos from France and on military cargo from Morocco and France), at New York (one on begonia cuttings and 2 on military cargo from Morocco) and at Norfolk (one on motor cannister cargo from France and 3 on military cargo from Morocco); larva of FALSE or CITRUS CODLING MOTH (Cryptophlebia leucotreta (Meyr.)) in orange in stores from South Africa at Tampa on August 24; larva of a WEEVIL (Premnotrypes sp.) in potato in baggage from Peru at Los Angeles on August 12; larvae of a WEEVIL (Sternochetus sp., possibly frigidus (F.)) in mango in baggage from India at Honolulu on June 13; larva of ASIATIC RICE BORER (Chilo suppressalis (Wlk.)) in packing materials for cargo of strawberries from Japan at Honolulu on April 2; larvae and adult of a PINE GALL WEEVIL (Podapion sp., P. gallicola or P. n. sp.) in pine tree galls in a truck from Mexico at Laredo on June 30; and 2 interceptions of VINE MOTH (Lobesia botrana (Schiff.)) in grapes in baggage from Italy and Sicily, respectively, one at Boston on July 27 and one at New York on August 5. (Plant Quarantine Division).

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COOPERATIVE ECONOMIC INSECT REPORT

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*Carried in Vol. 9 as Laemophloeus ferrugineus. Lefkovich, L. P. 1959. A revision of the European Laemophloeinae (Coleoptera: Cucujidae). Roy. Ent. Soc. London Trans. 111(5):95-118.

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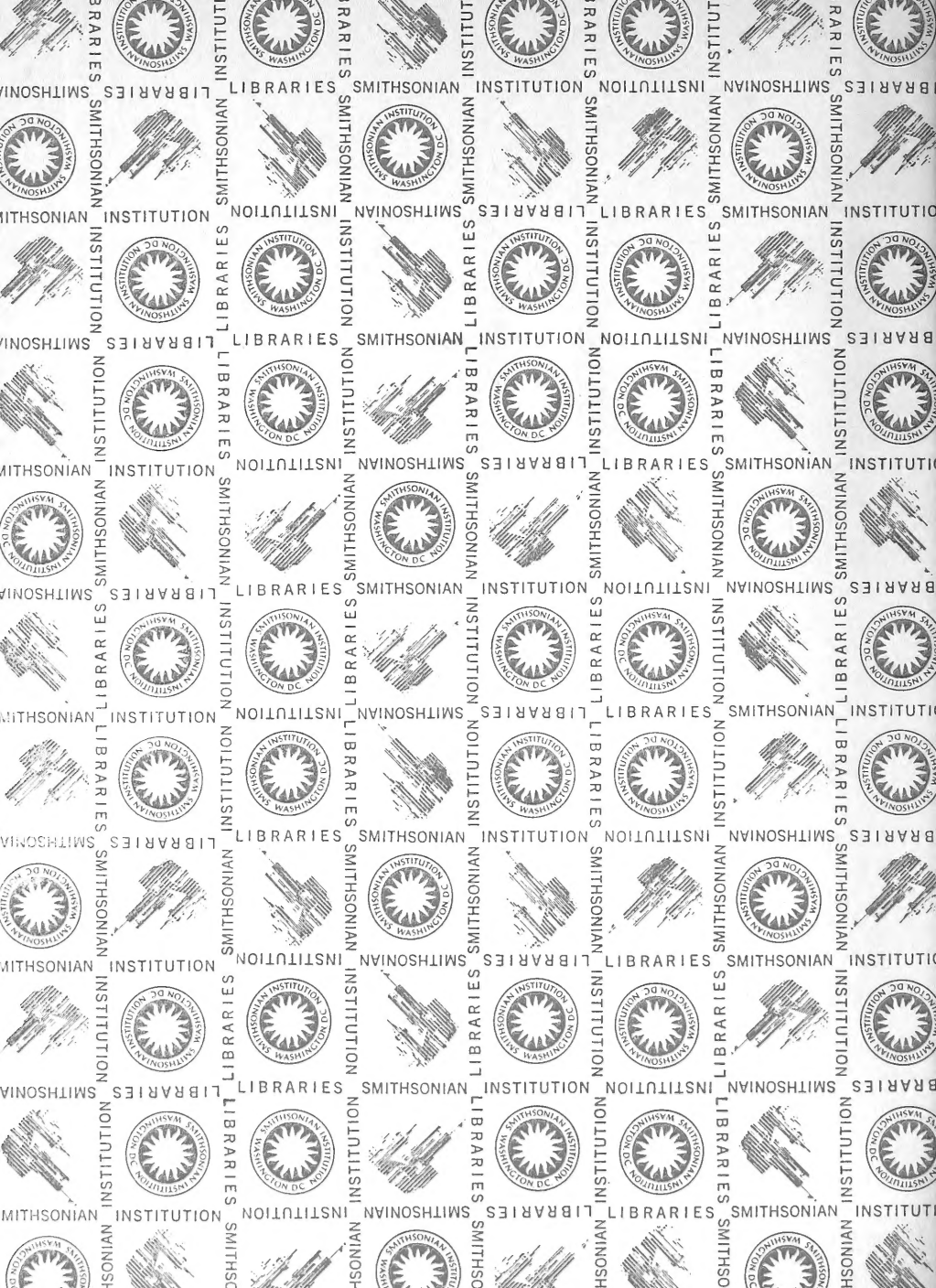
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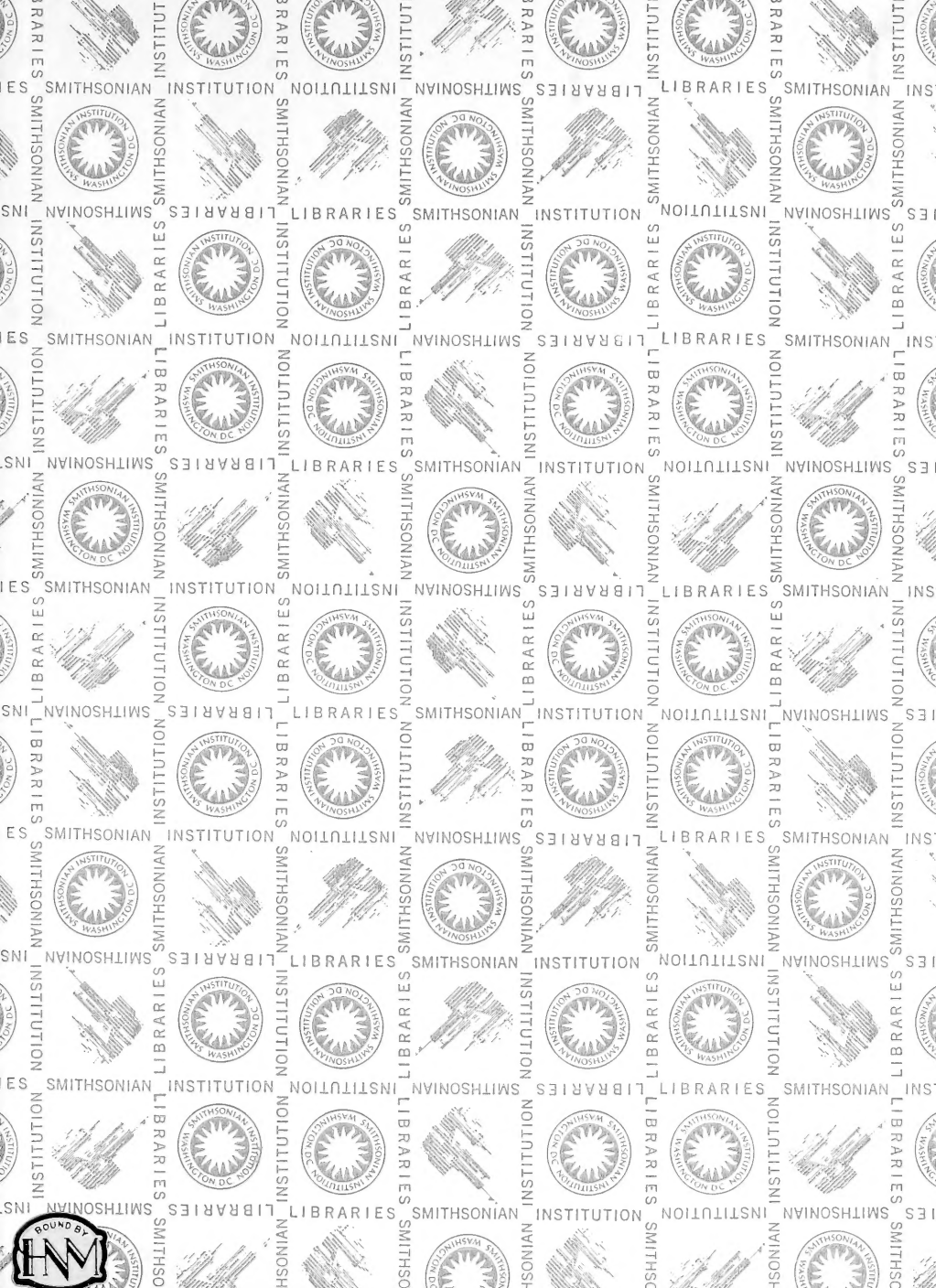
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