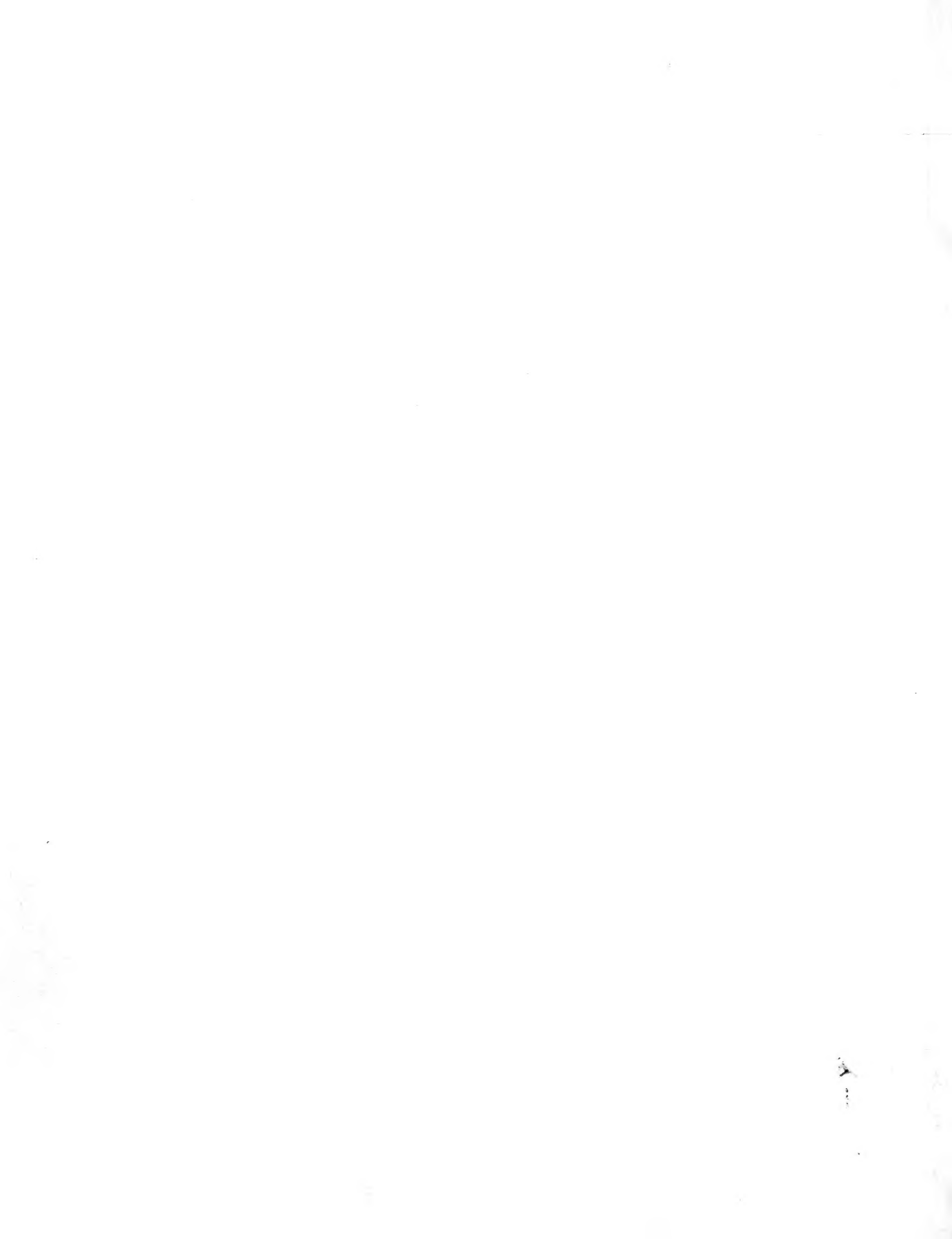


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



91
c78

VOL. 16 No. 35

September 2, 1966



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.

All correspondence pertaining to additions, deletions and changes of addresses for the mailing list for this report should be sent to:

Service Operations Division
Office of Plant and Operations
United States Department of Agriculture
Washington, D. C. 20250

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
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM, FALL ARMYWORM and a CHINCH BUG damaging pastures and forage grasses in Texas. (pp. 855, 858). CORN EARWORM building up on sweet corn on Long Island, New York, abundant in most corn in western Colorado but at lower level than in 1965; adults increasing in Delaware. (p. 855). SPOTTED ALFALFA APHID outbreak in large area of Millard County, Utah, difficult to control; increasing on alfalfa in Arkansas Valley, Colorado. (p. 856).

EUROPEAN CORN BORER second generation moderate to heavy in Illinois, may be increasing in southern part of State; borers more numerous on Eastern Shore of Virginia than for several years and moth flights continue heavy on Eastern Shore of Maryland; moths continue unusually heavy in blacklight traps in Wisconsin. (p. 856). STINK BUGS heavy in grain sorghum in Texas and New Mexico, and SPIDER MITES damaging corn in Colorado and Utah. (p. 858). GREEN CLOVERWORM damaging soybeans in some areas; MEXICAN BEAN BEETLE increasing on same crop in South Carolina. (p. 859).

BOLL WEEVIL population lower than usual in Florence area of South Carolina, but increasing slowly; continues to cause heavy damage to cotton in western Tennessee; infestations high throughout delta area of Mississippi. Boll weevil infestations increasing rapidly in some portions of High Plains area of Texas. (pp. 860, 870). BOLLWORM populations highest observed since 1961 in North Carolina, continue of primary concern on cotton in Kern County, California; also of concern in other cotton-growing areas. (p. 861). COTTON APHID increasing on cotton in New Mexico and California; of concern on commercial watermelons in Oklahoma. (pp. 862, 864). PINK BOLLWORM moth catches increased sharply in California. (p. 871). Adult APPLE MAGGOT flight prolonged in Wisconsin; emergence continues in Michigan. (p. 864).

ELM LEAF BEETLE damage extensive throughout Rolling Plains and High Plains areas of Texas. (p. 866). WESTERN OAK LOOPER damage to native oak in Willamette Valley, Oregon, less than in 1965. (p. 867). MOSQUITO population in Dallas area of Texas drastically reduced by controls. FACE FLY population heaviest in 3 years in Iowa and increasing. HORN FLY a problem on livestock in some areas. STABLE FLY major problem to livestock in Wisconsin. (pp. 876, 868). GRASSHOPPERS economic on 300,000 acres in Oklahoma and large acreages of crop and rangeland in Utah; heavy in areas of South Dakota; damage to crops reported in some locations. (pp. 869, 870).

Detection

For new county records see page 871.

Reports in this issue are for week ending August 26 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance.....855

Insects Affecting

Corn, Sorghum, Sugarcane.....856	Cole Crops.....863
Turf, Pastures, Rangeland.....858	Cucurbits.....864
Forage Legumes.....858	General Vegetables.....864
Soybeans.....859	Deciduous Fruits and Nuts.....864
Peanuts.....860	Small Fruits.....865
Cotton.....860	Ornamentals.....866
Sugar Beets.....863	Forest and Shade Trees.....866
Miscellaneous Field Crops.....863	Man and Animals.....867
Potatoes, Tomatoes, Peppers.....863	Households and Structures.....868
Beans and Peas.....863	Stored Products.....868

Hawaii Insect Report.....862

Beneficial Insects.....869

Federal and State Plant Protection Programs.....869

Insect Detection.....871

Corrections.....871

Light Trap Collections.....872

WEATHER OF THE WEEK ENDING AUGUST 29

HIGHLIGHTS: (1) Cold Central; hot West. (2) Heavy rains Texas and New Mexico.

TEMPERATURE: A continental polar air mass brought pleasant, cool, dry weather to most of the Nation east of the Rockies. Hot, humid conditions ended as low temperature records fell eastward from the Dakotas to Texas. The reading of 38° in Rapid City, South Dakota, on Monday morning and the maximum of 66° in Midland, Texas, on Wednesday set new August records. The week was the coolest since mid-June in Kentucky. It was also the 6th consecutive week of below normal temperatures in Iowa and the 4th consecutive cool week in Nebraska. Negative anomalies greater than 3° were common throughout the central part of the Country; 15° departures were reported in the Texas Panhandle. In the extreme Southwest and the northern Rockies the 6-week hot, dry spell continued unabated. The 97° recorded at Helena, Montana, on Friday was the highest ever this late in the summer season at this city. The desert drought areas did not receive relief from the searing weather, and potential fire hazard remains high.

PRECIPITATION: Heavy rains in Texas and southeastern New Mexico during the early part of the week caused extensive damage. Dell City, Texas, was 90 percent flooded and property and crop damage was in excess of \$4 million. Over \$1 million worth of damage was reported in the Carlsbad area of New Mexico. The extensive flooding

Weather of the week continued on page 871.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (Chorizagrotis auxiliaris) - NEW MEXICO - This species and Trichoplusia ni heavy in young stands of lettuce in Mesilla Valley. Spraying in progress. (N. M. Coop. Rpt.).

ARMYWORM (Pseudaletia unipuncta) - MASSACHUSETTS - Total of 94 moths taken in blacklight trap at East Wareham August 13-19. Peak flight August 16, when 76 moths taken. (Tomlinson). TEXAS - Light, but increasing on grain sorghum, Coastal and Bermuda grass pastures and on lawns in Walker, San Augustine and Madison Counties. Moderate on Coastal Bermuda grass and other pastures near Jasper, Jasper County. (Gaskamp et al.).

BET LEAFHOPPER (Circulifer tenellus) - WYOMING - Curly top symptoms noted in nearly all sugar beet fields of Washakie County. Survey of 10 fields indicated 172 of 1,700 plants affected. Beet leafhopper adults 0-12 per 100 sweeps. (Marks). COLORADO - Ranged 0-5 per 100 sweeps in the Arkansas Valley. (Schweissing). UTAH - Curly top damage to tomatoes moderate in Washington County this season. (Knowlton, Huber).

CORN EARWORM (Heliothis zea) - MASSACHUSETTS - First moths of season trapped at East Wareham August 16. (Tomlinson). NEW YORK - Few adults taken in blacklight trap at Poughkeepsie. Ear infestation 5 percent in unsprayed trial corn harvested at Hurley August 18-19. Building up rapidly in Nassau and Suffolk Counties, 5 moths caught August 17. (N. Y. Wkly. Rpt., Aug. 22). DELAWARE - Adults increasing in blacklight traps in Sussex County. (MacCreary, Davis). MARYLAND - Moths averaged 52 per night in blacklight trap at Centreville, Queen Annes County. (U. Md., Ent. Dept.). VIRGINIA - Most ears checked showed larval feeding damage in tips. Most larvae dropped from plants and pupated. (Isakson). NORTH CAROLINA - Larvae appearing on soybeans in Wayne and Johnston Counties; 0-7 per 25 feet of row in 6 fields examined. Most larvae second and third instar. Single larva found in 6 fields in Washington and Beaufort Counties. Pods beginning to fill in all 12 fields. (Mount). SOUTH CAROLINA - Present on soybeans in all counties. Increasing in Allendale and Lee Counties. (Thomas, Aug. 23). GEORGIA - Infested 9 of 35 soybean fields in Bleckley County. (Lawson). MISSISSIPPI - None found in soybeans in Yazoo and Coahoma Counties. Movement into soybeans expected soon. (Dinkins). TEXAS - Larvae heavy and feeding on soybeans and grain sorghum in Wharton County. (Smith). NEW MEXICO - Heavy damage to entire plants noted in field of corn in southern Dona Ana County. Larvae damaging geraniums in Las Cruces area. (Durkin et al.).

COLORADO - Abundant in most corn fields in western area, but at lower level than 1965. In Arkansas Valley, this species and fall armyworm found in all fields checked, with damage to ear tips on 17 percent of plants. (Bulla, Schweissing). OKLAHOMA - Ranged 0-5 per 10 sweeps in alfalfa in Kay, Pawnee, Noble, Garfield and Grady Counties. Moderate in grain sorghum in Cleveland and Garvin Counties. (Okla. Coop. Sur.). ARKANSAS - Occasional larva found in most of 40-50 fields in Desha, Lincoln and Jefferson Counties. Larvae 0-24 per 30 row feet in 5 soybean fields in Desha County. (Boyer). MISSOURI - Fourth and fifth-stage larvae in few soybean fields in "delta" area of southeast. Highest counts averaged 4 per yard of row in random fields. (Houser, Jones). Moth flights heavy in area. (Keaster, Harrendorf, Jones). WISCONSIN - No larvae yet found, but flight increased; reached sustained flight stage in some instances. (Wis. Ins. Sur.). MICHIGAN - Annual movement from adjacent States imminent. Present cold weather and unfavorable winds apparent reasons migration not occurred to date. (Dowdy).

CORN LEAF APHID (Rhopalosiphum maidis) - WYOMING - Light in corn in Washakie, Big Horn and Park Counties. Ranged 15-150 per tassel, with 10-50 percent of plants infested. Large numbers of predators present in all fields. (Marks). COLORADO - Present in many corn fields in Weld County but kept down by lady beetles. (Boyes). Infesting 50-60 percent of sorghum plants in Arkansas Valley; not at economic levels. (Schweissing). OKLAHOMA - Moderate in late corn in Osage County and in

grain sorghum in Cleveland County. (Okla. Coop. Sur.). MARYLAND - Colonies evident on field corn in most sections; few economic. (U. Md., Ent. Dept.).

PICKLEWORM (Diaphania nitidalis) - GEORGIA - Large larvae heavy on summer squash in Henry County. (Dupree).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Ranged 13-150 per sweep on unprotected alfalfa in Frederick County. Heavy on some lima beans in Prince Georges and Queen Annes Counties. (U. Md., Ent. Dept.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Outbreak in large area about Delta, Millard County, very difficult to control with phosphate insecticides; resistance evidently high. (Knowlton). COLORADO - Trace numbers, 3-10 per 100 sweeps, in alfalfa in Delta, Garfield and Mesa Counties. Increasing in Arkansas Valley; 100-5,000 per 100 sweeps. (Bulla, Schweissing). NEW MEXICO - Generally light throughout State. (N. M. Coop. Rpt.). OKLAHOMA - Light, 10-20 per 10 sweeps, in north central area alfalfa. (Okla. Coop. Sur.). KANSAS - Counts per sweep 4-10 in Rush County, 10 on Hays Branch Experiment Station and 30 elsewhere in Ellis County. (Harvey). Light to moderate in alfalfa in northeast and north central districts. Ranged from zero in some fields in Brown and Atchison Counties to 75 per 10 sweeps in most other areas; occasional field with 150 per 10 sweeps. One field in Pottawatomie County with 500 per 10 sweeps. Some aphids found in most fields. (Simpson). WISCONSIN - Decreased noticeably in western Dane County and northern Iowa County. Attributed to recent severe storms in area. (Wis. Ins. Sur.). INDIANA - Averaged 2 per sweep in Elkhart County. (White).

TOMATO HORNWORM (Manduca quinquemaculata) - UTAH - Damage light to tomatoes and potatoes in Washington County. (Knowlton). COLORADO - Continues in trace numbers in Arkansas Valley. (Schweissing). TEXAS - Larvae heavy on tomatoes near Garden City, Glasscock County. Current controls ineffective. (Werst). NEW YORK - First high infestation observed. (N. Y. Wkly. Rpt., Aug. 22).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - VIRGINIA - Heavy damage noted on field corn in Westmoreland County; most stalks show damage. (Isakson). Borers more numerous on Eastern Shore than for several years. Large numbers appeared after 5 years of relatively low populations. Sweet corn planting at Painter Experiment Station with 23 borers per stalk and 100 percent infestation in ears. Field corn heavily damaged in some areas; many other plants damaged. (Hofmaster). MARYLAND - Moth flights continue heavy on Eastern Shore; averaged 122 per night in blacklight trap in Queen Annes County. (U. Md., Ent. Dept.). NEW YORK - Moth emergence ended in cages in Hudson Valley; moths common in fields, but ear infestations light. (N. Y. Wkly. Rpt., Aug. 22). OHIO - Survey of 23 corn fields in Van Wert County showed approximately 420 borers per acre. Populations light compared with last 2 years. (Barry). MICHIGAN - Adult numbers decreasing at blacklight traps; fully 80 percent females. Egg laying will increase next 10-14 days. (Newman et al.). ILLINOIS - Second generation moderate to heavy in some areas. Populations may be increasing in southern area. (Ins. Sur. Bul.). IOWA - Recent moth flight indicates previous treatment justified. (Iowa Ins. Inf., Aug. 15). WISCONSIN - Moth numbers continue unusually high in blacklight traps. Few fifth-stage larvae of first generation remain. Populations 15 percent fifth stage, 85 percent empty pupal cases in corn examined in Spring Green area. Late sweet corn near Mazomanie with 8-16 percent ear and silk infestation. Larvae first to third stages; apparently prefer ears in which silk drying. (Wis. Ins. Sur.). NORTH DAKOTA - Pupation 8 percent in Cass County; emergence light. (Frye). In Pierce, Towner, Benson, Ramsey, Rolette and Bottineau Counties, up to 215 (average 65) borers per 100 plants; 10-25 percent of plants infested (average 15). (Brandvik). SOUTH DAKOTA - Larvae third to fifth instar. Broods overlapping; some late first-brood larvae present with early second-brood larvae. (Jones). NEBRASKA - Adults numerous in light traps in Saunders County. Larvae in first to fourth instars in eastern area. (Roselle).

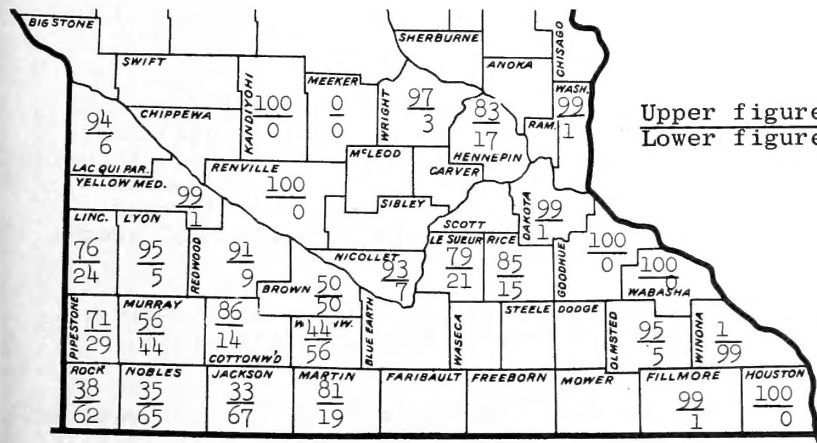
SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - MISSOURI - As high as 90 percent of late planted corn in New Madrid County infested with late summer form larvae. No girdling found. (Houser).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Moderate in terminals and tassels of corn in Osage County. (Okla. Coop. Sur.). NEBRASKA - Larvae light in corn in central area. (Roselle). ILLINOIS - Damage evident in few late-maturing corn fields. (Ins. Sur. Bul.). ARKANSAS - Heavy population feeding in whorls of corn in Jefferson County. Plants beginning to head, larvae moving to heads. (Boyer). GEORGIA - Heavy on corn in Rabun County. (Maney). MARYLAND - Infesting 68 percent of late field corn plants near Mount Airy, Frederick County. (U. Md., Ent. Dept.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - ILLINOIS - Adults present in much corn. No longer concentrating on silks; flying from plant to plant. Occasional late field may show some silk feeding. (Ins. Sur. Bul.). MICHIGAN - Adult numbers, especially around corn silks, increased recently in infested fields. Ranged 3-12 per plant in 4 infested Genessee and Washtenaw County fields August 18. Silk feeding late; pollination losses avoided in all but late silking fields. (Mahaffy, Johnson). MARYLAND - Adults evident on silks and tassels near Woodsboro, Frederick County. (U. Md., Ent. Dept.). MASSACHUSETTS - Large numbers feeding on silks of field corn in Greenfield area, Franklin County. (Wave, Aug. 15).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - MISSOURI - Adults light in corn in Randolph County. This new county record. (Craig). NEBRASKA - Adults moving to late maturing corn. Reduced to less than 2 adults per plant in early corn in eastern area. (Roselle). SOUTH DAKOTA - Adults decreased in corn near Norway Center, Lincoln County; currently 5-20 (average 8) per stalk. (Jones).

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - D. virgifera and D. longicornis taken in adult emergence traps in soil in corn fields south of Canton, Lincoln County, and north of Madison, Lake County. (Jones). NORTH DAKOTA - D. undecimpunctata howardi adults 25 per 100 sweeps in alfalfa in Sargent County. Trace numbers in corn and alfalfa in Richland and Ransom Counties. (Brandvik). MINNESOTA - Survey indicated some change in percentage of adults present in counties surveyed. Western species (D. virgifera) decreased sharply in 1965, being less abundant than northern species (D. longicornis). Western species increased in several counties in 1966. Overall, northern species still predominant in State. Adult survey conducted on random basis, therefore some individual fields not included. Western species present in all fields surveyed past 2 years. Accompanying map shows percent northern and western corn rootworms found in 1966 survey. (Minn. Ins. Rpt.).



Upper figure = northern corn rootworm
 Lower figure = western corn rootworm

CHINCH BUG (Blissus leucopterus) - TEXAS - Moderate on grain sorghum near Roaring Spring, Motley County; heaviest on old grain in dough stage and probably beyond economic damage. Damage to hybrid Sudan and other grass hay crops heavy in Falls County. Some spraying underway. (Wood, Pallmayer).

A FALSE CHINCH BUG (Nysius sp.) - NEW MEXICO - Some spraying on grain sorghum in progress in Luna County. (N. M. Coop. Rpt.). Light, spotted infestations noted on sorghum in Quay County. (Durkin).

STINK BUGS (Chlorochroa spp.) - NEW MEXICO - Spotted, medium to heavy populations of C. ligata and C. sayi noted on grain sorghum in Quay County. (Durkin). TEXAS - C. ligata light to very heavy in most grain sorghum in South Plains and Panhandle areas. (Rummel).

SPIDER MITES - IOWA - Present on corn in dryer areas. (Iowa Ins. Inf., Aug. 15). COLORADO - Tetranychus spp. populations show considerable variation on corn throughout State. In western area, light to moderate with occasional injury; in Arkansas Valley damage severe in untreated fields. Continue active in Weld County. (Bulla, Schweissing, Boyes). UTAH - Unspecified species moderately damaging corn in Duchesne-Roosevelt area of Duchesne County; damage severe in Salt Lake County. (Knowlton). CALIFORNIA - Oligonychus sp. and Tetranychus sp. heavy on milo in Lemoore, Kings County. (Cal. Coop. Rpt.).

TURF, PASTURES, RANGELAND

A CHINCH BUG (Blissus insularis) - TEXAS - Heavily damaged St. Augustine grass lawns in much of coastal, east and central areas. Damage in College Station area, Brazos County, as high as 75-80 percent dead grass. Most extensive damage began August 1, continued to date. Economic losses reported in Jefferson, Falls, Montgomery, Orange, Angelina, Jasper and Brazos Counties. Populations and damage appear higher than in previous years. (Straughan et al.).

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Heavy, spotty damage to pastures and forage crops near Shepherd, San Jacinto County. Pastures near Lufkin, Angelina County, have damaged spots up to 10-15 acres. (Jackson, Walla).

SOD WEBWORMS - GEORGIA - Heavy on lawn grass in Pickens County. (Norris). IOWA - Adults currently numerous. Brown, patchy areas on lawns due to previous larval infestations, probably these pests. (Iowa Ins. Inf., Aug. 15). NEBRASKA - Crambus sp. caused moderate to severe injury to bluegrass lawns in eastern area. (Roselle).

RED HARVESTER ANT (Pogonomyrmex barbatus) - TEXAS - New swarms heavy in Tarrant and Milam Counties. (Baily, Greenway).

FORAGE LEGUMES

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Adults abundant over most alfalfa in State. (N. M. Coop. Rpt.). COLORADO - Larvae abundant in alfalfa in Delta and Mesa Counties, range 30-50 per 100 sweeps. Arkansas Valley counts 0-100 per 100 sweeps. (Bulla, Schweissing). WYOMING - Larvae 0-4 per 10 sweeps in alfalfa in Washakie, Big Horn and Park Counties. Adults numerous in all areas. (Marks). KANSAS - Present in most alfalfa in northeast and north central areas; 2-10 per 10 sweeps. (Simpson).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Heavy in alfalfa in Hanford, Kings County; medium in 60 acres of cowpeas in Sanger, Fresno County. (Cal. Coop. Rpt.).

WEBWORMS (Loxostege spp.) - KANSAS - Larvae very light in alfalfa in northeast and north central areas; less than 3 per 10 sweeps. Adult counts still high in many fields. (Simpson). OKLAHOMA - Loxostege sp. 20 per 10 sweeps in alfalfa in Grady County; 1-4 per 10 sweeps in north central area. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - WYOMING - Small numbers of larvae continue in alfalfa in Washakie, Big Horn and Park Counties. Larvae 1-12 and adults 8-15 per 10 sweeps. (Marks).

PEA APHID (Acyrtosiphon pisum) - COLORADO - Populations continue high in alfalfa in Prowers, Bent, Otero, Crowley and Pueblo Counties; 200-5,000 per 100 sweeps. (Schweissing). WYOMING - Light in alfalfa in Washakie, Big Horn and Park Counties. Adults and nymphs 35-45 per 10 sweeps. (Marks).

COWPEA APHID (Aphis craccivora) - CALIFORNIA - Adults medium on 20 acres of cowpeas in Kingsburg, Fresno County. (Cal. Coop. Rpt.).

PLANT BUGS - KANSAS - Adelphocoris lineolatus light in most areas of northeast; 5-20 per 10 sweeps. Less than 2 per 10 sweeps in north central area. (Simpson). INDIANA - A. lineolatus adults and nymphs 2-7 per sweep in northern half of State. Lygus lineolaris adults 4-7 per sweep in northern counties. (White).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Averaged 13 per 10 sweeps in Grady County alfalfa; 0-6 per 10 sweeps in north central area. (Okla. Coop. Sur.).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Feeding heavily on soybeans in southern New Castle County. (MacCreary, Davis). VIRGINIA - Most common insect in soybeans in King George, Westmoreland, Northumberland, Richmond, and Lancaster Counties. Averaged 1-3 larvae per row foot. (Isakson). SOUTH CAROLINA - Increased on soybeans in Sumter, Allendale and Darlington Counties. (Thomas, Aug. 23). ARKANSAS - Generally low in soybeans in Desha, Lincoln and Jefferson Counties; 166 larvae found on 30 row feet of very late beans 15-18 inches high in Desha County field, with 30 percent of foliage destroyed. (Boyer). MISSOURI - Larvae in all stages of development averaging 4-8 per yard of row in soybeans in northeast and north central districts. Defoliation up to 20 percent. (Thomas). Larvae averaged 2 full-grown forms and 4 early instar forms per yard of row in soybeans in southeast "delta" area; leaf feeding light. (Houser). IOWA - Damaging soybeans in Page, Polk and Wapello Counties. Light to moderate, few fields need treatment. (Iowa Ins. Inf., Aug. 15). ILLINOIS - Abundant in western and northwestern area soybean fields; destroying leaves. (Ins. Sur. Bul.).

CABBAGE LOOPER (Trichoplusia ni) - ARKANSAS - Larval numbers low in most soybeans. (Boyer). KANSAS - Few noted on soybeans in Atchison, Brown, Doniphan, Nemaha, Labette, Cherokee and Crawford Counties. (Wilde, Simpson).

LOOPERS - SOUTH CAROLINA - Reported on soybeans from all counties. Increased in Allendale, Darlington, Lee, Edgefield, Florence, Chesterfield and Clarendon Counties; decreasing in Sumter, Marion and Dillon Counties. (Thomas, Aug. 23).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - SOUTH CAROLINA - Appearing on soybeans in few coastal counties. First observed in Beaufort County August 16. (Thomas, Aug. 23). GEORGIA - Infesting soybeans in 8 of 35 fields in Bleckley County. (Lawson).

ALFALFA WEBWORM (Loxostege commixtalis) - ILLINOIS - Larvae still found on soybean fields. (Ins. Sur. Bul.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Present on soybeans in all counties. Increased populations noted in Allendale, Darlington, Lee, Florence, Dillon and Marion Counties. (Thomas, Aug. 23). VIRGINIA - Adults very light in most soybeans in King George, Westmoreland, Northumberland, Richmond and Lancaster Counties. (Isakson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ARKANSAS - Low numbers present in most soybeans in Desha, Lincoln and Jefferson Counties. (Boyer). VIRGINIA - Present in few soybean fields in King George, Westmoreland, Northumberland, Richmond and Lancaster Counties. (Isakson).

STINK BUGS - NORTH CAROLINA - Several species relatively low in soybeans in Johnston County. Ranged 0-11 (average 2.9) per 25 row feet in 12 fields. (Mount). SOUTH CAROLINA - Reported on soybeans from all counties; buildup noted in Marion County. (Thomas, Aug. 23). KANSAS - Acrosternum hilare averaged 1 adult per foot of row on soybeans in Crawford, Labette and Cherokee Counties. Many feeding on pods. Eggs and new nymphs in many fields. (Wilde).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARKANSAS - Numbers low in soybeans in Desha, Lincoln and Jefferson Counties. Nymphs now girdling leaf petioles of older plants. (Boyer).

SPIDER MITES - IOWA - Present on soybeans in dryer areas of State. (Iowa Ins. Inf., Aug. 15). MARYLAND - Tetranychus telarius found on soybeans at Manokin, Somerset County. (U. Md., Ent. Dept.).

PEANUTS

RED-NECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Moderate numbers damaging peanuts in Marshall County. Some fields sprayed. (Okla. Coop. Sur.).

CUTWORMS - GEORGIA - Light to moderate in 12 of 15 fields of peanuts in Bleckley County. (Lawson).

COTTON

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Infestations remain lower than normal in Florence area although numbers increasing slowly. Adults 0-2 per 100 squares in treated plots, 4-21 in untreated plots. Percent larval infestation, 0.4-9 in treated plots, 43-51 in untreated plots. (Taft et al., Aug. 24). TENNESSEE - Continues to cause heavy damage in regularly infested portion of State. Very severe on late planted cotton. Counts 20-100 percent punctured squares; average 72 percent for treated and untreated fields. Migration continues to those counties not previously known to support infestations. In fields where squares scarce, heavy damage to bolls occurring. Increase will continue. (Locke). GEORGIA - Percent punctured squares 1-15 in 3 treated fields in Putnam County, infestations in Spalding County increased (Beckham); percent punctured squares 1-25 in 59 fields, average 10 percent, in Bleckley County (Lawson). MISSISSIPPI - Punctured squares found in 21 of 23 fields in delta counties. Infestation averaged 12.7 percent (maximum 69). Higher infestations mostly where cotton "quitting" and squares scarce. (Pfrimmer et al., Aug. 25). Infestations remain high in most counties throughout delta region. Pontotoc County cotton subjected to heavy pressure by many fields in county terminating. "Hatch out" heavy in Marshall County; infestations as high as 70 percent. Infestation heavy in De Soto County, up to 40 percent; however, many fields terminating production of squares. (Dinkins). LOUISIANA - Weevils 0.6 per 100 squares in 178 fields checked in Madison Parish; 1-15 per 100 squares in 66 infested fields. Punctured squares averaged 15 percent in these fields, ranged 1-61 percent. (Cleveland et al., Aug. 25). ARKANSAS - Present in 89 percent of 5,406 fields checked; 33 percent of infestations above recommended treatment level, compared with 36 percent previous week. (Barnes, Boyer). OKLAHOMA - Moderate to heavy in cotton in Garvin County and moderate in Marshall County. (Okla. Coop. Sur.).

For Boll Weevil in High Plains area of Texas see page 870.

BOLLWORMS (*Heliothis* spp.) - NORTH CAROLINA - Populations highest observed since 1961. Problem in all cotton-growing areas of State. Ranged from 1-2 percent to as high as 60 percent square and boll infestation in Scotland County field. Infestations difficult to control with some materials, particularly in Robeson and Scotland County areas. (Robertson). **SOUTH CAROLINA** - Heavy damage seen in many fields in Florence area. Protection must be maintained until bolls sufficiently hard to prevent damage. Percent larval infestation 0.1-11 in treated plots, 3 in untreated plots. Total of 478 *H. zea* and 33 *H. virescens* adults taken in light trap. (Taft et al., Aug. 24). **TENNESSEE** - Heaviest in boll weevil treated area but present throughout western area. Eggs or larvae 1-17 per 100 terminals. Nearly all fields surveyed found infested. Egg laying increased considerably. Much damage will result if controls not applied, especially in late cotton. (Locke). **GEORGIA** - Percent damaged squares 6-15 in 3 treated fields, heavy damage to bolls in Putnam County (Beckham); egg and larval counts much lower than previous week in Bleckley County (Lawson). **MISSISSIPPI** - Injured squares found in 12 of 23 fields in delta counties. Percent injury averaged 1.7 (maximum 5). Eggs found in terminals of 16 fields; averaged 3.9 per 100 terminals. Moth flight increased at all locations. (Pfrimmer et al., Aug. 25). Extremely high egg counts and light numbers of *H. zea* and *H. virescens* larvae found throughout southern delta region. Eggs 10-100 per 100 terminals. "Hatch out" expected in area by middle of week. Egg counts and percent damage by county as follows: Pontotoc 10-20 eggs per 100 terminals, 2-5 percent damage; Marshall 5-15 eggs, 3-7 percent damage, with approximately 33 percent of live larvae *H. virescens*, 66 percent *H. zea*; De Soto, 0-5 eggs, 0-3 percent damage; Tunica 5-15 eggs, few big larvae; Coahoma 10-20 eggs, 5-7 percent damage; Tallahatchie 5-15 eggs, 5-10 percent damage; Panola 10-25 eggs, 5-10 percent damage; Yazoo 30-40 eggs, 3-12 percent damage. (Dinkins).

LOUISIANA - Percent damaged squares 1-9 in 139 of 178 fields in Madison Parish; averaged 1.8 per 100 squares. Larvae 0.4 per 100 squares; ranged 1-4 in 55 infested fields. Total of 129 *H. zea* and no *H. virescens* collected in light trap. (Cleveland et al., Aug. 25). **ARKANSAS** - *H. zea* present in 74 percent of 5,406 fields; 9 percent of infestations above recommended treatment level, compared with 12 percent previous week. Controls applied to 3,921 fields. Low percentage of fields with infestations above treatment level indicated good control results. (Barnes, Boyer). **MISSOURI** - Larvae 1-18 and eggs 0-34 per 100 plants in 65 percent of 649 fields scouted in southeastern "delta" area. Treatments applied to 1,576 acres in 45 fields. (Jones). **NEW MEXICO** - *H. zea* remains generally light to medium in all cotton-growing areas of State. Some fields require treatment in all areas. (N. M. Coop. Rpt.). **CALIFORNIA** - Bollworms continue primary concern of most growers and field men in Kern County; increasing throughout county. In some fields, decrease in high populations accomplished with repeated applications of phosphate insecticides but in most cases populations build back up when treatment discontinued. Generally, fields not sprayed in past month in better condition than those treated. Many eggs being found on pink and dry blooms. (Black, Aug. 19).

CABBAGE LOOPER (*Trichoplusia* ni) - **TENNESSEE** - Light in cotton over western area; damage very light. (Locke). **MISSISSIPPI** - Moth flight continues in delta counties. Scattered "ragging" of foliage noted in most fields but no serious infestations observed. (Pfrimmer et al., Aug. 25). Increasing in Yazoo County cotton. Leaf damage moderate in some fields. (Dinkins). **CALIFORNIA** - Populations unchanged in Kern County cotton but should be watched for rapid buildup. (Black, Aug. 24).

PLANT BUGS - TENNESSEE - *Lygus lineolaris* and *Adelphocoris rapidus* continue to cause some light damage to late cotton over western area. (Locke). **MISSOURI** - Plant bug adults and nymphs 1-38 per 100 terminals in 86 percent of 649 fields scouted. (Jones). **LOUISIANA** - No *Psallus seriatus* and only 4 *L. lineolaris* (2 in each of 2 fields) found in 69 fields in Madison Parish. (Cleveland et al., Aug. 25). **CALIFORNIA** - *Lygus* spp. numbers continue high in Kern County cotton; 10-20 per 50 sweeps common. Counts higher in some fields. (Black, Aug. 19).

COTTON APHID (Aphis gossypii) - NEW MEXICO - Increasing on cotton in Dona Ana County; some honeydew evident in some fields. (Garcia, Campbell). CALIFORNIA - Present in many Kern County fields; building up in some Buttonwillow area fields. Bolls opening; pest should be watched closely. (Black, Aug. 24).

SPIDER MITES (Tetranychus spp.) - TENNESSEE - No increase noted in western area, but infestations remain numerous. (Locke). MISSISSIPPI - Continue to pose problem in some fields in delta counties. Reported heavy in 5 of 23 fields. (Pfrimmer et al., Aug. 25). Tetranychus urticae light in many fields in Tallahatchie County. (Dinkins). MISSOURI - Mainly T. atlanticus present in 3 percent of 649 fields scouted. (Jones). CALIFORNIA - Spider mites under control in most Kern County fields. Should be of no great concern remainder of season. (Black, Aug. 19).

HAWAII INSECT REPORT

Insects of Regional Significance - MELON FLY (Dacus cucurbitae) adults generally light to medium in gardens in Lanai City, Lanai; readily seen in and about squash, tomato, watermelon, string bean and eggplant plantings. (Gaddis).

Fruits and Nuts - A MEALYBUG (Pseudococcus obscurus) - Although medium in few scattered areas, population generally reduced to very low level in 200-acre passion-fruit orchard in Kahului, Maui. All stages of a LADY BEETLE (Cryptolaemus montrouzieri) increased noticeably in orchard. (Miyahira). FULLER ROSE BEETLE (Pantomorus godmani) caused conspicuous foliar damage on young plum trees in Puako, Hawaii Island; defoliation near 100 percent. (Fukumura, Oshiro).

Ornamentals - Adults of an ANTHRIBID BEETLE (Araecorynus cumingi) heavy in pods of Canavalia cathartica (mauna-loa) in Lawai, Kauai; 100 percent of pods infested. (Au). FULLER ROSE BEETLE adults caused heavy foliar damage on Dracaena spp., Metrosideros collina (ohia-lehua), camellias, gardenias and wild olives in Waimea, Hawaii Island. Terminal growth of Dracaena and ohia-lehua completely denuded. (Oshiro, Fukumura).

Forest and Shade Trees - A PLATYPODID BEETLE (Platypus sp.) caused additional damage to monkeypod trees in Poipu, Kauai. Many dead adults "encased" in fresh exudations observed. Following heavy attack by this borer in Lihue, small dying monkeypod branches heavily infested by a SCOLYTID BEETLE (Xyleborus fornicatus). (Au). Adults of a SCARAB (Protaetia fusca) heavy on blossoms of Casuarina equisetifolia (common ironwood) in Puako, Hawaii Island; up to 6 on single flower cluster. (Fukumura, Oshiro).

Beneficial Insects - A PUNCTURE-VINE STEM WEEVIL (Microlarinus lypriformis) heavy in stems of Tribulus cistoides (nohu) in Kamiloloa, Molokai, and in Maunalei, Lanai. Few pupae and numerous emergence holes noted. No releases made on Molokai and Lanai. (Nakao). Range of an ARCTIID MOTH (Selca brunella) extended on eastern end of Hawaii Island. Results of heavy foliar feeding by larvae observed on few Melastoma plants along roadside at 24 miles, Volcano Road, Hawaii Island, at 2,700 feet. This also highest elevation where Melastoma growth and S. brunella larval activity noted. Heavy larval activity noted on Tibouchina semidecandra (glory-bush), another weed pest, on both sides of road for distance of approximately 2 miles in Mountain View, Hawaii Island. (Kami). A GORSE SEED WEEVIL (Apion ulicis) moderately active on Ulex europaeus (gorse) in Olinda Forest Reserve, Maui; infested 28 percent of 125 seed pods examined. In another area where chemicals used for gorse control, infested only 1 of 200 seed pods examined. (Miyahira). A TEPHRITID FLY (Acinia picturata) very active on Pluchea odorata (sourbush) in Kahului, Kihei, Puunene and Waiehu, Maui. Random sampling of 100 flower heads from each area showed following percent infestation: Kahului 100, Kihei 94, Puunene 97, Waiehu 95. (Miyahira).

SUGAR BEETS

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - WYOMING - Small numbers present in all sugar beet fields of Washakie County. Averaged 1-2 percent of plants affected. (Marks).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - NORTH DAKOTA - Larvae and pupae of this species and Phalonia hospes 6 per head in sunflowers in Cass County. Emergence light. (Brandvik).

POTATOES, TOMATOES, PEPPERS

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - This species and pea aphid heavy in tomato plantings in Eureka, Humboldt County. (Cal. Coop. Rpt.).

POTATO APHID (Macrosiphum euphorbiae) - COLORADO - Continues increase on lower leaves of potato plants in San Luis Valley. (Jenkins).

Aphids on Potatoes in Maine - Populations of Aphis nasturtii, Myzus persicae, Macrosiphum euphorbiae and Acyrtosiphon solani continued to decline on untreated potato foliage in northeast area due to entomogenous fungi; rate of decline at Presque Isle slowed by dry weather. Populations small in Lee, Houlton and Presque Isle districts. Fall migration of Aphis nasturtii began about August 15, usual time. (Shands et al.).

BLACK CUTWORM (Agrotis ipsilon) - MARYLAND - Larvae causing an increasing amount of injury to tubers dug near Pocomoke, Somerset County. (U. Md., Ent. Dept.). MICHIGAN - Reported feeding on potato foliage and tubers below ground level. Apparently tuber feeding due to lack of moisture. (Reath, Newman).

TOMATO FRUITWORM (Heliothis zea) - COLORADO - Light in Mesa County tomato fields to date, harvest underway. No eggs found on plants in Arkansas Valley. (Bulla, Schweissing). UTAH - Damage to tomato fruits light in most areas. (Knowlton).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - KANSAS - Moderate on snap beans in Riley County. This new County record. (Eshbaugh). MARYLAND - Heavy on garden lima beans in Prince Georges and Queen Annes Counties. (U. Md., Ent. Dept). DELAWARE - Feeding injury on both snap and lima beans in southern New Castle County. (MacCreary, Davis).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Heavy on southern peas in Bulloch County. (Underwood).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Heavy on collards in Oconee County. (Brannen). DELAWARE - Averaged 3 per plant in field in Kent County. (MacCreary, Davis). NEW YORK - Real problem in some fields in Orleans and Genessee Counties. (N.Y. Wkly. Rpt., Aug. 22). MICHIGAN - Additional moths trapped in blacklight traps as far north as Gratiot County. According to surveys annual problems associated with this species expected soon as far north as Saginaw County. (Newman, et al.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - At very high levels in most fields in Orleans and Genessee Counties. (N.Y. Wkly. Rpt., Aug. 22).

A WEEVIL (Ceutorhynchus sp.) - CALIFORNIA - Adults medium on 100 acres of Brussels sprouts in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.)

CUCURBITS

MELON APHID (Aphis gossypii) - OKLAHOMA - Infestations causing concern to commercial watermelon growers, especially in Cleo Springs area, Major County. Heavy on watermelon plants in Noble County. (Okla. Coop. Sur.).

SQUASH BUG (Anasa tristis) - DELAWARE - Common on squash in southern New Castle County. (MacCreary, Davis).

GENERAL VEGETABLES

CABBAGE LOOPER (Trichoplusia ni) - COLORADO - Low numbers, 0-50 per plant, on lettuce in Arkansas Valley. (Schweissing). Appearing in Weld and Adams Counties. (Schweissing, Counter).

ONION THRIP (Thrips tabaci) - COLORADO - Low on onions in Arkansas Valley; 0-40 per plant. (Schweissing).

APHIDS - COLORADO - Range 0-10 per plant on lettuce in Arkansas Valley fields. Populations on weeds in fields 0-30 per leaf. (Schweissing).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Carpocapsa pomonella) - MARYLAND - Heavy in unsprayed apples at Hancock, Washington County. (U. Md., Ent. Dept.).

UNICORN CATERPILLAR (Schizura unicornis) - TENNESSEE - Feeding on apple leaves in McMinn County August 10. (Williams et al.).

PEACH TREE BORER (Sanninoidea exitiosa) - GEORGIA - Heavy on peach trees in Bartow County. (Holland). TEXAS - Moderate in peach trees near Groveton, Trinity County; 1-2 per tree on two-year-old trees. (Lange).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Probably this species infesting 1 percent of prunes in Polk County orchards. (Brown). TEXAS - Heavy in peaches and plums near Sweetwater, Nolan County. (Templeton).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - COLORADO - Moth flight heavy August 14-20; 717 moths taken in 15 bait traps on 3 properties in Palisade area, Mesa County. As high as 170 taken in 15 traps in 1 day; flight continued at high levels. Controls recommended. (Anderson, Merlino).

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Adult flight prolonged. Some treatment underway in Gays Mills area. In Door County, 168 flies caught on 8 sticky boards August 15-22. (Wis. Ins. Sur.). MICHIGAN - Emergence continues, especially in lower southwestern and southeastern area orchards. Emergence very low in Oakland County. (Wooley, Carpenter, Lincoln).

ORCHARD MITES - NEW YORK - Active on apples in Columbia County; continue most important problem on fruit in Niagara County. (N. Y. Wkly. Rpt., Aug. 22). MARYLAND - Panonychus ulmi very prevalent in some orchards in Carroll and Washington Counties. (U. Md., Ent. Dept.). MICHIGAN - P. ulmi control problem in isolated southern orchards. (Wooley, Carpenter). COLORADO - Aculus cornutus light in most peach orchards in Mesa County; occasional controls used. (Bulla).

PEAR-SLUG (Caliroa cerasi) - WISCONSIN - Large larvae of second generation causing noticeable damage to pear and cherry foliage in Middleton. (Wis. Ins. Sur.).

PEAR PSYLLA (Psylla pyricola) - OREGON - Heavy in poorly treated pear orchards in Polk County. (Brown).

WALNUT CATERPILLAR (Datana integerrima) - WISCONSIN - Scattered walnut trees in western counties completely defoliated. (Wis. Ins. Sur.). OHIO - Larvae appear more common this year on walnut foliage in Delaware and Franklin Counties. Some severely defoliated trees noted. Larvae currently late stage. (Galford).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Heavily damaged pecans in Eastland County this season. (Cooper).

FALL WEBWORM (Hyphantria cunea) - OREGON - Web masses in walnuts scattered and light throughout Willamette Valley. (Larson).

PECAN WEEVIL (Curculio caryae) - GEORGIA - Total of 63 adults jarred from large pecan tree in Schley County, 0-12 from 9 other trees in Randolph County. (Osburn). OKLAHOMA - Emerging but light in Marshall County. (Okla. Coop. Sur.).

A WALNUT HUSK FLY (Rhagoletis suavis) - MICHIGAN - Adult catches sharply reduced in Frick traps in many English and Carpathian walnut plantations. (Newman et al.).

A LONCHAEID FLY (Lonchaea sp.) - CALIFORNIA - Larvae medium in walnut husks in Redding, Shasta County. This scavenger periodically becomes problem in nut husks and some tree fruits. (Cal. Coop. Rpt.).

SMALL FRUITS

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Moths continue more active than usual for this late in season. Eggs being laid on late berries. (Tomlinson). WISCONSIN - Few full-grown larvae feeding lightly on cranberries near Three Lakes, Oneida County. (Wis. Ins. Sur.).

GRAPE BERRY MOTH (Paralobesia viteana) - UTAH - Damage especially serious this season in some Washington County vineyards. (Huber, Knowlton).

A LEAF ROLLER MOTH (Sparganothis sulfurana) - MASSACHUSETTS - Larvae damaging cranberries in 2 Wareham bogs. (Tomlinson, Aug. 19).

RASPBERRY CROWN BORER (Bembecia marginata) - TENNESSEE - Pupae found in raspberry stems in Knox County. (Williams et al.).

RED-NECKED CANE BORER (Agrilus ruficollis) - WISCONSIN - Probably this species damaging raspberry canes in Ashland County. (Wis. Ins. Sur.).

A SAP BEETLE (Glischrochilus fasciatus) - MICHIGAN - Causing problem on raspberries in many growing areas in southern counties. In some areas controls indicated. (Wooley, Carpenter).

WEEVILS - OREGON - Sciopithes obscurus moving into spring planted strawberry fields of Columbia and Washington Counties; considerable foliage damage evident. Nemocestes spp. and Trachyploeus spp. still active in strawberry fields in same counties. (Every).

SPIDER MITES (Tetranychus spp.) - NEW JERSEY - Building up again in strawberries. (Ins.-Dis. Newsltr.).

ORNAMENTALS

PAINTED LADY (Vanessa cardui) - NEW MEXICO - Larvae abundant on chrysanthemum in Las Cruces area, Dona Ana County. (Durkin).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - NEW MEXICO - Heavily skeletonized leaves of Boston ivy in Las Cruces, Dona Ana County. (Durkin).

FLEA BEETLES - MINNESOTA - Heavy and causing considerable damage in large field of dahlias in Rosemount and Lakeville area. (Minn. Ins. Rpt.).

A COREID BUG (Euthochtha galeator) - TENNESSEE - Nymphs infesting roses in Cumberland County August 10. (Williams et al.).

A LEAF-FOOTED BUG (Leptoglossus sp.) - NEW MEXICO - Moderately heavy on ornamental junipers in Bernalillo County. (Heninger).

HEMISPHERICAL SCALE (Saissetia coffeae) - CALIFORNIA - Heavy on fern nursery stock in Encinitas, San Diego County. (Cal. Coop. Rpt.).

A LACE BUG (Corythucha incurvata) - CALIFORNIA - Heavy on California holly along highway in Placerville, El Dorado County. (Cal. Coop. Rpt.).

SPIDER MITES - IOWA - Injury to ornamentals and gardens increased due to dry conditions. (Iowa Ins. Inf., Aug. 22). NEW MEXICO - Generally light to medium on Arizona cypress and ornamental junipers in Albuquerque area. (Heninger).

FOREST AND SHADE TREES

WHITE-PINE WEEVIL (Pissodes strobi) - RHODE ISLAND - Infested leaders from Kingston area contained pupae, adults and very few larvae. (Mathewson).

AN OLETHREUTID MOTH (Eucosma gloriola) - MICHIGAN - Caused considerable lateral shoot damage in Cadillac area, especially in Scotch pine plantations. (Wallner, Newman).

EASTERN SPRUCE GALL APHID (Adelges abietis) - MICHIGAN - Emerging from galls in Cadillac area. (Wooley, Wallner).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Heavy populations present in Upton and Garza Counties. Damage remains extensive throughout Rolling Plains and High Plains area. (Conner, Day, Boring). NEVADA - New infested area found in west Las Vegas, Clark County, during July, 6 miles from original area infested in 1965. Survey continues negative in 1965 area of infestation. Infestation found in Henderson, Clark County, for second locality record in this county. (Weiland, Zoller). CALIFORNIA - This leaf beetle and larvae of mourning-cloak butterfly locally heavy on elm in Santa Cruz, Santa Cruz County, and heavy in Morgan Hill, Santa Clara County. (Cal. Coop. Rpt.).

LARGER ELM LEAF BEETLE (Monocesta coryli) - GEORGIA - Heavy on elm in Pike County. (Beckham).

FALL WEBWORM (Hyphantria cunea) - DELAWARE - Common on roadside trees in most areas of State. (MacCreary, Davis). MARYLAND - Very conspicuous on some roadside deciduous trees in Queen Annes County. (U. Md., Ent. Dept.). OHIO - Heavy on wild cherry in Ashland County; up to 6 colonies per tree. Larvae 0.75-1.25 inches long. Foliage damage of little consequence. (Rose). INDIANA - Heavy in extreme northern counties, especially Noble County. (White). TEXAS - Moderate widespread populations webbing terminal growth of ornamental shade trees, especially cottonwoods, in Brewster County. (Sims).

RED-HUMPED CATERPILLAR (Schizura concinna) - COLORADO - Damaging honeylocust in Denver area. (Chambers).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - TENNESSEE - Infesting pin oak in Knox County August 19. (Williams et al.). VIRGINIA - Larvae feeding on red oak in Nansemond County. (Isakson, Smith). RHODE ISLAND - First infestation of season noted in Kingston. (Mathewson).

WESTERN OAK LOOPER (Lambdina fiscellaria somnaria) - OREGON - Foliage damage to native oak in Willamette Valley much less than in 1965. (Larson).

AMERICAN DAGGER MOTH (Acronicta americana) - NEVADA - Heavy on boxelder in Genoa, Douglas County. (Cooney).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - Heavy on many mimosa and honeylocust trees in central and southern sections. (U. Md., Ent. Dept.).

SYCAMORE LACE BUG (Corythucha ciliata) - TENNESSEE - Heavy on sycamore trees on University of Tennessee campus in Knox County. (Williams et al.).

ASH PLANT BUG (Neoborus amoenus) - MINNESOTA - Third generation appearing on some green ash trees in St. Paul-Minneapolis area. (Minn. Ins. Rpt.).

AN ARMORED SCALE (Aspidiotus liquidambaris) - OHIO - Unusual occurrence noted on leaves of sweetgum in Franklin County. Crawlers active. (Campbell).

A PSYLLID (Psylla uncatoides) - CALIFORNIA - Heavy on acacia trees in Encinitas, San Diego County. (Cal. Coop. Rpt.).

MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Aedes aegypti found in 4-block area in Charlotte. Larvae readily found in tin cans, old tires and other receptacles. Aedes sollicitans adults lighting at rate of 20-30 per minute in small area in Mecklenburg County. Breeding in lagoon area containing wastes from dye manufacturing plant. (Ashton). LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control August 21 to August 26 contained Anopheles crucians, Culex pipiens quinquefasciatus, C. salinarius, C. tarsalis and Uranotaenia lowii. Light trap collections contained mostly Aedes vexans and C. salinarius. (Stokes). TEXAS - Culex pipiens quinquefasciatus dominant in Dallas, Dallas County, area, and thought to be major vector in transmission of St. Louis encephalitis in area. Total populations during August show no increase compared with recent years. However, 1 of every 200 mosquitoes checked contained the virus. Population drastically reduced by mass control; not expected to build up for several weeks. (Blankenship). OKLAHOMA - Heavy populations, mainly Psorophora cyanescens, along Black Bear and Red Rock Creeks in northern Noble County. No extensive populations of Culex spp. found. Mosquitoes heavy in Marshall and Mayes Counties. (Okla. Coop. Sur.). KANSAS - On August 24, 3 female Culex tarsalis taken in 1 light trap at Manhattan. (Simpson). MINNESOTA - During week ending August 20 Metropolitan Mosquito Control District light traps collected 1,909 female mosquitoes. Aedes vexans most numerous species taken in light traps, larval collections and in evening and daytime bite collections. Culex tarsalis accounted for 41 found in light trap collections, 117 in larval collections and 2 in evening bite collections. An increase in A. vexans adults expected during week of August 29. (Minn. Ins. Rpt.). NEVADA - Aedes dorsalis adults and Culex tarsalis larvae medium in southern Las Vegas, Clark County. (Milner). A. dorsalis and A. melanimon adults heavy in Schurz, Mineral County. (Cooney).

FACE FLY (Musca autumnalis) - UTAH - Annoying cattle and horses in Syracuse area of Davis County. (Knowlton). SOUTH DAKOTA - Mostly light, less than 3 per face on animals in Lincoln, Minnehaha, Moody and Lake Counties. Small herd of Hereford and Angus near Norway Center, Lincoln County, with 10-30 (average 20) per face.

These highest numbers observed this season. South of Burke, Gregory County, 4-5 on horses. (Balsbaugh, Jones, Kantack). IOWA - Increasing; 50 per face on individual cows in Jasper County herd August 9. Average for herd, 35+. This heaviest population observed in State for 3 years. Increases also noted in other areas. (Iowa Ins. Inf., Aug. 15). WISCONSIN - Much less of problem this season. Incidence of pink-eye reportedly much less in Richland County than last season. (Wis. Ins. Sur.). INDIANA - Populations 7-10 per animal in east central counties; up to 25 per animal in Howard County. (White). MARYLAND - Generally light, highest count 8 per head, on beef and dairy cattle in Frederick County. (U. Md., Ent. Dept.).

HORN FLY (Haematobia irritans) - SOUTH DAKOTA - Variable on herds in Lincoln, Minnehaha, Moody and Lake Counties; 200+ per side. Mostly less than 100 per side on untreated cattle south of Burke, Gregory County. (Balsbaugh et al.). NEBRASKA - Counts 100 or more per side on untreated cattle in pastures. Light to moderate on cattle in range areas where backrubbers available; 0-50 per side. (Roselle). COLORADO - Numerous on cattle in stockyards at Alamosa. (Jenkins). KANSAS - Up to 2,000 per head in Russell County; 500-1,500 per head in Riley and Marshall Counties. Light to heavy elsewhere in northeast area. (Simpson). OKLAHOMA - Heavy on cattle in Garvin and Mayes Counties and moderate in Cleveland County. (Okla. Coop. Sur.). INDIANA - Ranged 50-150 per animal in east central counties; much higher on bulls. (White). MARYLAND - Ranged 200-350 per head in beef herds checked in Frederick County. (U. Md., Ent. Dept.).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Continues major problem to animals, but not as numerous as in previous weeks. (Wis. Ins. Sur.). NEBRASKA - Numbers increasing in feedlots in Lincoln area. (Roselle).

BLACK FLIES - SOUTH DAKOTA - Annoyance to horses severe near Blunt, Hughes County. (Balsbaugh, Jones).

LONE STAR TICK (Amblyomma americanum) - GEORGIA - Adults 25-50 and larvae 5-8 per square inch on untreated beef cattle in Hancock County. Treatments giving temporary control in most cases. (Nolan). OKLAHOMA - Numbers along trails and in grass and weeds decreased in Atoka and Cherokee Counties; 10-1,000 per 15 sweeps; about 99 percent larvae. (Okla. Coop. Sur.).

BROWN DOG TICK (Rhipicephalus sanguineus) - NEBRASKA - Heavy in homes and lawns in Alliance (west) and Newman Grove (northeast). (Roselle).

HOUSEHOLDS AND STRUCTURES

WEEVILS (Brachyrhinus spp.) - OHIO - B. ovatus and B. rugosostriatus adults active and entering buildings. (Jones et al.). WISCONSIN - Particularly B. ovatus continues problem to many householders. (Wis. Ins. Sur.). NEBRASKA - B. ovatus migrating into homes in several locations in eastern to western counties. (Roselle).

PHAROAH ANT (Monomorium pharaonis) - TEXAS - Heavy and widespread in Wilson County. (Weaver).

STORED PRODUCTS

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - NORTH DAKOTA - Adults severe in 5,000 bushels of 1-year-old stored oats near Casselton, Cass County. (Ness).

BENEFICIAL INSECTS

LADY BEETLES - KANSAS - Numbers high in most alfalfa in northeast area. (Simpson). WYOMING - Several species continue in large numbers in alfalfa, corn, beans and sugar beets throughout Washakie, Big Horn and Park Counties. (Marks).

GREEN LACEWINGS - KANSAS - Numbers high in most alfalfa in northeast area. (Simpson). WYOMING - *Chrysopa* spp. continue in large numbers in alfalfa, corn, beans and sugar beets throughout Washakie, Big Horn and Park Counties. (Marks).

DAMSEL BUGS (*Nabis* spp.) - ARKANSAS - Continue one of principal predators in soybeans; numbers very low in some fields. (Boyer). WYOMING - Continue in large numbers in alfalfa, corn, beans and sugar beets throughout Washakie, Big Horn and Park Counties. (Marks).

ANTHOCORID BUGS (*Orius* spp.) - WYOMING - Continue in large numbers in alfalfa, corn, beans and sugar beets throughout Washakie, Big Horn and Park Counties. (Marks).

BIG-EYED BUGS (*Geocoris* spp.) - ARKANSAS - Continue one of principal predators in soybeans; numbers very low in some fields. (Boyer).

Beneficial Insects in Cotton - CALIFORNIA - Populations vary from field to field in Kern County. Generally flower bugs and lacewings abundant in most fields except those recently sprayed. Other predators less abundant. (Black, Aug. 24).

PARASITIC HYMENOPTERA - KANSAS - Numbers high in most alfalfa in northeast area. (Simpson).

FEDERAL & STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - INDIANA - Adults and nymphs, mostly *Melanoplus* spp., 2 per sweep on alfalfa in northern counties. (White). ILLINOIS - Feeding on soybean pods in some fields. Numbers generally low, but control justified in occasional field to prevent pod damage. (Ins. Sur. Bul.). WISCONSIN - *Melanoplus femurrubrum* populations appear somewhat lower than in 1965; some damage along margins of corn, alfalfa and soybeans noticeable. As more second-crop alfalfa cut more migrations into other crops expected. *Dissosteira carolina* populations decreased somewhat; few *M. bivittatus* and *M. differentialis* adults dominant in parts of Dunn County. (Wis. Ins. Sur.). MINNESOTA - Grasshoppers noneconomic to light in central district. Moderate to severe in few widely scattered fields throughout district. Counts 9-72 per square yard in Meeker, Carver, Kandiyohi, Stearns and Sherburne Counties. Damage restricted to few fields where populations high. *M. femurrubrum* dominant in all but 1 field in district. *Camnula pellucida* dominant in Cass County field; concentrated in noncrop area, depositing eggs. Grasshoppers noneconomic in northwest district; averaged 2 per square yard in fields, 5 in roadsides and margins. *M. femurrubrum* dominant in area. Noneconomic to light in west central district. (Minn. Ins. Rpt.).

NORTH DAKOTA - Adults noneconomic in Pembina, Walsh, Nelson, Grand Forks, Steele, Traill and Cass Counties; marginal counts averaged 2 and field counts less than 1 per square yard. Highest counts found in alfalfa and sweetclover. *Melanoplus bivittatus*, *M. sanguinipes*, *M. femurrubrum*, *M. differentialis*, *M. packardii* and *Chorthippus curtipennis* present; third instar to adult. Light marginal damage to corn and soybeans noted in southern Cass County. (Stoltenow). Noneconomic in Ransom and Sargent Counties, light throughout Richland County. Field counts average 1 and marginal counts 6 per square yard. Light marginal damage evident in corn and soybeans in Richland County. *M. femurrubrum*, *M. bivittatus*, *M. differentialis*, *M. dawsoni* and *C. curtipennis* present. Noneconomic in Benson, Pierce, Rolette, Towner, Cavalier and Ramsey Counties. Field and marginal infestations less than 1 per square yard. *M. packardii*, *M. femurrubrum* and *M. bivittatus* dominant. (Brandvik).

SOUTH DAKOTA - Grasshoppers very heavy in Hand, Tripp, Butte, Meade, Lawrence and Fall River Counties; spotty but numerous in Haakon and Brule Counties. Damaged some alfalfa in Dewey and Faulk Counties, and corn in Perkins County. Grasshoppers may be threat to winter wheat plantings in Ziebach County. Corn, sorghum and alfalfa damaged in Beadle County; some crop damage reported from Mellette County. (Jones). Adults generally light in cropland areas of southwest section; no infestation in any portion of Jones County. M. femurrubrum and M. differentialis dominant. (Nichol). South of Burke, Gregory County, grasshoppers 25 per square yard in fields, up to 35 in roadsides; 80 percent adults; most immatures M. femurrubrum. Adults 65 percent M. differentialis. M. bivittatus and M. sanguinipes also present (Kantack). NEBRASKA - Melanoplus spp. 6-8 per square yard in margins of corn in some eastern area fields. (Roselle).

OKLAHOMA - Grasshoppers economic on total of 360,900 acres over State. Ageneotettix deorum, Phliobostroma quadrimaculatum, M. bivittatus, M. packardii, Hesperotettix sp. and M. differentialis dominant. (Okla. Coop. Sur.). NEW

MEXICO - Heavy populations, mostly adults, noted in arroyos and lowlands in Luna, Hidalgo, Grant and Sierra Counties. (Jennings). Ranged 10-25 per 25 sweeps in alfalfa in Bernalillo County. (Heninger). Heavily damaged trees and shrubs in nurseries and around homes in Bernalillo County. (Heninger). COLORADO - Melanoplus spp., M. femurrubrum and M. bivittatus damaging ears on margins of corn fields in Mesa County. (Hantsbarger). UTAH - Approximately 50,000 acres of cropland and 78,000 acres of range conspicuously infested in Box Elder County. (Thornley, Collmar).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Infestations increasing rapidly in some areas of control zone. Many newly infested fields detected above the Cap Rock in eastern Floyd and Crosby Counties. Few infested fields found above the Cap Rock in Briscoe County. Infestations above the Cap Rock still light. Increasing rapidly in Dickens and Kent Counties. (Hanna, Parker, Aug. 23).

JAPANESE BEETLE (Popillia japonica) - INDIANA - Beetles found in Vevay, Switzerland County; this new county record. (PPC Cent. Reg., July Rpt.). MICHIGAN - Total of 4 new finds in Detroit area, 1 new find in Monroe and 5 new finds in Calhoun County area verified. These finds in general areas of suspected, closely calculated areas of inspection. (Turner, Moore et al.). OHIO - Feeding on foliage of sassafras, sycamore and linden in Morgan County. Defoliation 5 percent on some small trees. Beetles common but not severely damaging. (Peacock, Aug. 14).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ARKANSAS - New infestation found in Walcott, Greene County, August 8-12. Infestation involves 160 acres. (Shotts). Extension in nursery sales yard found in West Memphis, Crittenden County, August 15-19. Extension 1.5 miles from Walcott area found same period. (Ark. Ins. Sur.).

GYPSY MOTH (Porthetria dispar) - MASSACHUSETTS - Total of 6 male moths taken in blacklight trap at East Wareham August 13-19. These first of season and considerably later than usual. (Tomlinson). MICHIGAN - No new finds of male moths in infested area. (Turner, Moore).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Chemical Control Zone - Survey of 56,337 trees on 2,683 properties in States of Nuevo Leon, Sonora, Baja California and Tamaulipas showed single infested leaf in Municipio Hualahuises, Nuevo Leon. In Hualahuises 1,724 trees on 66 properties received first spray, 1,191 trees on 3 properties received second and 1,931 trees on 3 properties received third application. In Matamoros, Tamaulipas, 11 trees on 10 properties received first spray, 226 trees on 98 properties received second and 155 trees on 29 properties received third treatment. Biological Control Zone - Surveys of 18,161 trees on 33 properties in Municipios Mainero, Villagran, Hidalgo, Guemez and Padilla, Tamaulipas, showed light infestations on 351 trees on 16 properties in Hidalgo and Padilla. Sprays applied to 1,082 trees on 4 properties in Mainero. (PPC Mex. Reg., July Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Moth catches in sex lure traps increased sharply; few moths taken in central Imperial Valley. Total of 875 moths taken this season; 829 in sex lure traps in desert cotton areas, 46 in argon light traps. Total of 37 larvae taken in field inspections. Collections in desert areas as follows: Bard Valley, Imperial County - 27 moths in sex lure traps, 43 moths in light traps, 9 larvae in bolls; Imperial Valley, Imperial County - 230 moths in sex lure traps, no moths in light traps, 25 larvae; Palo Verde Valley, Riverside County - 329 moths in sex lure traps, 3 moths in light traps, 3 larvae. (Cal. Coop. Rpt.). NEW MEXICO - Infestation 2-10 percent in Luna County. Spray program underway in some fields. Infestation heavy in southern Dona Ana County. (Durkin et al.).

SCREW-WORM (Cochliomyia hominivorax) - Total of 18 cases reported in U. S. August 21-27 as follows: ARIZONA - Yavapai 14, Mohave 1. NEW MEXICO - Otero 1, Hidalgo 1. CALIFORNIA - San Diego 1. Total of 235 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Territorio sur de Baja California 4, Sonora 109, Chihuahua 86, Nuevo Leon 4, Tamaulipas 32. Total of 561 cases reported from Mexico south of Barrier Zone. Barrier Zone is area where eradication operations underway to prevent establishment of self-sustaining populations in U. S. Sterile screw-worm flies released: Texas 10,166,250, New Mexico 6,348,000, Arizona 13,644,000, California 600,000, Mexico 105,612,000. (Anim. Health Div.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - TEXAS - Recently infested many cleared areas throughout Hardin County. (Rea).

INSECT DETECTION

New County Records

WESTERN CORN ROOTWORM (Diabrotica virgifera) - MISSOURI - Adults light in corn in Randolph County. (p. 857).

MEXICAN BEAN BEETLE (Epilachna varivestis) - KANSAS - Moderate on snap beans in Riley County. (p. 863).

JAPANESE BEETLE (Popillia japonica) - INDIANA - Beetles found in Vevay, Switzerland County. (p. 870).

CORRECTIONS

CEIR 16(31):759 - LARCH SAWFLY (Pristiphora erichsonii) - MINNESOTA - Should read: "Larvae of all stages observed, most in last instar and many in cocoon stage. Defoliating tamarack..."

CEIR 16(33):802 - WHEAT STEM MAGGOT (Meromyza americana) - Delete NORTH DAKOTA note; pest involved was WHEAT STEM SAWFLY (Cephus cinctus).

Weather continued from page 854.

closed most highways and disrupted communications. Beneficial rains fell in most of the East. Moderate amounts were reported across central New York and New England and along the western Appalachians. Heavier showers produced more than 2 inches along the Carolina coasts and central Florida. The dominance of the dry, high pressure system over the Central States caused the remainder of the Country to receive only slight precipitation. (Summary supplied by Environmental Data Service, ESSA).

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20782

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE

OFFICIAL BUSINESS

UN01411 ALO3001BB2PI 4SB C001
USDA NAT AGR LIB BELTSVILLE
BR
PLANT INDUS STA
BELTSVILLE MD 20705



