

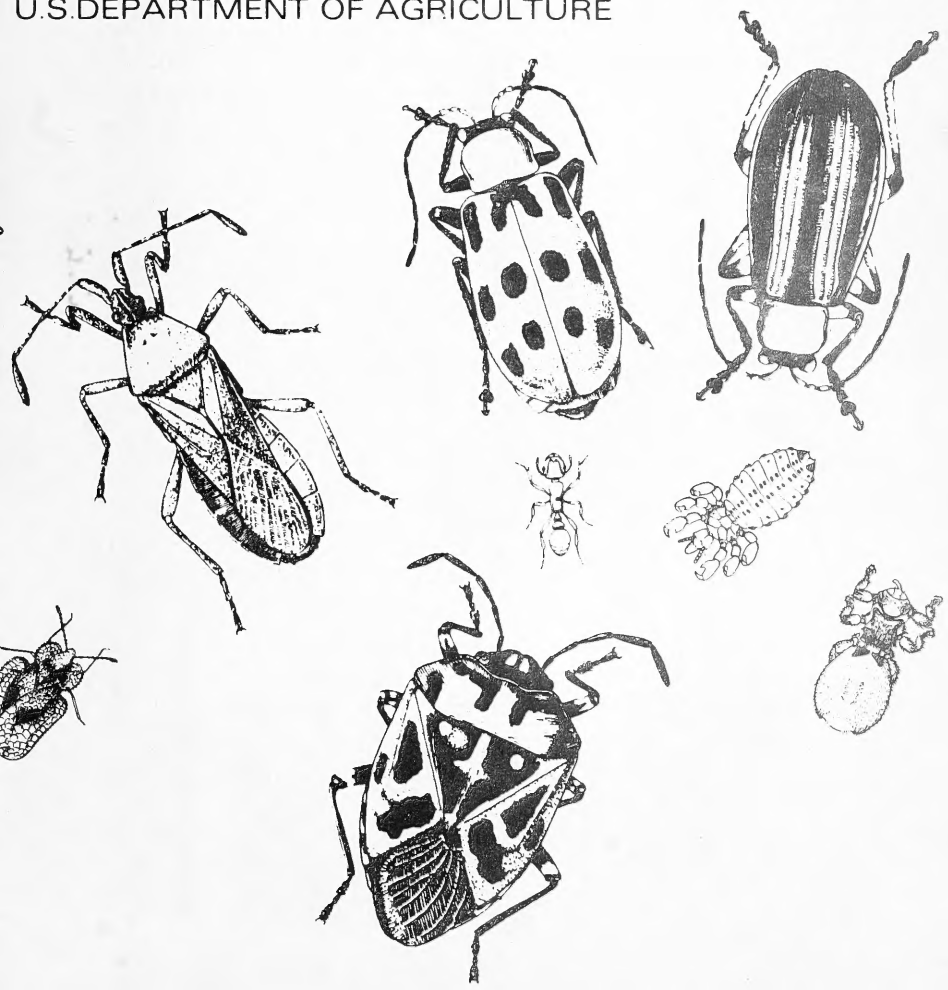




Spelman
~~Smith~~
News

Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

ARMYWORM heavy in Tennessee, Illinois, Wisconsin, Ohio, and Maryland. (p. 549).

POTATO LEAFHOPPER damage in Indiana, Ohio, New York, and Virginia. (p. 550).

SORGHUM MIDGE heavy on sorghum in parts of Texas. (p. 552).

COLORADO POTATO BEETLE problem in Minnesota, Maryland, and Rhode Island. (p. 556).

Detection

For new county records, see page 564.

Change in Scientific Name

Acyrtosiphon loti has been changed to A. caraganae. (p. 553).

Reports in this issue are for the week ending June 27 and unless otherwise indicated.

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NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

JULY 1975

The National Weather Service's 30-day outlook for July is for temperatures to average above seasonal normals over the southern Plateau and also in most areas east of the Continental Divide except for near normal in the South and the Northeast. Below normal temperatures are indicated for the West Coast States. Rainfall is expected to exceed the median amount over the Northwest, the northern Great Plains and the southern Plateau, as well as the north and south Atlantic Coast States. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (Euxoa auxiliaris) - MINNESOTA - Decreased in west-central and northwest districts but still troublesome in some sunflower fields. Reduced 50 percent of stand in hundreds of acres in Traverse County field. Larvae still active, averaged 5 per foot of row. (Minn. Pest Rpt.). MICHIGAN - Perfect adult in blacklight trap June 19 at Shelby, Oceana County. First time adults taken in State; larvae found 3 years ago. (Newman).

ARMYWORM (Pseudaletia unipuncta) - TENNESSEE - Damage reported in 29 counties by June 20. Damaged corn, small grain, and pasture crops in 19 counties on 14,506 acres, of which 12,615 acres were treated. (Gordon). ILLINOIS - Adults heavy June 17-22, collection of 803 in light trap at Rochelle, Ogle County, on June 17. (Sur. Bull.). INDIANA - Larvae, up to 0.5 inch, light on roadside grasses in northern districts. (Meyer). WISCONSIN - Moths active in grasses last 2 periods and heavy in some blacklight trap catches. Definite potential for localized outbreaks. Heavy damage in Columbia County no-till cornfield. (Wis. Ins. Sur.). MICHIGAN - Clipped heads of wheat in scattered fields in southwestern area. (Ruppel). OHIO - Severe on no-till corn in Wayne County field by June 25. Larvae up to 4 (averaged one) per plant on 99 percent of plants. (Amstutz, Hoffman). Damaged 3 of 16 fields in central and northeastern areas. Infested 3-4 percent of fields in Portage County. Damaged 2 percent of Knox County field. (Lewis). MARYLAND - Moths in record numbers in blacklight traps on lower Eastern Shore. (U. Md., Ent. Dept.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Counts per sweep of small grains by area: Southeast and south-central--under one, west-central--2, and central--3. Nymphs generally half to five-sixth grown. Nymphs most numerous and comprised half of population in Waushara County. Aster yellows infection 3.5 percent for last period. (Wis. Ins. Sur.). NORTH DAKOTA - Ranged 150-250 (averaged 200) per 100 sweeps of McKenzie County wheat. (Brandvik, Scholl).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Active on sorghum in Luna and Hidalgo Counties. (N.M. Coop. Rpt.). TEXAS - Increased in Hill and Ellis Counties. Light to moderate on Knox County sorghum. Present on Hale County sorghum. Under one per plant at Lubbock, Lubbock County. Moderate in isolated areas of Tom Green County with some controls applied. Increased in Reeves and Pecos Counties. (Buxkemper et al.). KANSAS - None to trace on sorghum in southwest, south-central and southeast districts. Up to 20 (averaged 3.2) per plant in 34 of 60 fields in Nemaha County. Averaged 5 per plant on 15-inch sorghum in Pottawatomie County and 10 (2 alates) per plant on 4-inch sorghum in Shawnee County. (Bell). NEBRASKA - Spotty in Johnson and Pawnee Counties. Averaged less than one per plant (30 percent alates) in 3 fields; averaged 7.67 per plant (5 percent alates) in fourth field. (Miller).

CORN EARWORM (Heliothis zea) - KANSAS - Infested up to 25 percent of corn whorls (near tassel stage) in Labette County; some larvae nearing full growth. Infested 0-4 percent of whorls in east-central district; corn 34 inches to near tassel stage. Moths taken in all

light traps. (Bell). NEBRASKA - Corn earworm fed on less than one percent of Fillmore County corn. (Peters). MISSOURI - Light on late corn in south-central area. Mostly second instars on 1-10 percent of plants. (Munson). MISSISSIPPI - Larvae on 25 percent of ears in 100 acres of field corn in Noxubee County. (Robinson). ALABAMA - Infested 3-foot corn throughout Escambia County. Controls applied. Larvae of this species and another noctuid moth damaged fruit and leaves of tomatoes, eggplants, and peppers in garden in Escambia County. Controls difficult. (Knowles). MARYLAND - H. zea adults below normal in blacklight traps statewide. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Active on sorghum in Luna and Hidalgo Counties. (N.M. Coop. Rpt.). TEXAS - On sorghum in Hale County and Panhandle area. Light to moderate in Tom Green and Knox Counties. Moderate to heavy in Pecos County. (Latham et al.). On corn in Panhandle area. (Clymer). OKLAHOMA - Ranged 30-40 per plant on 10 to 12-inch grain sorghum in Texas County. Moderate in southwest counties. (Okla. Coop. Sur.). KANSAS - None to light in whorls of sorghum statewide; heaviest in some of older sorghum. (Bell). NEBRASKA - Light to moderate on sorghum in southeast counties. (Miller). ILLINOIS - Began to appear on corn in northern area. (Sur. Bull.).

POTATO LEAFHOPPER (Empoasca fabae) - IOWA - Stunted alfalfa in Story County field. Averaged 7 per sweep in Lee County alfalfa field. (Iowa Ins. Sur.). WISCONSIN - Averaged under 8 per sweep of forage in southern and central counties, but up to 18 per sweep in Dodge, Fond du Lac, and Marquette Counties. Averaged one per sweep in St. Croix and Polk Counties. Nymphs comprised half of population. Under 0.7 per sweep of soybeans in La Crosse, Walworth, Racine, and Kenosha Counties with few half-grown nymphs on undersides of leaves; up to 2 per sweep, including nymphs, in Dane County. At or under one per sweep of potatoes in central district. Ranged 0.5-2 per sweep of snap beans in central district and up to 5 in west-central district; nymphs half grown. (Wis. Ins. Sur.).

ILLINOIS - Potato leafhopper adults and nymphs averaged over 20 per sweep in Clinton County alfalfa field; damage light. Other fields, 1-3 per sweep. Ranged 1-6 per sweep in Ogle County fields. (Ill. Ins. Rpt.). INDIANA - Economic, up to 2.4 adults per sweep of alfalfa in northern and southern districts. Numerous on soybeans; nymphal averages of more than one per plant in some northern district fields with 2 to 4-trifoliolate leaves. (Edwards, Meyer). OHIO - Adults (averaged 65) per 100 sweeps of 6 to 9-inch new growth alfalfa by county: Stark 88, Portage 72, and Ashtabula 28. (Lewis). NEW YORK - Early significant symptoms of leafhopper burn on second-cut alfalfa in Tompkins County. (Dell). VIRGINIA - Moderate to heavy damage on alfalfa stubble in Shenandoah County. (Conklin, Allen).

TOMATO HORNWORM (Manduca quinquemaculata) - TEXAS - Damaged tomatoes in gardens in Knox and Wilbarger Counties. Active in Panhandle area. Fed on tomatoes in Fannin and Grayson Counties. (Boring et al.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - First-generation larval infestations on corn in Kaw Valley ranged 0-10 percent but up to 40 percent in Johnson County field and 42 percent in Shawnee County field. Average percent infestations ranged by county: Labette 4-6, Coffey 12, and Miami 2. Trace on corn in Stafford and Pawnee Counties. All eggs hatched in areas surveyed; larvae mostly second instars. (Bell). NEBRASKA - Whorl infestations averaged 4 percent on 50-inch corn. (Raun). Damaged under one percent of 48-inch corn in Fillmore County. Larvae in second to third instar. (Peters). Egg masses on one percent of 51-inch corn in Pawnee and Johnson Counties. (Miller).

MISSOURI - European corn borer on 63-89 percent of early planted corn in south-central area with 2-5 larvae per plant, about 25 percent in midrib or stalk. (Munson). ILLINOIS - Fresh egg masses averaged one per 10 corn plants in northwest area. (Ill. Ins. Rpt.). WISCONSIN - Moths decreased in southern counties, but flights underway in St. Croix County and eastern counties. Egg masses 2 or fewer per 50 plants. (Wis. Ins. Sur.). OHIO - Larvae in central area by June 25. Damaged leaves on 2 and 14 percent of plants in 2 Knox County fields. Infested 2, 6, and 50 percent of plants in Coshocton County; some fourth instars. Last field in continuous, no-till corn; other fields were tilled. Eggs masses absent in these counties but observed at one per 50 plants in Holmes, Portage, Geauga, Lake, and Ashtabula Counties. (Lewis). MARYLAND - First-generation moth flights about completed for summer. Infested 5-20 percent of whorls in more advanced field corn. (U. Md., Ent. Dept.). DELAWARE - First pupae of first brood on Sussex County corn. (Burbutis).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - TEXAS - Infested corn in Panhandle area. On whorls in Hale County. (Clymer, Latham). KANSAS - Larvae generally none to light on corn in Stafford, Pawnee, and Barton Counties. Nearly all eggs hatched, "shot-holing" of whorls noticeable. Infestations none to trace in 6 Stafford County fields of 34 to 48-inch corn; 5 and 20 percent in 2 other fields. Mostly second instars. Trace infestation this year compared with 50 percent in 1974 in Pawnee County field. First and second instars on corn in Stevens County. (Bell).

CORN ROOTWORMS (Diabrotica spp.) - ILLINOIS - D. longicornis (northern corn rootworm) and D. virgifera (western corn rootworm) pupae in Mason County. Damage light on corn throughout northern and western areas. (Ill. Ins. Rpt.). MISSOURI - D. virgifera larvae 3-12 per corn plant in northwest area; heavy lodging in untreated fields. (Munson). NEBRASKA - First Diabrotica sp. pupa on June 18 at Mead, Saunders County. Larvae averaged 40 per plant in untreated fields; many unhatched eggs in soil samples. Mostly second and third instars ranged 0-12 (averaged less than one) per plant in York and Merrick Counties. Active in 28 (20 percent) cornfields in Clay County; larvae 1-5 per plant June 19. Larvae currently averaged one per plant in Fillmore County cornfield following milo and 15 per plant in Merrick County field treated at planting. (Mayo et al.). SOUTH DAKOTA - Diabrotica spp. hatch underway statewide. (Walgenbach). MINNESOTA - Diabrotica spp. hatch underway in southwest district. First instars and a few second instars in Redwood and Brown County corn. (Minn. Pest Rpt.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Continued to damage blooming grain sorghum in Rio Grande Valley. Some fields treated daily for 7 days. Very light in north-central area. Averaged less than one per 100 heads in Ellis, Dallas, Kaufman, and Fannin Counties. Moderate to heavy in Wharton, Ft. Bend, and Matagorda Counties; treatment began June 19. Remained light in Hill and Ellis Counties, increase expected in 14 days. Very heavy populations emerging from Johnson grass and early blooming sorghum. Ranged 2-5 per 100 heads in Bell and Navarro Counties. Up to 100+ per head in late blooming heads in maturing fields in Zavala County. Very light in south-central area. (Deer et al.).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - OKLAHOMA - Widespread and light (1-5 percent) on Pawnee County wheat. Infested 90 percent of one field at Skedee; "flaxseeds" up to 16 per stem. Infestation trace to 5 percent in 2 Payne County fields; light in one field each in Creek, Tulsa, and Washington Counties; 10 percent in one Osage County field; and heavy in Delaware County. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - NEVADA - Ranged 0-125 (averaged 15) per sweep of wheat at Fallon, Churchill County. Lady beetle larvae and adults numerous in all fields surveyed. (Barclay).

TURF, PASTURES, RANGELAND

A GRASS BUG (Labops hesperius) - UTAH - Mainly adults on Diamond Fork, Utah County, range. Damage conspicuous to crested wheatgrass and some other planted grasses. (Haws). SOUTH DAKOTA - Severely damaged crested wheatgrass in Lawrence and Jackson Counties. (McDaniel).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Egg clusters 14 percent hatched east of Corona, Lincoln County, June 17. (N.M. Coop. Rpt.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae averaged 9 per sweep of hay alfalfa in northeastern area of Diamond Valley, Eureka County. (Peters). UTAH - Eggs and larvae greatly increased in Cache County. Larvae 2.8 and 185 per 10 sweeps at River Heights and 55 at north Logan. (Davis, Spykerman). NEW MEXICO - Averaged 2 adults and 2 larvae per 25 sweeps at Albuquerque, Bernalillo County. Most fields cut. (N.M. Coop. Rpt.).

KANSAS - Few first-generation alfalfa weevil adults still present on alfalfa in Finney County. (Bell). NEBRASKA - Larvae averaged 2.7 and adults 7.7 per 100 sweeps in Otoe County forage legumes June 20. (Manglitz). Currently, adults migrating from stacks into small fields in Cuming County. Adults 0-26 (averaged 9.25) and larvae 0-8 (averaged 2.75) per 100 sweeps in Pawnee and Johnson Counties. Some regrowth already in 10-15 percent bloom stage. (Lempke, Miller). SOUTH DAKOTA - Up to 1,200 larvae per 100 sweeps

in Lawrence County. (Walstrom, Rezek). NORTH DAKOTA - Alfalfa weevil lighter than in 1974. Larvae 30-370 (averaged 132) per 100 sweeps of irrigated alfalfa in McKenzie County. Ranged 0-6 (averaged 2.5) per 100 sweeps of non-irrigated alfalfa in Mercer and Oliver Counties. First cutting underway. (Brandvik, Scholl). MINNESOTA - Adults trace on Redwood County alfalfa. First and second instars 60 per 100 sweeps on second-growth alfalfa in Brown County. Middle instars averaged 57 per 100 sweeps with high of 220 per 100 sweeps in southeast district. (Minn. Pest. Rpt.). WISCONSIN - Pupated on alfalfa. (Wis. Ins. Sur.). OHIO - Larvae per 100 sweeps of 6 to 9-inch regrowth alfalfa by county: Stark 122, Portage 200, Lake 68, Ashtabula 56, and Knox 14. (Lewis).

FLORIDA - Averaged 5 alfalfa weevil larvae per 10 sweeps and one adult per 50 sweeps on full-bloom alfalfa at Gainesville, Alachua County. (Fla. Coop. Sur.). MASSACHUSETTS - Larvae decreased from 8-9,000 to 0-5 per 100 sweeps in Hampshire County. (Beresky).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Averaged 250+ per sweep on uncut alfalfa and 100 per sweep on second growth at Fallon, Churchill County; comprised 93-100 percent of populations. Averaged 6 per sweep of hay alfalfa in northeast area of Diamond Valley, Eureka County. Averaged 9-42 per sweep of seed alfalfa treated with cleanup sprays at Jungo, Humboldt County. (Barclay et al.). UTAH - Counts of 51 and 93 per 10 sweeps in River Heights alfalfa fields and 13 at north Logan, Cache County. (Davis, Spykerman). OHIO - Averages per 100 sweeps ranged 40-106 (average 65) in northeastern area. (Lewis). WISCONSIN - Up to 23 per sweep of alfalfa in Marquette County field. (Wis. Ins. Sur.).

AN APHID (Acyrtosiphon sp., caraganae group) - The new aphid pest of alfalfa in California, Arizona, and Nevada will be reported under this complex. V.F. Eastop has determined that A. caraganae has priority over A. loti, its synonym. (Cal. Coop. Rpt.). NEVADA - Comprised 0-7 percent of populations sampled on hay alfalfa at Fallon, Churchill County. (Barclay).

VARIEGATED CUTWORM (Peridroma saucia) - NEBRASKA - Began pupation on Saunders County alfalfa, pupation averages ranged 25-30 percent on June 18. Larval averages ranged 5-7 per square yard in untreated area of field near Mead and 15 per square yard in field south of Wahoo. Undamaged regrowth appeared in many fields in southeast and east districts. (Roselle et al.). Averaged 8 per square foot in Cedar County field. (Witkowski, June 20).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Ranged 750-2,500 per 25 sweeps of alfalfa in Virden Valley and up to 1,000 per 25 sweeps at Rodeo, Hidalgo County, and near Deming, Luna County. Many fields yellowed. (N.M. Coop. Rpt.).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - NEW YORK - Damage extensive to first cutting in Chenango County. (Bouck).

SOYBEANS

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ALABAMA - Damaged 50 percent of plants in 30-acre soybean field in Mobile County. Many second and third instars in large soybean field in

Geneva County. (Vickery et al.). MISSISSIPPI - *S. festinus* adults averaged 2 per 3 feet of row in Noxubee, Lee, Webster, Leake, and Winston Counties. (Robinson).

SOYBEAN CYST NEMATODE (*Heterodera glycines*) - TENNESSEE - Large populations damaged soybeans in many western areas week ending June 20. (Gordon).

PEANUTS

LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) - TEXAS - Overall mean infestation for peanut pest management program area slightly higher from previous period with more fields experiencing damaging levels beyond pre-pegging economic threshold. Larvae small to medium. Average infestations ranged 6.3-8.3 percent in 3-22 percent of fields in Commanche County. (Curtis).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - TEXAS - Increased emergence and punctured cotton squares in Rio Grande Valley. Damage averaged 40 percent; damage heavy in irrigated fields but 10 percent or less in most dryland cotton. Weevils noted in cotton just beginning bloom in Hill and Ellis Counties. Punctured squares extremely light. Overwintered specimens still found in untreated fields in Ellis, Kaufman, Hunt, Delta, Collin, and Fannin Counties. Control good in treated fields. One untreated Fannin County field with 660 boll weevils per acre. Leggett traps caught 91 and 16 adults in 2 Knox County traps and 2 in Cottle County. Punctured squares decreased in south-central area as cotton begins heavy squaring. Light in Concho County. (Norman et al.). OKLAHOMA - Pheromone traps (124) caught 176 adults in Jackson County. (Okla. Coop. Sur.).

ARKANSAS - Pheromone trapping concluded for season. Most traps ran 5 weeks beginning week of May 19. Catches peaked May 26-30. Total catch of 3,355 adults averaged 7.2 weevils per trap per week. As usual, heavier in more northern than in more southern areas. (Boyer). MISSISSIPPI - Feeding and oviposition punctures increased in Noxubee, Lowndes, Calhoun, Yalobusha, and Grenada Counties. Many fields received pinhead treatment. (Robinson). ALABAMA - Heavy, infested 10-49 (averaged 33) percent of squares in 800 acres of light squaring cotton in Elmore County. Heavy emergence of first-generation weevils expected July 3-10. Averaged 3.35 per trap in 48 sex-lure traps on farm in Cherokee County June 25; area treated weekly. Infested 18 percent of squares in trap area and 13 percent in non-trap area. Weather during June the most suitable in 10-20 years for high survival of all stages. High first "hatch-out" of weevils occurred state-wide in June except in many larger fields in Tennessee Valley in north area of State. (Lowery et al.). GEORGIA - Averaged 38,880 punctured squares per acre in 3 Crisp County fields and 18,090 punctured squares per acre in Colquitt County week ending June 20. (Goodwin et al.).

BOLLWORM (Heliothis zea) - TEXAS - Damage under 10 percent in most Rio Grande Valley fields. Oviposition up to 40 percent in some fields, larvae generally 10 percent or less in treated and untreated fields. Small larvae in almost all fields in Hill and Ellis Counties. Infestation in north-central area increased, 20 percent damage in Kaufman County field. Populations expected to be more widespread next period. Oviposition still noted in Blacklands area. Eggs ranged 3-25 percent per 100 plants in Navarro County. Beneficial insects satisfactorily reducing egg counts in most fields. Substantial bollworm-damaged squares up to 60 percent in field treated with systemic at planting time. Decreased in south-central area. (Deer et al.). MISSISSIPPI - H. zea moth flight ended; eggs decreased. Beneficials controlling this first generation. (Robinson). ALABAMA - Heliothis spp. moth flight heavy in Lee and Elmore Counties. Eggs 13-33 and small larvae 2-4 per 100 terminals in 1,600 acres of cotton. Beneficial insects effective. (Wisner et al.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Continued increase in north-central area. Infestations ranged 4-78 percent in Kaufman County. Light in Ellis, Collins, Hunt, and Delta Counties. Increased in Hill and Ellis Counties. Counts 10-50 per 100 terminals. Still heavy in untreated fields. Infestations ranged 10-80 percent in McLennan, Coryell, Hill, and Navarro Counties. Some treatments applied to older cotton in parts of Hardeman County. Very light in most south-central areas. (Turney et al.).

LYGUS BUGS (Lygus spp.) - TEXAS - Some minor damage on Willacy County cotton. Damaging infestations treated in some fields at Los Fresnos and Brownsville, Cameron County. Heavy square loss in Hill and Ellis Counties. More common than usual in north-central area. Increased in Trans-Pecos area. Moderate to heavy in Hill and Navarro Counties. (Hoelscher et al.).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Adults and nymphs increased statewide on cotton. Adult averages per 25 sweeps by county: Noxubee 4, Madison 6-10, and Bolivar 2. (Robinson).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Very light in Panhandle area. Infestations continued in Reeves and Pecos Counties. Larvae found in Ellis County. Heavy in sunflower field in Throckmorton County. Moths flights continued heavy, larvae heavy on blooming sunflowers in Hale County. Some control initiated. Heavy in some early planted fields at Lubbock, Lubbock County. Some controls applied. (Turney et al.). OKLAHOMA - Ranged 1-7 per 10 sunflower heads (5-10 percent in bloom) in Harmon County. (Okla. Coop. Sur.).

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Adults 400-600 per light trap per night near Lockett, Wilbarger County. Continued to decline in High Plains area. (Boring, McIntyre). OKLAHOMA - Light trap catches (one trap per county): Greer 422, Tillman 175, Jackson 17, and Texas 17. (Okla. Coop. Sur.).

SUNFLOWER BEETLE (Zygogramma exclamationis) - MINNESOTA - Eggs heavy on about 10 percent of sunflower fields; 6-10 or more leaves per plant. (Minn. Pest Rpt.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - UTAH - Moderate on potatoes in Weber and Davis Counties. (Duncan). MINNESOTA - Many mating pairs in Red River Valley potato fields. About 10-20 percent of fields have populations that will cause heavy damage in weeks ahead; treatment will be needed. (Minn. Pest Rpt.).

MARYLAND - Larval damage severe in large planting of eggplant near Clinton, Prince Georges County. (U. Md., Ent. Dept.).

RHODE ISLAND - All stages in Washington County potato fields. Controls poor. (Partyka).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Heavily damaged potato stalks in 5 acres in Prince Georges County. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - OREGON - First alates trapped in bait pans at Adrian Beach, Malheur County, June 16-17. (Burr). IDAHO - First of season on potatoes. Averaged 5 in 50 leaves near Homedale, Owyhee County. (Burns).

BEANS AND PEAS

SEEDCORN MAGGOT (Hylemya platura) - WISCONSIN - Damaged snap beans planted in late May and early June in central, south-central and west-central districts. (Wis. Ins. Sur.).

CUCURBITS

SQUASH BUG (Anasa tristis) - TEXAS - Damaged squash in gardens in Wilbarger County. Damaging numbers in Limestone and McLennan Counties. Increased in north-central area. Moderate to heavy from San Angelo area. (Hoelscher et al.). OKLAHOMA - Light to moderate on garden squash in several southwest counties. (Okla. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - IDAHO - Males in pheromone traps at Moscow, Latah County, totaled 21 for June 19-26. (Portman). MICHIGAN - Entries into fruit common in abandoned orchards near Grand Rapids, Kent County, and at Hart, Oceana County. (Schwallier, Cater). OHIO - Larvae damaged 5.7 percent of fruits on unsprayed Golden Delicious tree in Wayne County. (Levine). ALABAMA - Larvae in 25 percent of apples on 2 trees in Madison County. (Stisher).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - CALIFORNIA - Controls applied to peaches. (Cal. Coop. Rpt.). MICHIGAN - Second-generation adults emerged at Watervliet, Berrien County. (Nichols).

LESSER PEACHTREE BORER (Synanthedon pictipes) - WISCONSIN - Ranged 8-23 (averaged 13) in pheromone traps in Door County June 19-25. (Wis. Ins. Sur.).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - MICHIGAN - Second-generation adults emerged in southwest area. Averaged 2 per pheromone trap at Richland, Kalamazoo County. (Nichols). OHIO - Larval damage of 1.4 percent on unsprayed Golden Delicious apple tree in Wayne County. (Levine).

FRUITTREE LEAFROLLER (Archips argyrospilus) - NEW YORK - First of season in pheromone traps June 19 in Ulster County. (Weires).

ROSE CHAFER (Macrodactylus subspinosus) - MICHIGAN - Very severe in several orchards in northwest area. Defoliated new block near Frankfort, Benzie County. (Olsen).

PLUM CURCULIO (Conotrachelus nenuphar) - OHIO - Feeding damage in 4.5 percent and egg laying scars on 9.1 percent of fruit on unsprayed peach tree in Wayne County. (Levine).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Abundant on untreated plum and prune trees in West Slope orchards. (Bulla).

APPLE MAGGOT (Rhagoletis pomonella) - MICHIGAN - Adults taken in traps in Kalamazoo and Richland, Kalamazoo County, and Fennville, Allegan County. Emergence expected this weekend in most southwest area orchards. (Olsen). CONNECTICUT - First adults at New Haven, New Haven County, June 20. (Savos). NEW YORK - First adults of season in emergence cages June 18 in Ulster County. (Weires). VERMONT - First adult emerged June 18 from experimental seedings at South Burlington, Burlington County. (MacCollom, Nielsen).

CHERRY FRUIT FLY (Rhagoletis cingulata) - MICHIGAN - Cage emergence ceased in Berrien County. Flies removed from the emergence cage were 28, 27, 2, and 0 on June 19, 20, 21-23, 24, 25 respectively. Adults numerous in neglected planting of Montmorency cherry trees in Grand Traverse County, eggs deposited in fruit. (Hanna).

EUROPEAN RED MITE (Panonychus ulmi) - OHIO - Not suppressed on Red Delicious trees in Fairfield County by Zetzellia mali (a phytoseiid mite). Bronzed leaves on untreated trees; none on oil-treated trees. (Holdsworth).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - TEXAS - Damage to pecans heavy in parts of Young County and light in Archer County. Light in Pecos, Reeves, Ward, Ector, and Upton Counties. First-generation damage under one percent in Maverick County and up to 5 percent in one grove in Medina County. Control excellent (less than 6 percent damage). Damage moderate in Taylor and Sutton Counties. (McWhorter et al.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Heavy on pecans at Uvalde, Uvalde County. New generation in 1-2 weeks. Built up in south-central area; heaviest in residential areas. Light at San Angelo. (Stewart et al.). ARKANSAS - Earlier than usual on south area pecans. (Boyer). MISSISSIPPI - Averaged 4 webs per pecan tree in Carroll County orchard. Webs 15-20 per tree on some pecans in Madison, Yazoo, and Hinds Counties. (Robinson).

SMALL FRUITS

CYCLAMEN MITE (Steneotarsonemus pallidus) - WISCONSIN - Heavy in few commercial strawberry plantings in Jackson County and in one planting in Washington County; treatment required. (Wis. Ins. Sur.).

ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - ARKANSAS - Heavier than usual in various areas. (Boyer). OKLAHOMA - Heavy on evergreens in several southwest counties; moderate in Adair County. (Okla. Coop. Sur.). KANSAS - Heavy on some Sedgwick County junipers. (Bell).

EUROPEAN EARWIG (Forficula auricularia) - CALIFORNIA - Mass numbers troublesome in yards. Invasions into residences upsetting homeowners. Adults flying on golf course at El Cajon, San Diego County, disturbed golfers. (Cal. Coop. Rpt.).

AN APHID (Pentalonia nigronervosa) - ALABAMA - Tremendous populations developed on Caladium bulbs stored in basement of home at Auburn, Lee County, by May 27, 1975. Bulbs trucked into State in February. Aphids completely covered new sprouts; controls necessary. Collected by H.F. McQueen. Determined by M.B. Stoetzel. (McQueen).

TWOLINED SPITTLEBUG (Prosapia bicincta) - ALABAMA - Adults on lower surface of leaves on many hybrid hollies at several buildings in Lee County. Damage caused 10-20 percent leaf drop with 25-65 adults per 6-foot shrub. (Walker et al.).

EUONYMUS SCALE (Unaspis euonymi) - VIRGINIA - Heavy on Westmoreland County euonymus. (Schabinger, Surles). TEXAS - Heavy; damaged euonymus in Motley, Wichita, and Wilbarger Counties. (Boring).

AN ARMORED SCALE (Velataspis dentata) - CALIFORNIA - Infested bromeliad plant in nursery at Los Angeles, Los Angeles County. Eradication underway. (Cal. Coop. Rpt.).

FOURLINED PLANT BUG (Poecilocapsus lineatus) - MICHIGAN - Severely damaged mint, viburnum, chrysanthemum, and asters. (Wallner).

BROWN GARDEN SNAIL (Helix aspersa) - CALIFORNIA - Heavy on nasturtiums at San Diego and on pine, chinaberry, and other yard trees at Poway, San Diego County. (Cal. Coop. Rpt.).

FOREST AND SHADE TREES

WHITE PINE WEEVIL (Pissodes strobi) - RHODE ISLAND - Damaged leaders of pines and spruces very evident in unsprayed nursery blocks and landscape plantations in Kent County. (Hannah). MARYLAND - Heavily damaged several blocks of white pine near Hampstead, Carroll County. (U. Md., Ent. Dept.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - KANSAS - First-generation pupae and moths in Sedgwick County; most first-generation moths emerged in Riley County and some eggs laid; few large larvae and pupae remain; some infestations very heavy. (Bell).

FALL WEBWORM (Hyphantria cunea) - OHIO - Larvae collected from wild cherry trees in Tar Hollow State Forest, Ross County, where development usually earlier than in rest of State (Gordon). NEW MEXICO - Second instars active at Las Cruces, Dona Ana County, 18 days later than in 1974. (N.M. Coop. Rpt.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - MICHIGAN - Defoliated large area in Chippewa County, pupation completed. (Mosher).

SESIID MOTHS - OHIO - Males of hardwood tree borers Synanthedon rhododendri (rhododendron borer), S. decipiens, and Paranthrene tricincta in Wayne County, and Thamnosphacia fulvipes in Lake County taken for first time by synthetic attractant traps in State June 14-20. (Boggs, Nielsen).

ELM LEAF BEETLE (Pyrrhalta luteola) - ARKANSAS - Damaged leaves on lower branches of Chinese elm at Fayetteville, Washington County. (Boyer). TEXAS - Moderate to heavy on Chinese elms throughout Trans-Pecos area. Continued to feed on elms in north-central area. Active in Lubbock and Hale Counties. Moderate to heavy in Taylor, Sutton, and Kimble Counties. (Neeb et al.). NEBRASKA - Severe on American and Siberian elms in Lancaster County. Defoliation 60 percent in some locations. Eggs, all larval stages, and pupae present. (Roselle). NEW MEXICO - Larvae active at Albuquerque, Bernalillo County, some leaves skeletonized. Adults active at Las Cruces, Dona Ana County, June 24. (N.M. Coop. Rpt.). COLORADO - Hatched on northeastern area elms, damage evident. (Hantsbarger).

A GRASSHOPPER (Dendrotettix quercus) - OKLAHOMA - A long-winged female taken in wheatfield at Skedee, Pawnee County, on June 24, 1975. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

BOXELDER APHID (Periphyllus negundinis) - UTAH - Extremely heavy on many boxelder trees at Logan and Hyrum, Cache County, and Salt Lake City, Salt Lake County. (Knowlton).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 349 cases reported from continental U.S. during June 15-21 as follows: Texas 338, New Mexico 3, Arizona 8. Total of 288 cases confirmed from Mexico. Number of sterile flies released this period totaled 143,234,800 as follows: Texas 128,384,800; New Mexico 90,000; Arizona 14,760,000. Total of 33,032,000 sterile flies released in Mexico. (Vet. Serv.).

CATTLE GRUBS. (Hypoderma spp.) - NORTH DAKOTA - Adults running beef cattle in Dunn, Mercer, and McKenzie County. (Brandvik, Scholl).

HORN FLY (Haematobia irritans) - FLORIDA - Increased; ranged 180-600 (average 384) per animal on untreated beef steers at Belle Glade, Palm Beach County. Averaged 500 per animal on untreated beef cattle near Gainesville, Alachua County. (Fla. Coop. Sur.). MISSISSIPPI - Averaged 500+ per cow in untreated herds in Oktibbeha, Warren, Yazoo, Holmes, Carroll, and Clay Counties. (Robinson). ILLINOIS - Up to 142 per animal in some herds. (Sur. Bull.). OKLAHOMA - Heavy on Adair County cattle. (Okla. Coop. Sur.). TEXAS - Moderate to heavy on sheep and goats in San Angelo area. Rapid increase over last 10 days due to recent rain in Panhandle area. Moderate to heavy on cattle in Archer, Knox, and Young Counties. Moderate to heavy on cattle across Trans-Pecos area. (Clymer et al.).

FACE FLY (Musca autumnalis) - NORTH CAROLINA - Averaged 30 per head in mountain counties and 15 per head in the Piedmont. Heaviest in Buncombe and Haywood Counties with 36 and 32 per head, respectively. Infestations noted in all 16 herds in and west of Wake County. Peak not expected until mid-July. (Barnes, Hunt). MISSISSIPPI - Decreased but remained above 20 per face in Benton, Alcorn, Itawamba, Tallahatchie, Yalobusha, Calhoun, Chickasaw, Carroll, and Oktibbeha Counties. Adults on beef herds averaged per face by county: Leflore 6, Humphreys 2, and Yazoo 3; these are new county records. Adults collected June 23, 1975, and identified by J.V. Robinson. (Robinson). ILLINOIS - Up to 20 per animal in some herds. (Sur. Bull.). WISCONSIN - Moderately annoyed dairy cattle in Calumet, Chippewa, and Polk Counties. (Wis. Ins. Sur.). OKLAHOMA - Ranged 0-5 per face on cattle checked 5 miles west of Mannford, Creek County, June 26. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Annoyance to cattle moderate to severe in Calumet and Polk Counties. (Wis. Ins. Sur.). ILLINOIS - Up to 15 per animal in some herds. (Sur. Bull.). TEXAS - Very heavy on dairy cattle in parts of Archer County. (Boring).

MOSQUITOES - MASSACHUSETTS - Dominant collections in Hampshire County: Coquillettidia perturbans 189 of 269 adults in light traps, Aedes sticticus 6 and A. vexans 5 of 17 night bites, and A. stimulans 7 of 12 day bites. (Drozdowski). WISCONSIN - Biting continued severe in several localities. A. vexans one of major biters. Annoyance moderate to severe for cattle in Polk, Chippewa, Calumet, and Outagamie Counties. (Wis. Ins. Sur.). MINNESOTA - A. vexans dominant in light trap and night bite collections at Minneapolis and St. Paul. C. perturbans second in trap collections. Larvae in third and fourth instars. (Minn. Pest Rpt.). OKLAHOMA - Psorophora spp. continued annoying in Payne County. P. ciliata biting rates of one per minute reported. (Okla. Coop. Sur.). TEXAS - Heavy in Archer, Knox, Wichita, and Young Counties. Mosquitoes main problem for man in Panhandle area. (Boring, Clymer). UTAH - Troublesome in Corinne and South Curlew Valley, Box Elder County, and at Logan and Benson, Cache County. (Knowlton).

EAR TICK (Otobius megnini) - ARKANSAS - Infestation introduced 8-9 years ago from out-of-State into Izard County now countywide. (Cathy). TEXAS - Infested cattle in Medina County and in San Angelo area, Tom Green County. (Stewart, McWhorter).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Heavy on Adair County cattle. (Okla. Coop. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - WISCONSIN - Still heavy in woody and brushy areas. (Wis. Ins. Sur.).

BENEFICIAL INSECTS

A MYMARID WASP (Anaphes flavipes) - This parasitoid recovered from Oulema melanopus (cereal leaf beetle) eggs as follows. NEW YORK - Barker and Lisle Townships, Broome County, June 16 by P. Gerber and in Woodhull, Jasper, Wayland, and Cocheton Townships, Steuben County, June 13 and 19 by P. Gerber and R. LeMaire. Determined by R. Gaines. MARYLAND - Prince Georges County June 24 by J. Cavey. Determined by P. DeWitt. MICHIGAN - Comins Township (2 sites), Oscoda County, June 26; Munro Township, Cheboygan County, June 24; Wilson Township (2 sites), Alpena County, June 24. All collections by C. Bare and G. Buysee. All determinations by P. DeWitt. All above are new county records. Also recovered in Clyde Township, St. Clair County, June 19 by T. Black. OHIO - Congress, Chester, and Green Townships, Wayne County, June 17; Montville, Guilford, and Wadsworth Townships, Medina County, June 18; Rootstown, Nelson, and Freedom Townships, Portage County, June 19; all recoveries by C. Custer. (PPQ). Also taken in Sandusky County May 28 by W.E. Wille. (Wille). PENNSYLVANIA - Cleveland Township, Columbia County, May 28 by J.S. Stimmel; Brooklyn Township, Susquehanna County, June 12 by P. Krisztaumkas; Washington and West Chillisquaque Townships, Northumberland County, June 13 by J.S. Stimmel. Determined by A. Wheeler. This is a new county record. (PPQ).

OHIO - A. flavipes completely parasitized late-season cereal leaf beetle eggs in northeast area. (Custer). PENNSYLVANIA - Parasitized 87,85, and 78 percent of cereal leaf beetle eggs in 3 oatfields in Blair County June 23. (Kadow).

A EULOPHID WASP (Tetrastichus julis) - Recovered from Oulema melanopus (cereal leaf beetle) larvae as follows. INDIANA - Pleasant and Wills Township, LaPorte County, June 23 by R.B. Cummings. NEW YORK - Portage, Mount Morris, West Sparta, and Springwater Townships (in oatfields), Livingston County, June 17 and 18 by R. Lemaire. OHIO - Cherry Valley Township June 13 and Windsor Township June 18 in Ashtabula County by H. Kemp and S. Strasen; Auburn Township, Geauga County, June 5 by H. Kemp; Mesopotamia Township, Trumbull County, June 5 by H. Kemp. PENNSYLVANIA - Warsaw Township, Jefferson County, June 4 by R. Shiner and J. Murningham; Lake Township, Mercer County, June 10; Sugar Grove Township, Warren County, June 11; Mineral Township, Venango County, June 10. All recoveries by R. Shiner and W. Pachacz. (PPQ).

ICHNEUMONID WASPS - Recovered from Oulema melanopus (cereal leaf beetle) larvae as follows. INDIANA - Diaparsis spp. and Lemophagus curtus in Wills Township, LaPorte County, June 23 by R.B. Cummings. NEW YORK - Diaparsis spp. from field insectary in Richmond Township, Ontario County, June 20 by T. Crowe. OHIO - Diaparsis spp. in Mesopotamia Township, Trumbull County, June 5 by H. Kemp. (PPQ).

CARABID BEETLES - PENNSYLVANIA - First releases in State of Carabus auratus (172) and C. nemoralis (17) in Clarks Valley, Lebanon County, on June 2, 5, and 12 against Porthetria dispar (gypsy moth). (Fusco).

A PHYTOSEIID MITE (Typhlodromus fallacis) - OHIO - Moving into apple trees from overwintering sites on ground. Averaged only 0.06 mites per leaf but forming second generation in Fairfield County. Exerting control in Licking County orchard: One T. fallacis to 8 Panonychus ulmi (European red mite). (Holdsworth). COLORADO - Light, 0-1 per 50 leaves, in few West Slope orchards. (Bulla).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - NEW YORK - Larvae collected on oats at Bethlehem, Albany County, at Coxsachie, Greene County, and at Hillsdale, Columbia County, June 23, 1975, by R. Spaide. At Deposit, Delaware County, June 17, 1975, by L.E. Doring. At Broadalbin, Fulton County, June 20, 1975, by R.A. Spaide and R. Smullen. At Princeton, Schenectady County, June 24, 1975, by R. Smullen. All determinations by R.E. White. These are new county records. (PPQ). Larvae very light on boot-stage oats in Chenango County (Bouck); fields in larvae 0.2 per stem in Wayne County. (Wilson). NEW JERSEY - Larvae collected on oats at Titusville, Mercer County, June 18, 1975, by B. Emens and B. Balaam. Determined by R.E. White. This is a new county record. (PPQ). PENNSYLVANIA - Survey of oats in 18 counties June 16-20: Adults 1-25 per 100 sweeps; eggs 1-53 and larvae 1-47 per 10-foot row; damage trace to 30 percent. (Snelbaker et al.).

COMSTOCK MEALYBUG (Pseudococcus comstocki) - CALIFORNIA - Number of pheromone traps placed: 568 in Tulare County lemons, 163 in Kern County lemons, 665 at Lindsay and 96 at Springville, Tulare County, 176 at Wasco and Shafter, Kern County, and another 34 traps replaced at Porterville, Tulare County. First release of Cryptolaemus montrouzieri (225,000 lady beetles) this season completed at Porterville. Sprays applied at Lindsay to 343 hosts on 24 properties on 8 blocks. First spray of season completed at Delano May 23 on 44,216 hosts on 3,417 properties (25 were spots), on 253 blocks. Visual surveys initiated this period; 15 collections made from 5,327 hosts inspected on 363 properties on 15 blocks. Survey at Lindsay half completed. (Cal. Coop. Rpt.).

EUROPEAN PINE SHOOT MOTH (Rhyaciona buoliana) - OREGON - Second spray application completed in Umatilla County. Total of 2,500 pines treated at Hermiston, Umatilla, Hat Rock, McNary Dam, and McNary Manor. (Larson, Brown). WASHINGTON - Heavily infested small pine plantation at Puyallup, Pierce County. Development on June 18: 2 percent larvae, 8 percent pupae, 48 percent adults. (Barstow).

GRASSHOPPERS - MINNESOTA - Second and some third instars of Melanoplus bivittatus became economic in Clay County by June 20. Reached 25 per square yard in some roadsides. Edge-row damage in some wheatfields. Ranged 10-15 per square yard on roadsides, no migration, in Marshall County. (Minn. Pest. Rpt.). NORTH DAKOTA - Cropland infestations in McKenzie County ranged from less than one grasshopper to 50 (averaged 17) per square yard in margins and ranged from less than one up to 60 (averaged 6) per square yard in fields. M. bivittatus and M. sanguinipes dominant with M. packardii showing up; first through fifth instars present.

Damage in some fields light to heavy with damage extending into some fields about 3 rods. Rangeland infestations ranged from less than one to 4 (averaged 2) per square yard. M. sanguinipes and M. bivittatus dominant; first through third instars present. (Brandvik, Scholl). Up to 20 (averaged 3) grasshoppers per square yard on wildlife refuge land in Sheridan County. M. bivittatus and M. sanguinipes dominant; first to second instars present. (Winks).

NEBRASKA - Melanoplus spp. nymphs ranged 200-800 (averaged 550) per 100 sweeps of alfalfa in Pawnee and Johnson Counties. (Miller). KANSAS - Grasshopper nymphs numerous along field borders in some counties in southeast district and northern counties of north-central district (up to 30 per square yard); one case of damage to seedling sorghum reported from southeast district. M. bivittatus, M. femurrubrum, and M. differentialis nymphs averaged 0.5 per row foot in 15-inch soybeans in Johnson County. (Bell). WYOMING - First and second instars of Ageneotettix deorum, Amphitornus coloradus, Aulocara elliotti, and Melanoplus sp. in Johnson County. (Crosby, Patch, June 20).

GYPSY MOTH (Porthetria dispar) - VERMONT - Buildup at North Burlington, Burlington County. (MacCollom, Nielsen). MASSACHUSETTS - Fifth and sixth instars at Stockbridge, Berkshire County. (Harrington). RHODE ISLAND - Fifth instars statewide, some early pupae in Providence County. (Gardner). PENNSYLVANIA - Aerial spraying under Federal-State-County Cooperative Agreement completed in eastern counties on 29,982 acres by June 11. (Slippery).

JAPANESE BEETLE (Popillia japonica) - MASSACHUSETTS - Adult observed on roses June 19 at Belchertown, Berkshire County. (Beresky). NEW JERSEY - First adults in State June 18 at Jobstown, Burlington County. Sizable populations in Middlesex, Monmouth, and Somerset Counties. (Ins.-Dis. Newsltr.). MARYLAND - Adults appearing in most areas. (U. Md., Ent. Dept.). WEST VIRGINIA - Adults emerged in Kanawha County June 18 and in Fayette County June 20. (Moore, Hacker). VIRGINIA - Adults emerged on Rockingham County thistle June 18 and at Blacksburg, Montgomery County, June 25. (Surlles et al.). TENNESSEE - Adults emerged in Cocke and Jefferson Counties week ending June 20. (Hammett). OHIO - Mostly in prepupal and pupal stage throughout northeastern area. (Lawrence). MICHIGAN - Four adults emerged from Macomb County trap June 25, 7-10 days early for southeast area. (Hanna).

MORMON CRICKET (Anabrus simplex) - WASHINGTON - A. simplex, A. longipes rarely so heavy, Peranabrus scabricollis (coufee cricket) found for first time in years, Apote notabilis, and Steiroxys sp. heavily infested 5,000 acres of timber and meadows few miles north of Owhi Lake, Okanogan County. (Blackburn).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - More larvae noted in rosetted blooms in scattered Willacy County fields. (Norman, Deer).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - First adults of season in State. Many adults emerged in several Morgan County areas. Adult collected in Elmore County. (Wilson, Lowery).

WOOLLY WHITEFLY (Aleurothrixus floccosus) - CALIFORNIA - Infestation moderate to heavy on one of 7 infested properties at Encinitas, San Diego County. No parasitism yet. Overcast, cool weather held woolly whitefly and parasite activity to minimum. Total of 43 parasites released on one property. (Cal. Coop. Rpt.).

HAWAII INSECT REPORT

General Vegetables - CUBAN LAUREL THRIPS (Gynaikothrips ficorum) heavy on several Chinese banyan saplings at Kohala, Hawaii Island. Feeding caused conspicuous distortion of the leaves. All stages found. (Yoshioka). BANANA SKIPPER (Erionota thrax) has spread rapidly throughout Hawaii Island; light at Kapoho and Pepeeko. Light throughout Molokai. Damage extremely light. (Yoshioka, Mau). MELON FLY (Dacus cucurbitae) heavy damage in 8 acres of watermelon at Puna, Hawaii Island. Approximately 80 percent damage to young fruits. (Yoshioka).

Forest and Shade Trees - FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus) heavily infested and killed 3 blackbutt eucalyptus (Eucalyptus pilularis) trees at Kalepa Mountain, Kauai. Workers, soldiers, and alate nymphs found. Trees in 10-square-yard area. (Fujii, Kiyono).

DETECTION

New County Records - CEREAL LEAF BEETLE (Oulema melanopus) NEW YORK - Greene, Columbia, Delaware, Fulton, Schenectady. NEW JERSEY - Mercer (p. 562). FACE FLY (Musca autumnalis) MISSISSIPPI - Leflore, Humphreys, Yazoo. OKLAHOMA - Creek (p. 560). A GRASSHOPPER (Dendrotettix quercus) OKLAHOMA - Pawnee (p. 559). A MYMARID WASP (Anaphes flavipes) NEW YORK - Broome, Steuben. MARYLAND - Prince Georges. MICHIGAN - Oscoda, Cheboygan, Alpena. PENNSYLVANIA - Northumberland (p. 561).

LIGHT TRAP COLLECTIONS

Temperature, Precipitation	Type of trap	Spodoptera frugiperda (fall armyworm)	Spodoptera eridania (beet armyworm)	Spodoptera exigua (armyworm)	Pandora quadra (armyworm) unspuncta	Peridroma saucia (armyworm)	Pardalipennis cornu borealis (armyworm)	Ostrinia nubilalis (armyworm)	Tobacco stalk (armyworm)	Manduca quinquemaculata (armyworm)	Manduca sexta (armyworm)	Locustae ricticola (armyworm)	Locustae tentalis (armyworm)	Locustae completa (armyworm)	Locustae pomonella (armyworm)	Lappet (armyworm)	Lygia (armyworm)	H. zea (armyworm)	Melipotis virescens (armyworm)	Heliothis virescens (armyworm)	Peltia subtrifida (armyworm)	Peltia subtrifida (armyworm)	Peltia subtrifida (armyworm)	Pyrausta nictitans (armyworm)	Pyrausta nictitans (armyworm)	Piston (armyworm)	Pyrausta nictitans (armyworm)	Pyrausta nictitans (armyworm)	Pyrausta nictitans (armyworm)	Pyrausta nictitans (armyworm)	Pyrausta nictitans (armyworm)	Pyrausta nictitans (armyworm)								
Temp., F.	Precip., inches	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL								
COLORADO Denver 6/13-19		1				6								200																										
FLORIDA Gainesville 6/20-26							1																																	
ILLINOIS (County) Ogle 6/17-23		16				44			1																															
INDIANA (Districts) Northwest 6/14-20 Southwest 6/19-25		7 33				7 20																																		
KANSAS Great Bend 6/19-24 Manhattan 6/24		8				94 20																																		
MICHIGAN Shelby 6/13-22 Tipton 6/17-22		257 94				146 89																																		
MISSISSIPPI Stoneville 6/20-26	68-92	2	10																																					
NEBRASKA North Platte 6/14-20			42																																					
NEW JERSEY Vineland 6/18-24 Seabrook 6/20-24		10 25																																						
NORTH DAKOTA Bottineau 6/19, 25 Fargo 6/21, 26		1 1	2																																					
OHIO Wooster			91			148																																		

WEATHER OF THE WEEK ENDING JUNE 29

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Varying amounts of precipitation fell in all of the Nation except the Southwest. Severe weather occurred in all States east of the Continental Divide. Temperatures were below normal in the West, as much as 6-10 degrees in the Pacific Northwest and near normal to 4 degrees below in the South. The rest of the Nation averaged above normal. The season's first tropical storm (Amy) was born off the coast of North Carolina.

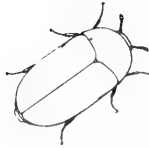
PRECIPITATION: Typical seasonal weather, thunderstorms with associated severe weather, began the week on Monday. Thunderstorms were scattered from northwest Texas to New York, north through Kansas to eastern North Dakota, and into Michigan. More storms were along the Gulf of Mexico. Showers were numerous from Washington into California and in the northern Rockies. Tornadoes swooped down in Iowa, Texas, and eastern Colorado. Baseball-sized hail pelted residents of Amarillo, Texas. Tuesday, thunderstorms had moved eastward to central Texas and Louisiana, north to Wisconsin, and then east through southern New York, and to northern Virginia. Storms along the gulf coast and southeast Atlantic States continued. Light rain and showers continued in the Pacific Northwest. Showers and thunderstorms became more widespread on Wednesday, and were scattered in an area east and south of the line from central Texas to Wisconsin and through Pennsylvania. An exception was eastern North Carolina which was still without rain. Rain and thunderstorms that had been confined to the Pacific Northwest and northern Rockies spread into Nebraska and the Dakotas. A low center in Montana and a deep trough southward was kicking up strong winds and severe weather. Snow was reported at higher elevations in the Rockies. Severe weather continued into early morning Thursday, from the Dakotas to Kansas, and then began to diminish as the line moved eastward. Later showers, some heavy, and thunderstorms covered most of the East. Showers were scattered from central Texas and the Mississippi River Valley eastward through Pennsylvania. Light showers fell from the Pacific Northwest through the northern Rockies. Friday was another typical summer day, with high temperatures and scattered thundershowers over much of the country. The Southwest, North Central States, and New England had mostly clear skies. Late in the day, severe weather moved into the western Dakotas and Colorado. Local flooding occurred in central Kansas, Iowa, and Colorado. Showers continued in the Pacific Northwest. The high humidity fed energy into thundershowers again on Saturday. Activity was scattered from Texas along the Gulf Coast States, lower Mississippi Valley and east coast to New England. Eastern North Dakota and adjacent areas reported severe weather late in the day. Several tornadoes, windstorms, and hail struck the area. A tropical depression wound up off the North Carolina Coast and rains were falling near the coast. Light showers were still occurring from Washington to Montana. The Great Lakes States had partly cloudy skies and fair skies covered the southwest. Severe weather in southeastern North Dakota and northwestern Minnesota continued into Sunday. Serious flooding was occurring before the rain diminished. Further intensification took place later in the day. Other thunderstorms developed during the day in Atlantic and Gulf Coast States and in the Mississippi Valley. A depression off North Carolina developed into the season's first tropical storm and was christened "Amy".

TEMPERATURE: Temperatures for the week were cool to cold in the West, cool in the South and southeast, and warm to hot in the central and northeastern States. On the first day of the week, Augusta, Georgia, equaled the record low for that date with 59 degrees. On the same day, several places in New England reported new record highs with temperatures in the 90's. Hot weather continued in New England through Wednesday when cooler air moved south. During the same period and continuing, conditions in the Midwest were hot and muggy with high temperatures near 90 degrees. Meanwhile, a low pressure center aloft kept pumping cool air from the Gulf of Alaska into the West. Flagstaff, Arizona, reported a cold 26 degrees Thursday morning but clear skies and lots of sun warmed them to 81 degrees by afternoon. In the northern Rockies, and Northwest, temperatures only rose to the 50's and 60's. The Nation's low temperature Saturday morning was at Truckee, California, with 29 degrees. All during the week, high temperatures at many spots in the Southwest exceeded 100 degrees but this is not unusual for this time of year. The last day of the week, Sunday, warm moist air continued to dominate the Nation east of Rockies. Ninety degree readings moved into Iowa and Nebraska. The 50's in the Pacific Northwest made it the coolest section of the Nation.

U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101



VOL. 25 NO. 28

Spelman
July 11, 1975
Spelman

Cooperative Economic Insect Report

Issued by

PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

POTATO LEAFHOPPER numbers increasing in Ohio, Indiana, and Wisconsin. (pp. 571-572).

Detection

● A SIRICID WASP reported for first time in United States. Known only from southeast Asia. (p. 583).

New State Records include a TABANID FLY in New Mexico (p. 578) and a DYTISCID BEETLE in Hawaii (p. 583).

For new county records, see page 583.

Reports in this issue are for week ending July 4 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING JULY 6

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Severe flooding in the Red River Valley of the North and its tributaries has laid waste many thousands of acres of valuable farmland. The full extent of damage is not yet known. Elsewhere, a flash flood roared into Las Vegas, Nevada, on Thursday, and caused the death of 2 people and an estimated one million dollars in property damage. Warm muggy weather dominated most of the northern and central States causing several air pollution alerts to be called.

PRECIPITATION: The beginning of the week was dominated by severe flooding in the Red River Valley of the North and its tributaries. Southeastern North Dakota and northeast Minnesota were hardest hit. The James River in southeast North Dakota also devastated many acres of farmland. Severe thunderstorms and heavy rain seemed to originate in North Dakota and became most intense near the Red River and moved on into Minnesota. Elsewhere thunderstorms hit from central Texas along the gulf coast and to South Carolina. A few storms were reported in North Carolina and Virginia. Oregon and the northern Rockies were dotted with showers. A lazy high pressure system extending from Texas to New England and from the upper Mississippi Valley to Florida, and a series of low pressures in the Rockies extending into the Dakotas dominated the weather on Tuesday and Wednesday. Record flooding continued in the Red River Basin in North Dakota and Minnesota and the drainages of the Sheyenne and James Rivers in southeast North Dakota. Thunderstorms and heavy rain continued and gradually moved more northerly, but the deluge slowed drainage of the southern part of the river and worsened flooding. Some abatement of storms was seen on Wednesday. Thunderstorms

Weather of the week continued on page 586.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - Heavy in minimum-tillage cornfield in western Dane County. Larvae common on winter and spring grains statewide. Some larvae nearly full-grown in winter wheatfield in Winnebago County but less developed on oats in St. Croix County. (Wis. Ins. Sur.). MINNESOTA - Adults increased in nearly all blacklight traps; no larvae on corn yet. (Minn. Pest Rpt.). MICHIGAN - Damaged barley, wheat, and corn as far north as Tuscola County. Still problem in area of Calhoun County. (Netherton et al.).

ASTER LEAFHOPPER (Macrostoteles fascifrons) - WISCONSIN - Rapidly maturing and moving into host crops. With aster yellows at 3.5 percent and numerous adults, rigid spray program essential. (Wis. Ins. Sur.). NORTH DAKOTA - Adults and nymphs up to 560 (averaged 350) per 100 sweeps on Emmons County oats. (Scholl).

CORN EARWORM (Heliothis zea) - ALABAMA - Larvae heavier than usual in Marengo County; some treatments applied. (Yates). MISSISSIPPI - Larvae averaged 0.5 per ear in 30 acres of Noxubee County field corn. (Robinson). OKLAHOMA - Larvae 1-3 per ear in 119 of 120 ears of garden sweet corn in Mayes County. Heavy in Logan and Muskogee Counties. Light on sorghum in Canadian and Jackson Counties, on alfalfa in Caddo County, and on soybeans in Sequoyah County. (Okla. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Moderate to heavy on sorghum in Texas, Canadian, and Jackson Counties. (Okla. Coop. Sur.). MISSOURI - Light to moderate, infested 20-100 percent of sorghum in southwest and north-central areas. (Thomas). ILLINOIS - Generally noneconomic, infested 0-70 (averaged 18) percent of corn in central and eastern areas. Counts per infested plant ranged one alate to several small colonies of 40-50 aphids each. (Ill. Ins. Rpt.). INDIANA - Scarce on corn, very light where present. Generally light on all sorghum seen; predators present. (Turpin, Meyer). WISCONSIN - Few colonies in Waukesha, Walworth, and Iowa Counties. Colony of 100 aphids in Iowa County. Due to number of late-planted cornfields in some counties, high populations will probably develop in later fields. (Wis. Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - KENTUCKY - Ranged 200-800 per 100 sweeps of north-central area alfalfa. (Barnett). OHIO - Adults 9.4 per sweep of untreated alfalfa June 26; plants 10 inches, stunted, and yellowed. Averaged 1.7 per sweep in another new seeding 12 to 14 inches June 27. (Thoburn, Miller). Recent lengthy hot, dry weather favored rapid development on alfalfa. Yellowed and stunted growth statewide; more serious loss if hot weather continues. Adults averaged 2.3 per sweep of 6 to 18-inch regrowth alfalfa in southwest area July 1. Light to moderate yellowing in Clinton and Butler Counties where adult averages were 2.7 and 3.1 per sweep in 14 and 18-inch alfalfa. (Lewis). INDIANA - Adults and nymphs zero (probably in treated field) to 10.7 per sweep of alfalfa in southern districts. Half of fields checked in southwest and south-central districts harvested; other half ready for second (third in one field) cutting. (Wilson).

Nymphs and adults of potato leafhopper 2 or more per soybean plant in some fields. (Meyer). "Hopper-burn" in home potato fields in Tippecanoe County; this species and *Epitrix fuscata* (eggplant flea beetle) warranted treatment. (Chandler). WISCONSIN - Potato leafhoppers under 10 per sweep on second-growth alfalfa in all areas; reproduction underway in southwest and southeast districts. Nymphs in all districts surveyed. Under 2 per sweep on snap beans in La Crosse, Trempealeau, St. Croix, and Barron Counties. Leaf curling and tip burn obvious in garden potato planting in Kenosha County. (Wis. Ins. Sur.). MINNESOTA - Generally light on alfalfa. Yellowed and stunted leaves in one of 20 fields. Up to 450 (half nymphs) per 100 sweeps. (Minn. Pest Rpt.).

GREENBUG (*Schizaphis graminum*) - COLORADO - Very light on southeast area sorghum. (Schweissing). OKLAHOMA - Moderate on Jackson County sorghum. Continued very light in most Texas County fields. (Okla. Coop. Sur.). NEBRASKA - South winds and lack of rain produced increase in southeast, east, and northeast districts. Ranged 0-9 (averaged 1.35) per sorghum plant in Clay County. Ranged 43-230 (averaged 104.75) per plant on 12-inch to preboot sorghum in 4 untreated fields in Gage and Jefferson Counties. One mummy observed in Jefferson County field. Alates on 12-inch milo in northeast counties. (Gary et al.). SOUTH DAKOTA - Alates common on sorghum in Lyman and Tripp Counties. Occasional colony of nymphs on lower leaves of some sorghum. Buildup slower than in previous years. (Walgenbach). MISSOURI - Infested 20-90 percent of sorghum plants in southwest area. Single aphids or small colonies on 1-5 leaves per plant. Predators (mainly lady beetles) numerous; no parasites. (Thomas). INDIANA - Dime to dollar-sized colonies in few sorghum fields in and south of Terre Haute, Vigo County. Predators at least one per plant. (Meyer).

PICKLEWORM (*Diaphania nitidalis*) - ALABAMA - Larvae heavy; damaged cucumbers, cantaloups, squash, and honeydew melons in many Marengo County gardens. Infestation countywide and less damaging in some areas. (Yates).

TOMATO HORNWORM (*Manduca quinquemaculata*) - OKLAHOMA - First reports of season. Averaged one per plant on garden tomatoes in Muskogee County and heavy in Payne County. (Okla. Coop. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - GEORGIA - Light on garden sweet corn in Paulding County. (Atkinson). TENNESSEE - Large spot infestations in several east and central areas. Damaged some cornfields. (Mullett, Gordon). OHIO - Whorl feeding in 2-6 (averaged 4.5) percent of corn in 8 southwestern area fields. Stalk tunneling in Hamilton County field where 10 percent of corn in tassel. (Lewis). INDIANA - Pupae in cornfield in Sullivan County, a sandy soil area. (Meyer).

WISCONSIN - European corn borer larval injury up to 20 percent in some southern cornfields. Infested 7-10 percent of plants in early tassel stage; older and younger fields much less affected. Larvae mostly in second instar in Jefferson, Walworth, Racine, Waukesha, Iowa, Lafayette, Grant, and Sauk Counties. Third instar in Waukesha County. (Wis. Ins. Sur.). MINNESOTA - Moth emergence well underway in northern and central districts and nearing

completion in southernmost districts. Ostrinia nubilalis laid eggs in east-central and southwest districts. One egg mass per 100 plants and no borers in one east-central area field. Some corn 54 inches tall and large enough in all districts to sustain borers. (Minn. Pest Rpt.). NEBRASKA - Infested 0-12 (averaged 1.75) percent of cornfield in Clay County. Infested 3-70 (averaged 30) percent of northeast district fields. Fed on 5 percent of corn in early planted, irrigated field in Gage County; corn averaged 96 inches extended leaf and beginning to silk out. Averaged 30 percent infested plants in 2 fields of 75-inch corn in Jefferson County. Fourth instars began to enter stalks in these fields. (Witkowski et al.).

POTATO STEM BORER (Hydroecia micacea) - NEW YORK - Reduced stand 50 percent in 10-acre Franklin County cornfield, infestations heavier in low areas of field with quackgrass. Late instars and pupae taken in St. Lawrence County. Spotty infestations county-wide. Damage mainly near field borders. (Muka, Willson).

CORN ROOTWORMS (Diabrotica spp.)- INDIANA - First D. longicornis (northern corn rootworm) adult of season in Tippecanoe County July 2. (Van Woerkom). First adult in blacklight trap in Vanderburg County June 21. (Ulagaraj). MISSOURI - D. longicornis adults averaged 5 per 25 corn plants in north-central area. D. virgifera (western corn rootworm) adults averaged 4.5 per plant on lodged popcorn in southwest area. Adults 23 per 25 plants in 3 of 47 fields in north-central area. (Thomas, Munson). NEBRASKA - First newly emerged D. virgifera adults at Mead, Saunders County, June 30. (Mayo). SOUTH DAKOTA - Diabrotica spp. larvae 4-67 per plant in southeast area. Most larvae in first and second instar with about 15 percent third instar. Single prepupa found June 30. (Walgenbach). MINNESOTA - Diabrotica spp. larval development appears slow due to excess moisture. Heaviest in southwest district. Larvae ranged 5-6 per plant in Lac Qui Parle County cornfield. Larvae trace in 2 southeast district fields. (Minn. Pest Rpt.). WISCONSIN - Nearly full-grown Diabrotica sp. larva in Iowa County cornfield. (Wis. Ins. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NORTH CAROLINA - Damaged Chowan County corn. Drought conditions increase damage probability. (Goodwin, Van Duyn).

SMALL GRAINS

WHEAT STEM MAGGOT (Meromyza americana) - COLORADO - Damage economic on spring wheat in Phillips County with up to 30 percent of plants affected in some areas of fields. (Hantsbarger). SOUTH DAKOTA - Damage in isolated fields up to 5-7 percent on Brookings County spring wheat and up to 40 percent on Tripp County winter wheat. Injury appears much more prevalent than in previous years. (Walgenbach).

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - ARKANSAS - Damaged rice roots in Clay County. Plants easily pulled up and some floating in water. Adult feeding signs nearly 100 percent earlier in season, but producers did not treat and were reluctant to drain due to short water supplies. Some producers treating now. (Boyer).

TURF, PASTURES, RANGELAND

GRASS BUGS - UTAH - Irbisia pacifica, I. brachycerus, and Labops utahensis severely damaged 5 acres of intermediate wheatgrass at Mantua, Box Elder County. Grass bugs, averaged 30 per sweep, damaged 3,500 acres of intermediate wheatgrass and other grasses in Round Valley, Morgan County. One grass bug per 30 sweeps in 900 acres of range treated in 1974; range green and undamaged. (Haws et al.).

A SCARAB BEETLE (Ataenius spretulus) - OHIO - All stages averaged 174 per square foot in untreated check plots on golf course fairways (annual bluegrass and bent grass mixtures) at Cincinnati, Hamilton County. Completely killed large patches of grass. (Skelly, Lewis).

WHITELINED SPHINX (Hyles lineata) - NEVADA - Mostly late instars, up to 3 larvae per forb plant and up to 4 larvae per desert peach (Prunus andersonii) plant on several hundred acres of rangeland in Red Rock Valley and Cold Spring Valley area, Washoe County. Heaviest infestations spotted and localized. (Bechtel, Clark).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - WASHINGTON - Larvae and adults collected from alfalfa at Warden, Adams County, May 20, 1975. Collected and determined by B. Madsen. Collected from alfalfa in Wena Valley, Yakima County, June 4, 1975. Collected and determined by J. Griffin. Collected from seed alfalfa at Odessa, Lincoln County, by E. Kulp June 16, 1975. Determined by A.L. Antonelli. These are new county records. (Antonelli). UTAH - Damage very light to first-crop alfalfa in Box Elder County. (Lindsay). NEBRASKA - Continued light in most fields in east and central districts. Adults averaged 1.6 and larvae 3.6 per 100 sweeps in 22 Dawson County fields. (Manglitz, June 25). Currently, adults 10-18 (averaged 12.5) and larvae 0-30 (averaged 8) per 10 sweeps in Gage and Jefferson Counties. Fields ranged 5-60 percent bloom stage. Some second cutting occurred. (Miller). OHIO - Larvae 29 and adults 61 per 100 sweeps in uncut alfalfa field in Wayne County June 27. (Lewis).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Ranged 5-100+ per sweep of hay alfalfa in Hualapai Valley, Washoe County. Predators, especially lady beetles, numerous in more heavily infested fields. (Barclay). Averaged 250 per sweep on second-growth hay alfalfa west of Fallon, Churchill County; many plants yellowed. (Kilpatrick). OKLAHOMA - Began buildup on alfalfa in Caddo and Washita Counties. (Okla. Coop. Sur.). MINNESOTA - Buildup unusually slow this season. Beneficial insects sufficient to hold down populations. Pea aphid ranged 20-40 (up to 200) per 100 sweeps in some fields. (Minn. Pest Rpt.). WISCONSIN - Remained under 10 per sweep of alfalfa in all areas surveyed. Parasitism by wasps continued high in most areas, up to 30 percent. Counts of 45 per sweep in 2 second-growth alfalfa fields, one each in Kenosha and Racine Counties. (Wis. Ins. Sur.).

REDLEGGED GRASSHOPPER (Melanoplus femurrubrum) - WISCONSIN - Emergence of first instars underway in most second-growth alfalfa. As high as 4 per sweep in some southern alfalfa fields. (Wis. Ins. Sur.).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Ranged 0-44 per 30 row feet of soybeans in Wagoner County. Light in Sequoyah County. (Okla. Coop. Sur.). KENTUCKY - Larval averages per row foot of soybeans: 1.62 in Hardin County and one larva in most western areas. (Yeargan, Raney).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Light across peanut belt; few moderate to heavy infestations in southwestern and south-central areas; some warrant control. (Jennings, et al.).

GRANULATE CUTWORM (Feltia subterranea) - GEORGIA - Light to moderate across peanut belt; 4+ larvae per foot of row in few infestations in south-central area. (Tankersley et al.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Punctured 0-21 percent of cotton squares in southwest counties. Adults appeared on Muskogee County cotton. Pheromone traps caught 161 adults in Jackson County. (Okla. Coop. Sur.). MISSISSIPPI - Infested cotton in all counties in hill section. Punctured squares by county: Yalobusha 0-20, Lowndes 10-30 in 500 acres, Rankin 0-5 in 5,000 acres, Carroll 0-10 in 1,500 acres, and Noxubee 0-30 in 2,500 acres. (Robinson). ALABAMA - Heaviest of past 10 years. Overwintered weevils still taken in sex-lure traps on large farm in Macon County. Infested 20-68 percent of squares in several fields in area. Treatments applied on one farm. Infested 2-40 (averaged 15-20) percent of squares in several Elmore and Tallapoosa County fields. Infested 0-25 percent, mostly egg laying punctures, of squares in Cherokee County. "Hatch-out" expected July 8-11; "hatch-out" begun in older fields in southern and central areas. Heavy in Marengo County but cotton not fully fruiting on June 27. (Gilliland et al.). GEORGIA - Punctured up to 40 percent of cotton squares just starting to fruit in south area. (Womack). First-generation adults emerged in 2 fields with 40-percent punctured squares in Crisp County field. Increased in some fields with treatment underway in Colquitt County. (Womack et al.). TENNESSEE - Still heavy in traps in southern counties of western area. Feeding and egg laying punctures very evident in early cotton. Squares not enough to justify counts in this area or central area. (Locke, Cagle).

BOLLWORMS (Heliothis spp.) - OKLAHOMA - H. zea (bollworm) eggs and larvae light on most cotton in southwest counties but economic in few isolated fields. H. virescens (tobacco budworm) pheromone trap catches were 3 moths in 4 Grady County traps and 4 in 24 Jackson County traps. (Okla. Coop. Sur.). ARKANSAS - H. zea and H. virescens spotted infestations heavier than normal for this time of year in several areas. (Boyer). MISSISSIPPI - First

generation of Heliothis spp. on cotton, one of heaviest in several years. Damaged 10-15 percent of terminals in many fields in Yalobusha, Lowndes, Rankin, Madison, Carroll, and Noxubee Counties. Beneficial insects controlled this generation but few fields chemically controlled. (Robinson). ALABAMA - Heliothis spp. moth flights and oviposition decreased. Small larvae 1-14 per 100 terminals in Elmore, Tallapoosa, and Marengo Counties. Eggs 0-7 in Cherokee County with small larvae 0-3 per 100 terminals. (Lowery et al.). GEORGIA - Bollworm egg laying light, up to 7 small larvae per 100 cotton terminals in Calhoun County. Remained light in Crisp and Colquitt Counties. (King et al.). TENNESSEE - Heliothis spp. eggs 0-2 per 100 terminals in southern counties of central area. (Cagle).

TARNISHED PLANT BUG (Lygus lineolaris) - ALABAMA - Treatments applied to 1,000+ acres in Limestone and Jackson Counties. Light, 3-14 per 100 feet of row, in Cherokee County. Heavy in some Marengo County fields. (Salter et al.). MISSISSIPPI - Continued stable, increased in some cotton fields. "Hatch-out" of nymphs on cultivated cotton in Noxubee, Lowndes, and Chickasaw Counties. (Robinson).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - OHIO - Averaged less than one adult per tobacco plant in Brown County. Heaviest damage estimated at 5 percent foliar loss. Less than one percent foliar loss in most fields. (Lewis).

A TREE CRICKET (Oecanthus celerinctus) - NORTH CAROLINA - Adults fed on terminal growth of experimental tobacco in field near Clayton, Johnston County. About 30 percent of plants with damage similar to old budworm injury. Crickets ranged 1-3 on about 10 percent of plants. Rarely damages tobacco to any extent in State. (Mistic et al.).

SUGAR BEETS

SUGARBEET ROOT MAGGOT (Tetanops myopaeformis) - IDAHO - Fly activity in south-central area delayed by cool spring, peaked June 4-16. Catch on sticky stake traps less than half of catch for 1974. (Blickenstaff).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - OKLAHOMA - Larvae heavy, 5-25 per head, on blooming sunflowers checked in Harmon County. Many moths but no larvae in Jackson County. (Okla. Coop. Sur.).

CARROT BEETLE (Bothynus gibbosus) - OKLAHOMA - Light trap counts (one trap per county): Tillman 154, Greer 151, and Texas 22. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - UTAH - Moderately heavy on some Weber and Box Elder County potatoes and tomatoes. (Knowlton). MINNESOTA - Newly hatched larvae on early planted potatoes in Red River Valley; eggs laid on later varieties. No damage to date. Future treatments difficult due to extremely wet fields. (Minn. Pest Rpt.). MICHIGAN - Eggs and young larvae infested some potato fields where soil systemics not used and infested some end rows in systemically treated fields. (Liebherr).

GREEN PEACH APHID (Myzus persicae) - OREGON - Alates 1-5 per 100 bottom leaves on potatoes in Washington, Multnomah, and Clackamas Counties. Occasional non-winged adult appeared on field borders. (Collins).

COLE CROPS

CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) - INDIANA - Numbers equaled or exceeded those of Pieris rapae (imported cabbageworm); both beginning to cause extensive damage to collards, broccoli, cauliflower, and cabbage in Tippecanoe County gardens. (Chandler).

IMPORTED CABBAGEWORM (Pieris rapae) - WISCONSIN - Increasing number of adults laying eggs on cabbage in southeast, south-central, and east-central districts. Very early instars on garden cauliflower and broccoli in Dane County. (Wis. Ins. Sur.).

CUCURBITS

SQUASH VINE BORER (Melittia cucurbitae) - OKLAHOMA - Heavy on garden squash in Tulsa and Muskogee Counties. (Okla. Coop. Sur.). INDIANA - Adults active in Tippecanoe County. (McNeal). OHIO - Adults active in northeastern area. (Purrington).

CORRECTIONS

CEIR 25(21):419 - Top of page - "... Amblysius fallacis ..." should read "... Amblyseius fallacis ..."

CEIR 25(21):422 - New County Records - "... ARMORED SCALES (Aonidiella taxus, Diaspidiotus liquidambaris) ..." should read "... ARMORED SCALES (Aonidiella taxus, Diaspidiotus liquidambaris) ..."

CEIR 25(26):533 - "THREECORNERED ALFALFA HOPPER (Spissitilus festinus) ..." should read "THREECORNERED ALFALFA HOPPER (Spissitilus festinus) ..."

DECIDUOUS FRUITS AND NUTS

APPLE CURCULIO (Tachypterellus quadrigibbus) - ARIZONA - Damaged 2 commercial apple orchards in Oak Creek Canyon, Coconino County. Up to 5 oviposition punctures with many feeding punctures per fruit. Mainly infested Golden Delicious apples, but caused total loss in one orchard of 26 varieties. Heavy in abandoned orchards. Collected by J. May, April 23, 1975. Determined by R.E. Warner. This is a new county record. (Ariz. Coop. Sur.).

CODLING MOTH (Laspeyresia pomonella) - IDAHO - Pheromone trap catches of males at Moscow, Latah County: 0 on June 27-28, 6 on June 29-30, 21 on July 1, and 5 on July 2. (Portman).

LESSER PEACHTREE BORER (Synanthedon pictipes) - GEORGIA - Adults slightly increased over last period except during cloudy periods; averaged about 40-50 males per pheromone trap in Peach County. (Blythe).

TEPHRITID FLIES (Rhagoletis spp.) - OREGON - First R. indifferens (western cherry fruit fly) adults trapped in Union County June 30. Individual flies taken in pheromone traps in cherry orchards at Imbler and Cove. (Kirsch). MICHIGAN - R. cingulata (cherry fruit fly) peaked at New Era, Oceana County. (Nichols).

FALL WEBWORM (Hyphantria cunea) - GEORGIA - Light to heavy across south area on untreated pecan trees. (Ellis, French). OKLAHOMA - Light on Rogers County pecan trees and on pecans, persimmons, and sweetgums in Sequoyah County. Webs up to 6 inches in diameter. (Okla. Coop. Sur.).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - OKLAHOMA - Damaged nut clusters ranged 4.8-19.7 percent on untreated native pecans checked in Rogers County. (Okla. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - GEORGIA - Pecan nut drop first noted June 19 in Peach County. Adults averaged less than one per blacklight trap per night in Peach County. (Payne, Blythe).

ASIATIC OAK WEEVIL (Cyrtopistomus castaneus) - TENNESSEE - Heavily damaged pecan and Chinese chestnut trees in western area. (Gordon, Bruer).

PECAN SPITTLEBUG (Clastoptera achatina) - MISSISSIPPI - Second generation on pecans in 50-acre orchard in Lowndes County. Averaged one spittle mass per limb in 10 limbs on 3 trees sampled. (Neel). Second generation on Humphreys County pecans. (Cochran).

SMALL FRUITS

ROSE CHAFER (Macrodactylus subspinosus) - OHIO - Adults fed on grape blossoms in 2 Ashtabula County vineyards on June 19. Vines almost completely fruitless on July 1 while nearby vineyards had normal fruit set and development. Affected vineyards in sandy soil. (Williams).

ROSE SCALE (Aulacaspis rosae) - OHIO - Infested commercial black raspberries in Wayne County. (Williams).

ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - MISSISSIPPI - Third instars 75-150 per 3-foot bush on bushy junipers in Oktibbeha County. (Robinson). OKLAHOMA - Heavy on ornamental evergreens in Mayes and Muskogee Counties. Larvae averaged about 0.5 inch and 100+ per plant. (Okla. Coop. Sur.).

AN ARMORED SCALE (Pseudaulacaspis cockerelli) - FLORIDA - Moderate on leaves of one Pandanus sp. (screwpine) examined at retail outlet in Ft. Pierce June 17. Adults heavy on stems and leaves of all 10 Calathea discolor plants at nursery in Ocoee, Orange County, June 24. Both host records for State. (Fla. Coop. Sur.).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - WISCONSIN - Moth emergence began week of June 23. (Gall). MINNESOTA - Heavy balsam fir defoliation in local areas north of Duluth, Saint Louis County. Feeding ended for season, pupation beginning. (Minn. Pest Rpt.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - MICHIGAN - Pupation about 60 percent at Lansing, Ingham County. Emergence in next 7 days. (Wallner).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - DELAWARE - Fifth instars heavy, up to 10 larvae in 4-inch terminal on Japanese black pine in Sussex County. (Burbutis).

SOUTHERN PINE BEETLE (Dentroctonus frontalis) - TENNESSEE - Continued to kill pines in large area of eastern section. (Mullett).

PINE SPITTLEBUG (Aphrophora parallela) - WISCONSIN - Adults comprised 25 percent of population in Jackson County as of July 1. Heavily infested Scotch pines in Chippewa, Clark, Eau Claire, and Jackson Counties. (Wis. Ins. Sur.).

LOCUST LEAFMINER (Xenochalepus dorsalis) - WEST VIRGINIA - Larvae damaged 40-50 percent of all trees observed in Kanawha County. (Hacker). VIRGINIA - Damage heavy in Roanoke (60 percent of leaves injured), Botetourt (50 percent injury), and Rockbridge Counties (50 percent injury) and very light in Shenandoah, Warren, and Frederick Counties. (Allen). KENTUCKY - Damaged many central area locust trees. Destroyed 10-95 percent of foliage in many areas. (Barnett).

ELM LEAF BEETLE (Pyrrhalta luteola) - MICHIGAN - Moving to tree bases to pupate. Second brood expected late July. Spring brood considered most troublesome. (Wallner). OKLAHOMA - damage heavy to Siberian and American elms in Major County. (Okla. Coop. Sur.). OREGON - Larval feeding damage noted on untreated Chinese and Siberian elms at southeast Portland, Multnomah County, July 1. Most immatures in second instar. (Penrose).

FALL WEBWORM (Hyphantria cunea) - MISSISSIPPI - Webs up to 2 feet in diameter on oaks, pecans, and hickory in all sections. (Robinson). TENNESSEE - Larvae, earlier than normal, and feeding on variety of trees in western and central areas. (Gordon, Locke).

A TORTRICID MOTH (Archips negundanus) - UTAH - Severely defoliated boxelder trees at mouths of Logan and Wellsville Canyons, Cache County. Defoliation 20-50 percent at Pleasant Grove, Salem, and Mapleton in Utah County. (Davis, Knowlton).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 346 cases reported from continental U.S. during June 22-28 as follows: Texas 342, New Mexico 1, Arizona 3. Total of 127 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 150,987,000 as follows: Texas 135,039,000 (including additional 420,000 released week ending June 21); New Mexico 180,000; Arizona 15,758,000. Total of 25,958,000 sterile flies released in Mexico. (Vet. Serv.).

A TABANID FLY (Silvius pollinosus) - NEW MEXICO - Four females collected while biting man at Bitter Lake Wildlife Refuge, Chaves County, May 7, 1975. Collected by W. Iselin. Determined by F.C. Thompson. This is a new State Record. (N.M. Coop. Rpt.).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Collections on beef cattle by county: Choctaw and Lafayette June 25, 1974; Holmes, Madison, Leake, Neshoba, and Kemper June 13, 1975; De Soto, Tunica, Coahoma, and Bolivar June 17, 1975; Tate, Panola, Quitman, Sunflower, Washington, Sharkey, and Issaquena June 18, 1975. Collected and determined by J.V. Robinson. These are new county records. Adults averaged 25 per face on beef cattle in Oktibbeha County. (Robinson). TENNESSEE - Observed on cattle in McNairy, Hardeman, and Fayette Counties June 30 and July 1. Averaged 12+ per head. Collected and determined by J. Locke. These are new county records. (Gordon, Bruer). KENTUCKY - Adults averaged 20.5 on Shelby County cattle. Very heavy on cattle and horses statewide. (Barnett). INDIANA - Heavy; increased incidence of pink eye in cattle and sheep in Warren County. (Chandler). ILLINOIS - Averaged 32.5 and 29.8 on untreated beef cattle in Grundy and DeWitt Counties, respectively. (Ill. Ins. Rpt.). ARKANSAS - Collected on beef cattle near Harrison, Boone County, by W.P. Boyer and B.F. Jones July 1, 1975. Collected on beef cattle at Sweet Home, Pulaski County, by W. Beaty July 1, 1975. Both determined by E.P. Rouse. Both are new county records. (Boyer). OKLAHOMA - Moderate to heavy on Nowata County cattle. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - ALABAMA - Heavy, 200+ per animal, on most cattle throughout Wilcox County. (Farquhar). MISSISSIPPI - Adults averaged 200+ on beef cattle in Monroe, Clay, Lowndes, Noxubee, Attala, and Calhoun Counties. (Robinson). TENNESSEE - This species and tabanid flies heavier than usual for time of year in western area. (Locke). ILLINOIS - Averages of 125 and 360 on untreated beef cattle in Grundy and DeWitt Counties, respectively. (Ill. Ins. Rpt.). OKLAHOMA - Moderate to heavy on beef cattle in Mayes, Nowata, and Hughes Counties. (Okla. Coop. Sur.). NORTH DAKOTA - Ranged 100-500 (averaged 400) per animal on McKenzie County beef cattle. (Brandvik).

MOSQUITOES - WISCONSIN - Continued heavy in many areas, especially near wooded lowlands. Aedes vexans continued dominant on humans in most west-central counties. Annoyed cattle severely in portions

of Polk and Outagamie Counties. (Wis. Ins. Sur.). NEW MEXICO - Anopheles freeborni larvae increased, 2.6 per dipper, in Dona Ana County. Anopheles adults common in moist areas of pecan groves. One Aedes dorsalis specimen in bite collection. Culex tarsalis larvae and pupae taken in this area. (N.M. Coop. Rpt.).

SHEEP BOT FLY (Oestrus ovis) - INDIANA - First adult of season July 2 in Warren County. (Chandler).

NORTHERN FOWL MITE (Ornithonyssus silviarum) - VIRGINIA - Moderate to heavy on caged laying hens (Rhode Island cross) in Roanoke County June 25 and on caged layers (White Leghorns) during June at Rural Retreat, Wythe County. Intense infestation on nestling passerine birds on farm in Montgomery County. (Hall, Townsend).

ITCH MITE (Sarcoptes scabiei) - OHIO - Infested 25 8-week-old Duroc pigs in Auglaize County. Affected over 95+ percent of skin on one pig. (Fox, Alden).

HOUSEHOLDS AND STRUCTURES

CARPENTER BEE (Xylocopa virginica) - INDIANA - Serious infestations still reported throughout Tippecanoe County. Some redwood structures with multiple entrance holes, 25+ per 8 feet. Extensive damage to siding of one home in Carroll County. (Chandler).

BENEFICIAL INSECTS

A BRACONID WASP (Microctonus aethiops) - OHIO - This parasitoid of Hypera postica (alfalfa weevil) recovered May 20 from Clark County release site. Parasitism ranged 1-26.7 (averaged 6.8) percent. Following are new county records. Collected from alfalfa weevil adults by county: Wyandot on May 28; Wood, Henry, Putnam, and Seneca on June 4; and Sandusky on June 16, 1975. All collected, reared, and determined by J.K. Flessel. (Flessel, Lewis).

A EULOPHID WASP (Tetrastichus julis) - PENNSYLVANIA - Recovered from Oulema melanopus (cereal leaf beetle) larvae as follows. Carrolltown, Cambria County, by L. Pealer June 24; Franklin Township, Huntingdon County, by K. Kadow June 3; Indiana County by L. Pealer June 4. These are all first recoveries in these counties. (PPQ).

A MEAGACHILID BEE (Megachile pacifica) - NEVADA - Heavy adult emergence at Lovelock, Pershing County. Emergence began at Orovada, Humboldt County. (Arnett).

ALKALI BEE (Nomia melanderi) - NEVADA - Males emerged previous period and females currently emerging at Lovelock, Pershing County. (Arnett).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - VIRGINIA - Larvae completed development in Shenandoah Valley. Small grain damage spotty but severe in some areas. (Allen). PENNSYLVANIA - Survey of oats in 17 counties June 18-26: Adults 1-15 per 100 sweeps; eggs 1-32 and larvae 1-66 per 10 foot row; damage up to 80 percent. (Gates).

GRASSHOPPERS + NORTH DAKOTA - Ranged from less than one to 30 (averaged one) in McKenzie County alfalfa fields. Marginal populations ranged from less than one up to 40 (averaged 7.5) per square yard. Melanoplus sanguinipes dominant. M. bivittatus, M. packardii, and M. sanguinipes in first through fifth instars. Some light marginal damage in wheatfields. M. sanguinipes and M. bivittatus ranged 5-20 (averaged 8) per square yard in Sheyenne National Grasslands. Populations in second and fourth instars. (Brandvik, Carey). SOUTH DAKOTA - Grasshoppers up to 120 per square yard with 30-40 per square yard common in some areas, mostly nymphs. (Walgenbach). OKLAHOMA - Cooperative control program involving 24,155 acres of rangeland in Roger Mills County completed June 25. (Okla. Coop. Sur.). NEW MEXICO - Delimiting surveys near Monero, Rio Arriba County, established about 100,000 acres of infested rangeland. Controls under consideration. Additional 35,000 acres infested near McGaffey, McKinley County. Aulocara and Grammerotettix dominant genera. (N.M. Coop. Rpt.). NEVADA - Fourth instars to adults of M. sanguinipes averaged 4-15 per square yard on 1,320 acres of mostly hay alfalfa, some mixed hay alfalfa and barley fields, in northern Hualapai Valley, Washoe County. Averaged 30 per square yard on windrows and 15 per square between windrows on 60 acres of hay alfalfa at Clear Creek, Washoe County. (Barclay). MONTANA - First to third instars of unspecified species 30+ per square yard in headlands, borrow pits, and grain borders south of Glendive, Dawson County. (Pratt).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - First pupae of season on oaks in Juniata County June 17. (Quimby). Pupae in Schuylkill County June 19 (Ticehurst) and in Columbia County June 25. (Jackowski).

MORMON CRICKET (Anabrus simplex) - NEVADA - Adults less than one to 6 per square yard in scattered pockets on about 640 acres of rangeland in Wight Canyon area, Humboldt Range, Pershing County. (Barclay).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Light populations on thistle in Rockingham County June 18; on grapes in Shenandoah County; on sassafras in Frederick and Warren Counties July 1, 1975. (Allen, Szarzynski). WEST VIRGINIA - Adults first emerged in Pocahontas and Pendleton Counties July 1. Many adults lightly damaged green beans and ornamentals in Hardy and Grant Counties. (Hacker). OHIO - Adults began feeding on raspberries, blueberries, and grapes in northeastern area. (Williams). WISCONSIN - First adult trapped week of June 22 at Kenosha in same area where some taken annually since 1972. Area heavily trapped in 1974, but none taken outside small 2 by 5 block area. Efforts to detect grubs or beetles feeding on foliage in area not successful to date. (Wis. Ins. Sur.).

HAWAII INSECT REPORT

New State Record - Adults of a DYTISCID BEETLE (Hygrotus medialis (Le Conte)) collected at Lake Waiiau, Hawaii Island, in September 1974 by J. Machialek. Two adults collected in light traps at Kohala, Hawaii, in March 1975 by J.W. Beardsley. Further information not available at this time. Determined by P.J. Spangler. (Beardsley).

General Vegetables - GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) heavy on eggplant in backyard plantings at Waianae, Oahu. All stages present. Light on beans and hechima in same area. (Sanidad).

DETECTION

New Western Hemisphere Record

A SIRICID WASP (Eriotremex sp.) - ALABAMA - One adult collected from firewood in home near military flying school at Dozier, Covington County, by J.D. Clark May 9, 1975. Determined by D.R. Smith. Known only from southeast Asia, this is a new Western Hemisphere record. Adults had been emerging for several days. Firewood had many exit holes, 0.25 inch wide. Two larvae, few pupae, and several adults remained. Winged adults were as deep as 2-3 inches in heartwood. Firewood cut from Quercus sp. (water oak) tree on property in late December 1974. Infested dead water oak tree near house and hardwood log on ground. (PPQ).

New State Records - A TABANID FLY (Silvius pollinosus) - NEW MEXICO - Chaves County. (p. 580). A DYTISCID BEETLE (Hygrotus medialis) - HAWAII - Hawaii Island. (p. 583).

New County Records - ALFALFA WEEVIL (Hypera postica) WASHINGTON - Adams, Yakima, Lincoln. (p. 574). APPLE CURCULIO (Tachypterellus quadrigibbus) ARIZONA - Coconino (p. 578). A BRACONID WASP (Microctonus aethiops) OHIO - Wyandot, Wood, Henry, Putnam, Seneca, Sandusky. (p. 581). FACE FLY (Musca autumnalis) ARKANSAS - Boone, Pulaski. MISSISSIPPI - Choctaw, Lafayette, Holmes, Madison, Leake, Neshoba, Kemper, De Soto, Tunica, Coahoma, Bolivar, Tate, Panola, Quitman, Sunflower, Washington, Sharkey, Issaquena. TENNESSEE - McNairy, Hardeman, Fayette. (p. 580).

LIGHT TRAP COLLECTIONS

	Precipitation (Inches)	Temperature (F)	Humidity (%)	Wind (Mph)	Direction	Time of Day	Trap	Light	Moisture	Other	Backlight	Species	Count	Notes
COLORADO														
Denver 6/20-27	BL													
FLORIDA														
Gainesville 6/27-7/2	BL													
INDIANA (Districts)														
Northwest 6/21-27	BL													
Southwest 6/26-7/2	3BL													
KENTUCKY (County)														
Fayette 7/2-3	BL													
MICHIGAN (Counties)														
Lenawee 6/23-30	BL													
Oceana 6/23-30	BL													
MINNESOTA														
Fergus Falls 6/26-7/3	BL													
Worthington 6/26-7/3	BL													
MISSISSIPPI														
Stoneville 6/27-7/3	2BL	1.50												
NEBRASKA														
Scottsbluff 6/21-26	BL													
NEW JERSEY														
Vineland 6/25-7/1	BL													
Seabrook 6/25-7/1	BL													
NEW MEXICO														
Dona Ana 6/27-7/3	3BL													
NORTH DAKOTA														
Bismarck 6/26	BL													
Bottineau 6/26	BL													
OHIO														
Wooster 6/28-7/3	3BL													

LIGHT TRAP COLLECTIONS

Precipitation / Type of Trap	Temperature / Size of Trap	Species	No. of Specimens	19		2		17		4		50		1		1		2		2		1		1	
				14BL	8BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL
PENNSYLVANIA (Districts)																									
Central 5/19-7/1																									
South East 6/19-7/1																									
SOUTH DAKOTA																									
Brookings 6/25-7/2																									
WEST VIRGINIA (Counties)																									
Kanawha 7/2																									
Randolph 6/30																									
WISCONSIN																									
Lancaster 6/26-7/1																									
Mazomanie 6/26-7/1																									

Weather of the week continued from page 568.

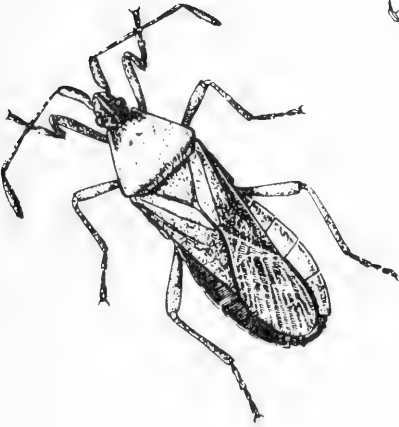
occurred from west-central Texas into Tennessee and western South Carolina and throughout the gulf States. Showers developed into thunderstorms from the Pacific Northwest through Montana. The pattern changed some on Thursday, and thunderstorms were reported throughout Texas and east to Alabama and north to southern Oklahoma and Arkansas. A cold front moving south triggered showers and some severe weather from Wisconsin to Virginia and through the Lakes and New England. Golf ball-size hail fell in southern Wisconsin and in northern Ohio. The northern Rockies experienced showers which developed into evening thunderstorms. A drastic flash flood occurred in Las Vegas, Nevada, in the afternoon as a result of sudden heavy rain in the vicinity. The Fourth of July saw some respite in the concentration of thunderstorms. Widely scattered storms occurred in Texas and Oklahoma, a few along the gulf coast, and in the Tennessee and Ohio River Valleys. More numerous storms were reported from South Carolina to Maryland and in northern New England. More rain fell in the troubled Red River Valley. Light showers from Nevada to Montana completed the picture. Saturday, thunderstorms were concentrated in the upper Mississippi Valley with the greatest activity in the vicinity of northeast Iowa. Other heavy storms were near the confluence of the Ohio and Mississippi Rivers. Widespread storms occurred in the Plains from Indiana, south through Alabama and in the Southeast. Tornadoes were reported in Indiana, South Dakota, and Florida. Hail of 1-2 inches fell in Illinois. After some weakening early Sunday, storms intensified again with most activity being noted from the western Great Lakes to the middle Mississippi Valley and from the southern Appalachians to the mid-Atlantic coast. More were found over the central gulf coast and Florida. A fifty m.p.h. wind was clocked in New Orleans, Louisiana. Late in the day, thunderstorms began to form along the eastern slopes of the Rockies from Wyoming to Texas.

TEMPERATURE: Average temperatures for the week showed most of the Nation to be above normal. California, Texas, Oklahoma, and Louisiana, and the east coast from New England through Georgia and Florida were below normal. The northern Plains and the Midwest were hot and muggy all week. On Monday, air stagnation advisories were issued for southern Indiana and Ohio, and all of Kentucky. Afternoon temperatures were in the 90's and relative humidity in the 70's. Tuesday morning saw record low temperatures in the Southeast, and air stagnation continued in the Midwest. Casper, Wyoming, had a record high temperature of 95 degrees and Scottsbluff, Nebraska, 101 degrees. Thursday, the sweep of hot moist air from the gulf and hot dry air from the Southwest brought temperatures above seasonal normals in the Plains, the Mississippi Valley, and the Great Lakes States. Temperatures of 100 degrees were reported as far north as South Dakota. Many States issued livestock safety advisories due to the hot weather. A cold front moving south from New England began to cool some areas and stir circulation in others so that some relief from air stagnation began on Friday. However, on Saturday, Little Rock, Arkansas, reported a low of only 78 degrees, the highest low on record for the date. Except for the Pacific coast most of the Nation continued to have temperatures in the 80's and 90's on Sunday. However, stagnation and the resulting pollution was not as bad as in the early part of the week.

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Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

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New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

ARMYWORM populations and damage on corn and small grains reported heavy by nearly all States. (p. 635).

GREENBUG very severe on sorghum in Texas, Oklahoma, Kansas, and Nebraska. Dryness, insecticides, and reinfestations made problems worse in some States. (pp. 636-637).

EUROPEAN CORN BORER infestations on corn heavy in Maryland and Virginia and one of heaviest in Wisconsin. (p. 638).

CORN ROOTWORM root damage severe in Kansas, Nebraska, and Minnesota; larval numbers economic on corn ears in Nebraska and Missouri. (pp. 639-640).

BOLLWORM egg counts on cotton increased in parts of Texas, were heavy in North Carolina, and expected to increase in Alabama. (p. 642).

Detection

New State Records include a SAWFLY in Kentucky (p. 647) and an APHID in Hawaii (p. 650).

For new county records see page 644.

Reports in this issue are for week ending July 25 unless otherwise indicated.

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NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

AUGUST 1975

The National Weather Service's 30-day outlook for August is for temperatures to average below seasonal normals over the South and the southern Great Plains. Above normal temperatures are indicated for the North Atlantic States, and also from the Upper Mississippi Valley westward to the North Pacific Coast and in western portions of the Great Basin and interior California. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed the median amount over the central and southern Plateau Region, the North Pacific Coast, the southern Great Plains, and the eastern third of the Nation except for the central and southern Appalachian Mountains. Elsewhere less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - ALABAMA - This species and Spodoptera frugiperda (fall armyworm) damaged corn in Geneva, Mobile, Houston, Montgomery, Escambia, and Coffey Counties. (Reynolds et al.). NORTH CAROLINA - Treatments applied to 200 acres of pasture in Washington County. (Van Duyn). NEW HAMPSHIRE - Outbreak reported at Epsom, Merrimack County, on hayfields week of July 15. (Bowman). MICHIGAN - Continued to damage small grains, corn, and other crops (peas in one case). Longest, most extensive, and most erratic outbreak ever in State. Losses in oats, corn, barley, and some wheat in scattered fields over entire State. Controls effective. Weed grasses in no-till and conventional-till corn increased severity of infestation in corn and to some extent in small grains. (Ruppel).

WISCONSIN - Armyworm heavier than usual on corn, grains, peas, and alfalfa in northern half of State. Most fields below economic threshold. Damage heaviest in north-central Chippewa County where many fields had nearly all corn infested; all leaves stripped and silk feeding heavy in severe cases. Some clipping of oat heads; growers more concerned over damage to new seeding alfalfa under oats. Up to 25 per square foot in lodged grain fields in Langlade County. Up to 50 per square foot of peas in Lincoln County. Larvae ready to pupate in Eau Claire, Chippewa, Rusk, and Barron Counties. Mostly half-grown larvae on Langlade County oats. Parasitism in Chippewa County on 15-20 percent of larvae, with Winthemia quadripustulata (a tachina fly) greatly outnumbering Apanteles militaris (a braconid wasp). Predaceous ground beetles numerous in infested fields. Armyworm heavy in Trempealeau, Pepin, Polk, Barron, Rusk, Chippewa, Eau Claire, Jackson, Marathon, Lincoln, Shawano, Langlade, Door, Green Lake, and Marinette Counties. (Okla. Coop. Sur.).

MINNESOTA - Armyworm noneconomic but infested most crops in all districts. Larvae economic, 5 or more per square foot, in occasional grain field in Red River Valley; 10 per square foot in 2 fields earlier this period. Most barley still green or just turning color in northwest district. One group of larvae near pupation; other group mostly in second and third instar. Two groups resulted from 2 separate flights, heavier flight coming somewhat later. Treatment most extensive in Becker, Mahnomens, Norman, Polk, Red Lake, Chippewa, Swift, Renville, and Stevens Counties. Sprays applied to 30,000-40,000 acres of grain each in Becker and Chippewa Counties. (Minn. Pest Rpt.).

SOUTH DAKOTA - Armyworm active in Marshall County late-planted grains. (Walgenbach). NORTH DAKOTA - Cut stems and clipped heads of barley and durum wheat in Traill County. Larvae 1-23 per square foot in small grains; largest larvae about half grown. Still hatching. Up to 8 per square foot in Dickey, Sargent, and Richland Counties. (Scholl).

ASTER LEAFHOPPER (Macrostelus fascifrons) - WISCONSIN - Aster yellows disease in 8 percent of population. Aster yellows infected weeds in most areas, infected 20-30 percent of lettuce field not yet heading at Montello, Marquette County, 15 percent in adjacent carrot field, and 1-5 percent in carrot field at Portage, Columbia County. (Wis. Ins. Sur.).

CORN EARWORM (Heliothis zea) - TEXAS - Still caused problems throughout south-central area. Fed on sorghum heads in Baylor, Dickens, Fisher, and Knox Counties. Damage not excessive. (Cole, Boring). OKLAHOMA - Up to 3 per ear in garden sweet corn checked in Muskogee County. Ranged 1-3 per row foot in Hughes County peanut field. Averaged one per 10 heads in grain sorghum field in Garvin County. (Okla. Coop. Sur.). NEBRASKA - Infested 3-5 (averaged 7) percent of ears in 3 cornfields in Nemaha and Otoe Counties. (Miller). VIRGINIA - Infested 13.7 percent of all ears of field corn in 30 cornfields (750 ears of corn) in Tidewater region. Percent infested ears (compared with percentage for 1974) by area: South of James River 21.2 (10.8), middle Peninsula 17.2 (14.0), Northern Neck 0.3 (1.2). Mostly second and third instars. (Allen). MARYLAND - Flight activity increased slightly on lower shore. Heaviest average of 14 per night at Salisbury, Wicomico County. Tip injury in field corn remained 5 percent on Eastern Shore. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Increased in sorghum at Bonita, Graham County. (Ariz. Coop. Sur.). OKLAHOMA - Ranged 250-500 per sorghum seedling in southwest area. Up to 500 per plant on older sorghum in Beckham County. (Okla. Coop. Sur.). KANSAS - Heavy infestations week ending July 18 currently declined in sorghum whorls in southwest area. (Bell). NEBRASKA - Decreased sharply on sorghum and to some extent on corn in central, east, and eastern portion of southeast districts but still numerous on both crops in northeast and western portion of southeast district. Up to 6,500 per plant on Clay County sorghum. (Raun et al.). NORTH DAKOTA - Up to 300 per corn leaf in Sargent County. (Scholl).

GREENBUG (Schizaphis graminum) - NEVADA - Heavy along with Macrosiphum avenae (English grain aphid) on 120 acres of wheat at Lovelock, Pershing County. Treatments applied. (Martinelli).

TEXAS - Greenbug moderate to heavy in isolated fields of grain sorghum in Pecos and Reeves Counties. Reduced by beneficial insects in Hill and Ellis Counties. Most grain sorghum began to mature. Increased on sorghum in Rolling Plains. Heavy in Dickens and Jones Counties. Some producers applying control measures. Moderate on sorghum in Fisher and Knox Counties. Light throughout Rolling Plains area. Lady beetles and lacewings preyed heavily on greenbugs in some sorghum fields in Jones and Knox Counties. Parasitic wasps deposited eggs on greenbugs in 2 Knox County fields. Greenbugs built up to 2,500 per plant in untreated Hale County fields. Treatments hampered by rainfall and high winds. Greenbugs resistant to most, if not all, registered insecticides. Most sorghum in Hale County treated. Due to control failure, some fields retreated. Beneficial insects too light. (Neeb et al.).

OKLAHOMA - Moderate to heavy on southwest area grain sorghum. Up to 3,000 per plant in boot to bloom fields, up to 750 per plant in preboot fields, and up to 120 per linear foot in very young fields. Spraying underway. Up to 700 per plant on 12 to 15-inch sorghum in Beckham County and up to 120 per plant on 8-inch sorghum. Scattered heavy infestations in Washita and Caddo Counties. Ranged 21-1,500 per plant in irrigated fields in Texas County and 0-500 per plant in dryland fields; still increasing. Up to 80 per plant on 2-foot plants in Hughes County and up to 120 per plant on 2.5-foot plants in Okfuskee County. Scattered and light in Payne and Noble Counties. (Okla. Coop. Sur.).

KANSAS - Greenbug heavy on sorghum in northeast district and in Wabaunsee, Shawnee, Douglas, and Osage Counties. Stand loss heavy in many late sorghum fields in Marshall County. Plant damage severe to late sorghum in Nemaha, Brown, and Jackson Counties. Treatments applied but rapid reinfestation by large flights common. Generally light on sorghum in Stafford County and in western districts. Some threatening infestations on sorghum in Republic County. (Bell).

NEBRASKA - Greenbug increased. Up to 2,775 (averaged 242 per plant) in 214 Clay County fields; 38 percent of 264 fields recommended for treatment. Averaged 300 per sorghum plant in Cedar County. Light to moderate, averaged less than 200 per plant, on sorghum in Perkins, Chase, Dundy, Logan, McPherson, and Frontier Counties. Averages ranged 200-500 per plant in 6 of 13 fields in Lincoln, Red Willow, and Furnas Counties. Averaged 2,330 per plant, lower 4-5 leaves dead, in Nemaha County. Up to 600 per 6 to 7-inch plant of silage sorghum; one-half of field dead. Field averages ranged 25-1,000 per plant in Merrick, Hamilton, Hall, and York Counties; treatment recommended in most heavily infested fields. (Gary et al.). SOUTH DAKOTA - Rapidly built up on grain sorghum. Controls effective. Plant growth nearly stopped due to dryness. (Walgenbach).

MISSOURI - Greenbug infested 4-100 percent of plants in north-central and northwest areas. Ranged from few aphids per plant to moderate colonies on most leaves. Lost 2-6 lower leaves due to feeding and lack of moisture in some late-planted north-central area fields. Parasites and lacewings increased. (Munson). IOWA - Light in one field of replanted, 12-inch tall forage sorghum in Boone County. (Iowa Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - MISSOURI - Continued light to moderate, 26 to 100+ per 10 sweeps, on alfalfa in north-central and northwest areas. (Munson). IOWA - Still present on alfalfa. Cutting and/or treatments reduced damage. (Iowa Ins. Sur.). MINNESOTA - Damage extensive on alfalfa and potatoes. Up to 1,100 per 100 sweeps, 70 percent nymphs, in central district alfalfa field. Volunteer alfalfa in corn often devoid of green color due to feeding of pest. Damaged green beans in gardens at Minneapolis and St. Paul. (Minn. Pest Rpt.).

WISCONSIN - Potato leafhopper and Acyrtosiphon pisum (pea aphid) damaged forage in southwestern district. Potato leafhopper increased statewide, few fields contained over 30 per sweep. Dry, warm conditions promoted rapid development. Up to 6 per sweep on Winnebago County soybeans; numerous on undersides of leaves. Increased in most potato and bean fields; lush potato vine growth prevented deep spray penetration. Up to 5 per sweep with 3-5 nymphs per leaflet near base of potato plant in Adams County field. Up to 4 per sweep in snap bean field in Adams County. Up to 2 per sweep of navy beans in Eau Claire and Trempealeau Counties. Up to 6 nymphs per leaflet in Adams and Trempealeau Counties. Damaged beans and potatoes where control was lax. (Wis. Ins. Sur.).

INDIANA - Potato leafhopper still problem on alfalfa. Averages ranged 1-4 per sweep in northern district; most fields nearing third cutting. (Edwards). OHIO - Averaged 1.2 adults per sweep on unsprayed alfalfa in Pickaway, Ross, and Jackson Counties. Damage moderate but some severe stunting and yellowing. Controls effective; adults averaged 0.2 per sweep. (Lewis). MICHIGAN - Damaged Ingham County alfalfa week ending July 18. Threatening populations in Clinton County beanfields. (Ruppel, Jennings).

TOMATO HORNWORM (Manduca quinquemaculata) - TEXAS - Stripped foliage from tomatoes in gardens in Dickens and Wilbarger Counties. Light to moderate in gardens in El Paso, Culberson, Reeves, Pecos, Ward, and Winkler Counties. (Boring, Neeb).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Catches of first-generation moths increased heavily in light traps in Shawnee, Stafford, Pawnee, and Kiowa Counties; flights began in Republic and Finney Counties. Fresh eggs on 12 percent of corn in Stafford County field. (Bell). NEBRASKA - Pupae numerous in southeast, east, and central districts; adults emerged. Trace in southwest district. (Miller et al.).

MISSOURI - European corn borer adults active in northwest area during cool weather following rains. Egg masses ranged 3-27 per 100 plants. (Munson). IOWA - Eggs laid by first-generation moths on 3-5 percent of corn in Lee County. (Iowa Ins. Sur.). MINNESOTA - Pupated in southwest district. Very light in all districts with little damage. (Minn. Pest Rpt.).

KENTUCKY - First instars of second-brood European corn borer in McCracken County July 17. (Gregory, Barnett). ILLINOIS - First generation very light in east-central area. (Ill. Ins. Rpt.). WISCONSIN - Second flight began at Mazomanie, Dane County. Pupae encountered from Lafayette County north to Eau Claire and Portage (in potatoes) Counties and east to Dodge and Waukesha Counties. Third to fifth instars reported last 2 periods. Infested over 20 percent of plants in several fields in Door County, heaviest in 15 years of observation. (Wis. Ins. Sur.).

OHIO - First-generation moths emerged. O. nubilalis increasing in blacklight traps in Wayne County. First moth of new generation caught July 17 with captures since then averaging 19.6 moths per night. (Lewis). VIRGINIA - Larvae heavy on field corn, about half of ears in Tidewater region infested with most heavy infestation in Northern Neck region. (Allen). MARYLAND - Blacklight catches continued to average 5-10 per night in Wicomico, Somerset, and Worcester Counties; fewer in other areas. Egg mass counts as high as 30 percent in Wicomico County cornfield. Rapid increase began on lower Eastern Shore. (U. Md., Ent. Dept.). DELAWARE - First-brood larvae in corn 85-percent pupated; adults 20+ per night in blacklight traps in Sussex County. (Burbutis).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - TEXAS - Adults of second generation emerged. (Latham). KANSAS - Some first-generation larvae still on Stafford County corn; pupation 80-85 percent and moth emergence underway; eggs on 0-18 percent of corn, mostly fresh eggs but some "red-bar" stage. Pupation 50-75

percent in Kiowa and Stevens Counties. Southwestern corn borer moths of first generation increasingly heavy in tungsten light trap in Stafford County, 173 moths on July 23. Few moths trapped in Pawnee County. (Bell). TENNESSEE - Damaged Lincoln County corn. (Winsett). KENTUCKY - First adults emerged in Christian County July 16. (Gregory, Barnett).

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - Continued severe problem of field corn in many northern areas. Up to 6 third to fourth instars per ear on some ears near Hawthorne, Alachua County, July 19; completely destroyed 500 of 800 acres of field corn by July 22 (corn salvaged for silage); grain loss expected in 25-40 percent of remaining 300 acres. Damaged 50-100 percent of ears of late-planted commercial field corn at Hastings, St. Johns County; damage light on early corn but severe on several hundred acres of late-planted corn. Larvae began move into nearby sorghum: Larvae averaged 2-4 per ear in field of late-planted field corn at Newberry, Alachua County; very little damage in early plantings. Larvae averaged 2.5 per ear of field corn on farm in Jackson County. Destroyed 7 acres of field corn (both ears and foliage) at Perry, Taylor County. (Fla. Coop. Sur.).

WESTERN BEAN CUTWORM (*Loxagrotis albicosta*) - KANSAS - Eggs trace in one cornfield each in Wichita and Greeley Counties. Fresh to hatching eggs, some young larvae, on trace to 90 percent of corn in southwest Finney County. (Bell). NEBRASKA - Light on southwest district corn; heaviest, up to 5 per 100 plants. Adults increased in light traps in central and east districts. Averaged one egg mass per 3 plants in Chase County field. (Campbell et al.).

CORN ROOTWORMS (*Diabrotica* spp.) - KANSAS - Serious root damage by *D. virgifera* (western corn rootworm) in untreated Finney County cornfield. Severely damaged roots on 80 percent of corn in Sherman County field. Adults averaged up to 4 per plant in Cheyenne County; many larvae and pupae still on corn in northwest district. Most larvae emerged as adults in southwest district; adults generally light. (Bell). NEBRASKA - *Diabrotica* spp. adults up to 10 per ear tip in silking and tasseling corn in Merrick, Hall, Hamilton, and York Counties. Adult averages ranged 3-5 per plant in Thurston and Antelope Counties. Root loss 90 percent in low areas of Perkins County field treated at planting. Losses heavy in 4 untreated Brown County fields when watered previous to high winds; feeding light in untreated fields. Adults averaged 2 per plant in 2 Nemaha County fields. Adults, averaged 10+ per plant, clipped silks back to ears; root loss up to 90 percent in low areas of 3 Otoe County fields which received heavy rains shortly after treatment at planting. Problem accentuated by severe distortion of brace roots due to poorly timed treatments. (Witkowski et al.).

MISSOURI - *Diabrotica virgifera* light to heavy on corn in north-central and northwest areas. Adults ranged 1.5-19.0 per plant. Averages of 8, 11, and 12.5 adults per plant in untreated fields. (Munson). IOWA - *Diabrotica* spp. adult emergence in Shelby County, up to 5 per plant, 7 to 10 days ahead of 1974. (Iowa Ins. Sur.). MINNESOTA - *Diabrotica* spp. adult emergence began. Much root damage but very little lodging. Very hard soil crust due to very dry weather, supported corn. (Minn. Pest Rpt.).

KENTUCKY - Diabrotica undecimpunctata howardi (southern corn rootworm) adults economic in few areas; noneconomic in most areas. (Barnett). D. virgifera adults ranged 0.5-7.0 per plant in 25 LaPorte County cornfields. Root damage evident in 5 fields. Infestations about same in St. Joseph County. (Ricciardi, Matthew). OHIO - D. longicornis (northern corn rootworm) adults ranged from one per 50 plants in Fairfield County to 1.2 per plant in Pickaway County. (Lewis). MICHIGAN - Most Diabrotica spp. adults emerged. Collection of adults in field near St. Johns, Clinton County, showed 97 D. virgifera, 25 D. longicornis, and one D. undecimpunctata howardi. (Verwey et al.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Very heavy buildup in Hill and Ellis Counties. Above treatment levels in Kaufman, Ellis, and Tarrant Counties. Very heavy, 10-30 per head, in some areas where sorghum still blooming. (Buxkemper et al.).

TURF, PASTURES, RANGELAND

BLUEGRASS BILLBUG (Sphenophorus parvulus) - MARYLAND - Damage light to moderate in Queen Anne's, Prince Georges, Montgomery, and Howard Counties in 700 acres of bluegrass sod. Larvae 3-6 per square foot; pupation underway. Increased in all central areas, counts heaviest of past 3 years. (U. Md., Ent. Dept.).

GRASS BUGS - UTAH - Labops utahensis very numerous, severely discolored grass areas in Franklin Basin, Cache County. Some additional injury from I. shulli, I. brachycera and lighter infestation of L. hesperius; troublesome in mountain grass areas west of Wales, Sanpete County. (Knowlton et al.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - UTAH - Ranged 15-20 per sweep on Cache County alfalfa. (Davis). IDAHO - Counts per 10 sweeps by county: Lincoln 5, Blaine 5 and 8, Gooding 2, Jefferson 2, Butte 3 and 4, Teton 10, Booneville 10, Fremont 3, and Caribou 1, 32, and 60. (Brusven).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Over 2,500 acres of hay alfalfa at Lovelock, Pershing County, treated for up to 1,000 aphids per sweep. Many seed alfalfa fields treated for up to 500 aphids per sweep. Numbers currently decreased; lady beetles averaged 25 larvae and 5 adults per sweep and aphids 5 per sweep in one untreated field. Buildup not so rapid as previously in treated fields. Generally lighter in south end of valley and higher in central and north end. (Munk). Up to 10 per sweep on hay alfalfa at Fernley and Dayton, Lyon County, and at Wadsworth, Washoe County; one 20-acre field at Dayton averaged 50 per sweep. (Barclay, Bechtel). Acyrtosiphon sp., caraganae group, and pea aphid in equal numbers, ranged 15-750+ per sweep on untreated hay alfalfa at Swingle Bench, Churchill County. Numbers constant within fields but varied greatly between fields. Field with 750+ aphids per sweep had averages of 14 lady beetle larvae and 5 adults per sweep, mostly Coccinella transversoguttata richardsoni and Hippodamia convergens (convergent lady beetle). (Barclay, Bechtel).

IDAHO - Pea aphids per 10 sweeps by county: Lincoln 4, Blaine 2, Gooding 6, Butte 6 and 7, Teton 4, Madison 1, Bonneville 100, Fremont 14 and 16, and Caribou 2, 3, and 4. (Sandvol). WISCONSIN - Heaviest in Grant, Crawford, Green Lake, Trempealeau, and Dodge Counties. Moderate, under 50 per sweep, in other areas. Damage heavy; some treatments made. These areas fairly dry. Reproduction rapid due to lower ratio of parasites to aphids and current weather. (Wis. Ins. Sur.).

LYGUS BUGS (*Lygus* spp.) - NEVADA - Increased rapidly on seed alfalfa at Orovada, Humboldt County. Averaged 3-4 adults and 10-20 nymphs per sweep. Treatments applied. Rapid buildup on seed alfalfa at Lovelock, Pershing County. Highest counts averaged 30 adults and nymphs per sweep. Predators lightest in moist areas. Big-eyed bugs and damsel bugs numerous. (Lauderdale et al.).

SOYBEANS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - MARYLAND - Second-generation adults continued to emerge, heavy rains slowed development on soybeans. Recovery not expected for 10 days or more. New feeding injury on Eastern Shore and southern area less than 5 percent over injury levels of 14 days ago. (U. Md., Ent. Dept.). INDIANA - Eggs laid past 10 days in Lawrence County. About 500,000+ eggs per acre in heavily infested field. (Anderson).

GREEN CLOVERWORM (*Plathypena scabra*) - OKLAHOMA - Averaged one per 3 row feet of soybeans in most eastern counties but up to 8 per 3 row feet in Wagoner County. (Okla. Coop. Sur.). MISSOURI - Larvae 1-6 (averaged 3) per foot of row in soybean field in southeast area. (Thomas). ILLINOIS - Up to one per row foot on northeast district soybeans. (Ill. Ins. Rpt.).

THREECORNERED ALFALFA HOPPER (*Spissistilus festinus*) - ALABAMA - Earlier nymphal damage caused soybean lodging in Marengo, Geneva, and other southern counties. (Yates et al.). OKLAHOMA - Continued generally light on eastern area soybeans. Up to 10 percent damaged plants in few McCurtain County fields. (Okla. Coop. Sur.).

PEANUTS

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - Comprised 95 percent of species which defoliated 40 percent of peanut acreage in planting of 1,200 acres in Jackson County. Peak apparently reached. More of problem on peanuts this year than in previous years. (Fla. Coop. Sur.).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - TEXAS - Square damage light, 0-10 percent, in older fields throughout Rolling Plains; moderate, 11-20 percent, on older cotton in Fisher, Hall, and Jones Counties; and heavy, 21-60 percent in several older fields in Knox and Wilbarger Counties. Infestations in Robertson County. Trap catches increased in Lower Rio Grande Valley area. Several traps had 10 or more adults per trap last 2 weeks: weevils may be leaving these fields. Up to 6 adults in a bloom common in several fields in Cameron and Hidalgo Counties. Continued .o

hatch in north-central area. Some larvae dying in squares exposed to sun but enough squares dropped in shade to give numbers that can damage cotton. Applying boll weevil control now will bring on bollworm outbreak. Continued to increase near overwintering weevil areas. Light in Hill and Ellis Counties. (Boring et al.).

OKLAHOMA - Four boll weevil adults caught in 124 pheromone traps in Jackson County. Punctured squares ranged 2-48 percent, mostly between 20 and 30 percent, in Jackson, Harmon, Greer, and Tillman Counties and ranged 10-45 percent, mostly between 10 and 15 percent, in Kiowa County. Counts up to 38 percent in Muskogee County. (Okla. Coop. Sur.). LOUISIANA - Damage increased, mostly in "hot spots" week of July 18. (Tynes). ALABAMA - First-generation emergence still heavy and damaging statewide. Control efforts general. (McQueen). TENNESSEE - First-generation emergence heavy in southwestern tier of counties. Recent heavy rains favored increase. Counts range 14-92 percent punctured squares. Well above control levels in treated and untreated fields. Large first generation required controls. Punctured 10-50 percent of squares in central counties. (Locke, Cagle).

BOLLWORMS (*Heliothis* spp.) - TEXAS - *H. zea* (bollworm) increased in light traps. Eggs very heavy in most fields throughout Hill and Ellis Counties. Eggs on late-planted cotton with young, tender growth. Adults increased to very high numbers in north-central area. Large increase in eggs and small larvae expected this coming period. Beneficial insects increased in untreated fields this past period and expected to help control infestations. By midweek, eggs increased to over 100 per 100 terminals in many cotton fields in Hidalgo County. Egg counts increased heavily in all cotton areas in valley. Larvae began to increase in Hidalgo and Cameron Counties by weekend. Hard to control in Ft. Bend, Brazos, and Robertson Counties. Light to moderate in Glasscock, Midland, Martin, Reeves, Pecos, and Culberson Counties. (Bagley et al.).

OKLAHOMA - *H. zea* eggs 1-43 and larvae 0-26 per 100 cotton terminals in Jackson, Harmon, Greer, and Tillman Counties; damaged squares ranged 1-14 percent. Averaged 3,000 larvae and 16,000 eggs per acre in Jackson County field. Damaged squares ranged 6-12 percent in Muskogee County. Catch of 32 *H. virescens* (tobacco budworm) adults in 10 pheromone traps in Jackson County. (Okla. Coop. Sur.). LOUISIANA - *H. zea* and *H. virescens* began egg laying week of July 18. Eggs and larvae in several areas. Most damage not economic. (Tynes). ALABAMA - Moth flights light except in southwest area. *H. virescens* predominant in Marengo County; eggs ranged 5-16 per 100 terminals. Adults of both species expected to increase significantly next 10-15 days with *H. zea* predominant in most areas. (Yates et al.).

TENNESSEE - Some *H. zea* infestations well above control levels, increased over last week. Heavy infestations spotty. (Locke). NORTH CAROLINA - *H. zea* egg laying increased in many Scotland County fields. Heavy egg laying (50+ percent of terminals with eggs) concentrated in southern cotton counties. Light in Halifax and Northampton Counties. Egg counts expected to increase next 7 days in northern counties. (McCloud et al.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Light to moderate on cotton in Midland, Glasscock, Martin, Pecos, Reeves, and El Paso Counties. Ranged 5-30 per 100 plant terminals in isolated fields. Moderate, 8-20 per 100 terminals, in Childress, Fisher, Hall, Jones, Kent, Knox, Wichita, and Wilbarger Counties. Continued to infest late-planted cotton in north-central area. Continued to damage cotton planted in June in Hill and Ellis Counties. Up to 2-3 young fleahoppers in every terminal in some fields. Continued to increase throughout Trans-Pecos area. Damage economic. (Neeb et al.). OKLAHOMA - Ranged 0-28 per 100 terminals in southwest counties and up to 38 per 100 terminals in Muskogee County. (Okla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - TEXAS - Moderate to heavy in isolated fields in Pecos and Reeves Counties. Continued to increase throughout Trans-Pecos area. Damage economic in some fields. (Neeb, Bagley).

COTTON APHID (Aphis gossypii) - OKLAHOMA - Heavy in spots in some cotton in Caddo and Washita Counties. (Okla. Coop. Sur.).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Heavy on sunflowers in Dickens and Kent Counties. Larvae light in treated fields. Light to moderate in isolated fields in Reeves, Pecos, Glasscock, and Midland Counties. Remained light in Hale County. (Bagley et al.). OKLAHOMA - Continued to lay eggs in sunflower fields beginning to bloom in Harmon County. (Okla. Coop. Sur.).

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Began to emerge in Wilbarger County. Adults 300-500 per night in traps at Lockett during weekend, increase of 300 percent over last period. (Boring). OKLAHOMA - Light trap counts for week by county: Tillman 763, Greer 234, and Jackson 1. (Okla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - TEXAS - Heavy in isolated fields of sunflowers in Reeves County. Nymphs heavy in Reeves and Pecos County fields. (Neeb, Bagley).

POTATOES, TOMATOES, PEPPERS

VARIEGATED CUTWORM (Peridroma saucia) - OHIO - Damaged tomato fruits in gardens at Wooster, Wayne County. (Rings). INDIANA - Late instars ranged 15-20 per row foot on St. Joseph County potatoes. (York). WISCONSIN - Increased on potatoes. Larvae up to half grown in scattered spots in one potato field each in Portage, Langlade, and Adams Counties. Leaf feeding will be most apparent in next 14 days. (Wis. Ins. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - ALABAMA - Pupation and adult emergence on 95-100 percent of all potato stalks on 8,000 acres in DeKalb and Jackson Counties. Harvest underway. (Smith et al.).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - UTAH - Skeletonized bean foliage at Logan, Cache County. (Thornley). MICHIGAN - Larvae light on Mecosta County beans week ending July 18. (Howard, Ruppel). WEST VIRGINIA - Larvae and adults damaged 25 percent of green beans in Kanawha County gardens. (Hacker).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata undecimpunctata) - OREGON - Adults 4-25 (averaged 6.8) per 25 sweeps on 250 acres of bush snap beans in Washington County near Hillsboro and Cornelius. (Collins).

GREEN CLOVERWORM (Plathypena scabra) - NORTH DAKOTA - Shotholing on pinto beans in Traill County. Damaged less than 5 percent of total leaf surface. (Gienger).

CUCURBITS

SQUASH BUG (Anasa tristis) - TEXAS - Moderate to heavy throughout Trans-Pecos area. Squash damage continued in gardens in Dickens, Wichita, and Young Counties. Damaged cucumbers in gardens in Dickens County. (Neeb, Boring). OKLAHOMA - Heavy on Tillman County pumpkins. (Okla. Coop. Sur.).

DETECTION

New State Records - A SAWFLY (Xiphydria maculata) - KENTUCKY - Fayette County. (p. 647). AN APHID (Dactynotus sonchi) - HAWAII - Oahu Island. (p. 650).

New County Records - GRAPE FLEA BEETLE (Altica chalybea) WEST VIRGINIA - Mineral (p. 645). A WEEVIL (Thylacites incanus) PENNSYLVANIA - Chester (p. 646). CAMPHOR SCALE (Pseudaonidia duplex) FLORIDA - Clay (p. 647). FACE FLY (Musca autumnalis) TENNESSEE - Dyer (p. 647). BROWN RECLUSE SPIDER (Loxosceles reclusa) KENTUCKY - Washington (p. 648). A MYMARID WASP (Anaphes flavipes) MICHIGAN - Mecosta, NEW YORK - Seneca. (p. 648). A CHALCID WASP (Brachymeria ovata) WEST VIRGINIA - Kanawha (p. 649). CEREAL LEAF BEETLE (Oulema melanopus) NEW JERSEY - Sussex, NEW YORK - Albany. WISCONSIN - Kenosha. (p. 649). JAPANESE BEETLE (Popillia japonica) INDIANA - Franklin (p. 650).

CORRECTIONS

CEIR 25(28):581 - "NORTHERN FOWL MITE (Ornithonyssus silviarum) ..." should read "NORTHERN FOWL MITE (Ornithonyssus sylviarum) ..."

CEIR 25(23):464 - MISCELLANEOUS FIELD CROPS - "AN OLETHREUTID MOTH (Suleima heliathana) ..." should read "AN OLETHREUTID MOTH (Suleima helianthana) ..."

CEIR 25(6):41 - DETECTION - New State Records - "AN ANTHOCORID BUG (Paratriphleps laevisculus) ..." should read "AN ANTHOCORID BUG (Paratriphleps laevisculus) ..."

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - CALIFORNIA - Control treatments applied to walnut orchards. (Cal. Coop. Rpt.). WASHINGTON - Second-brood flights increased July 16-18 in Chelan, Okanogan, and Douglas Counties. Pheromone trap catches in north-central area week ending July 19 mostly ranged 0-15 with up to 71 at East Wenatchee, Chelan County. (Rushmore). Pheromone trap catches currently ranged 0-36 at Yakima, Yakima County. (Hudson, Johnson). IDAHO - Male catches in Moscow, Latah County, pheromone trap July 17-23 were 4, 1, 1, 7, 1, 3, and 7. (Portman). OHIO - Damaged 2-30 (averaged 11.6) percent of apples on unsprayed trees in Fairfield County July 16. (Sheppard). MICHIGAN - Second-generation moths emerged in southwest area and Grand Rapids. Egg laying began in Grand Rapids. (Ried, Olsen).

FRUITTREE LEAFROLLER (Archips argyrospilus) - IDAHO - Adults very numerous at Moscow, Latah County, last 14 days. (Portman).

LESSER PEACHTREE BORER (Synanthedon pictipes) - GEORGIA - Males very heavy in pheromone traps in Peach County week of July 18. (Gentry).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Catch heavier than last period. Trap results by county: Hennepin 111, Brown 15 and 33, and Faribault 6. (Minn. Pest Rpt.).

WALNUT SCALE (Quadraspidiotus juglansregiae) - CALIFORNIA - Medium to heavy on ornamental plum trees at El Cajon, San Diego County. Moved onto ornamental shade trees and caused damage in some locations. (Cal. Coop. Rpt.).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - NEW MEXICO - Adults emerged in Carlsbad, Eddy County. Egg laying expected. Infested zero to about 11 percent of clusters. Light crop may retain populations in most areas. (N.M. Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Control treatments applied to walnut orchards. (Cal. Coop. Rpt.).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Heavy on pecan trees in several southwest counties. (Okla. Coop. Sur.).

SMALL FRUITS

GRAPE FLEA BEETLE (Altica chalybea) - WEST VIRGINIA - Larval damage light to moderate on wild grapes at Keyser, Mineral County. Collected by D. Eskridge June 23, 1975. Determined by A.E. Cole. This is a new county record. (Miller).

ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - TEXAS - Heavy infestations damaged shrubs in Young and Wichita Counties. (Boring). OKLAHOMA - Began to pupate in Payne County area. (Okla. Coop. Sur.).

AN ARMORED SCALE (Diaspis boisduvalii) - FLORIDA - Larvae and adults heavily infested leaves on 10 percent of 1,800 Cattleya sp. orchids at residence in Gainesville, Alachua County. (Lieberman).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OHIO - Heavy on 5,000 potted cotoneaster plants in Lake County nursery planting. (Endebrock, Wells).

SPRUCE SPIDER MITE (Oligonychus ununguis) - IDAHO - Heavy; damaged ornamentals at Moscow, Latah County. (Portman).

FOREST AND SHADE TREES

A PYRALID BORER (Euzophera ostricolinea) - TENNESSEE - Heavily damaged yellow poplar trees in east and central areas. Damage in central area greatly increased over 1974. (Gordon).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OHIO - Infested 75 percent of trees one to 5 years old in 10-acre Christmas tree plantation in Lawrence County. Destroyed nearly all growing terminals on infested trees; new growth beginning to form around damaged tips. (Miller).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - NEBRASKA - Severely damaged Christmas trees in Holt County. (Witkowski).

SPRUCE BUDWORM (Choristoneura fumiferana) - WISCONSIN - Egg masses hatched in Oneida County July 22. Many egg masses blackened, apparently due to parasitism. Moth emergence nearly completed. (Wis. Ins. Sur.).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - OHIO - Second-generation larvae on Mugho pine in Warren County nursery July 22, somewhat earlier than usual and may result in partial third generation in southern area. (Powell).

A WEEVIL (Thylacites incanus) - PENNSYLVANIA - Several adults collected from Scotch pine in Longwood Gardens at Exton, Chester County, by A.G. Wheeler August 20, 1974. Determined by R.E. Warner. This is a new State record. (PPQ).

FALL WEBWORM (Hyphantria cunea) - OHIO - Webs 1-6 (averaged 3.1) per tree on 9 wild cherry trees in Ross County. Twelve webs on 16 wild cherry trees in Franklin County. Webs 0-4 (averaged 0.75) per tree. Mostly second and third instars. Webs in extreme northern area in Lake County. (Purrington).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Damage moderate to heavy on Chinese elms in Kent, Wilbarger, and Young Counties. Large numbers of pupae scattered through rough bark on trunk and around base of Chinese elms in Wilbarger County. Infested shade trees throughout Trans-Pecos area. (Boring, Neeb).
WASHINGTON - Heavy on elms at Ellensburg, Kittitas County, and Colfax, Whitman County. (Kropf, Luce).
NEW HAMPSHIRE - Heavily damaged elms at Nashua, Hillsborough County. Migrating to base of trees for pupation week ending July 18. (Bowman).

LOCUST LEAFMINER (Xenochalepus dorsalis) - OHIO - Severely defoliated black locust trees in south-central area. Nearly all black locust trees entirely defoliated and brown. Adults ranged 5-15 (averaged 8.9) per leaf in Tar Hollow State Park in Ross County. (Lewis, Gordon).

A SAWFLY (Caliroa lineata) - WEST VIRGINIA - Larvae damaged 80-100 percent of all oaks in following counties: Summers 24,909 acres, Mercer 300 acres, McDowell 15,569 acres, and Greenbrier 10,587 acres. (Miller).

A SAWFLY (Xiphydria maculata) - KENTUCKY - Adults collected on sugar maple in Fayette County by C. Moore May 11, 1975. Determined by K. Yeagan; Confirmed by P.H. Freytag. This is a new State record. (Barnett).

CAMPHOR SCALE (Pseudaonidia duplex) - FLORIDA - Eggs and adults infested 80 percent of 10 Lagerstroemia indica (crapemyrtle) plants in nursery at Green Cove Springs, Clay County. Collected by C.B. Lieberman July 3, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

PACIFIC SPIDER MITE (Tetranychus pacificus) - CALIFORNIA - General and severe on street elms in several areas of Sacramento, Sacramento County. Leaf drop heavy. Problem possibly due to controls for Pyrrhalta luteola (elm leaf beetle). (Cal. Coop. Rpt.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 306 cases reported from continental U.S. July 13-19 as follows: Texas 294, New Haven 4, Arizona 8. Total of 219 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 130 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 139,116,000 as follows: Texas 129,972,000; New Mexico 2,379,600; Arizona 6,764,000. Total of 17,893,000 sterile flies released within Barrier of Mexico and 2,000,000 released south of Barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - FLORIDA - Increased, averaged 600 per beef animal in untreated herd near Gainesville, Alachua County. (Fla. Coop. Sur.). KENTUCKY - Adults averaged 40 per animal on Fayette County cattle. (Herald). INDIANA - Counts of 150 per head on cattle on experimental farm in Tippecanoe County. (Dobson). NEBRASKA - Unchanged, averaged 500+ on untreated cattle in southwest district. (Campbell). OKLAHOMA - Averaged 200 per head on Payne County cattle; moderate in Craig County. (Okla. Coop. Sur.). TEXAS - Light to moderate on cattle in Upton, Midland, Glasscock, Reagan, Andrews, and Winkler Counties. Heavy on cattle in Knox and Young Counties. Moderate in Shackelford County. (Neeb, Boring).

FACE FLY (Musca autumnalis) - TENNESSEE - Averages ranged 8-10 per head on Dyer County cattle July 19, 1975. Collected and determined by B.G. Stafford. This is a new county record. (Gordon). KENTUCKY - Adult averages per head of cattle by county: Hardin 28.6, Woodford 3.3, Fayette 15. (Barnett). INDIANA - Counts of 15 per face on cattle on experimental farm in Tippecanoe County. (Dobson). NEBRASKA - Averaged 20 per animal in southwest district. (Campbell).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged less than one per head on Payne County dairy cattle. (Okla. Coop. Sur.). NEBRASKA - Averaged 20 per leg on cattle in untreated lots in southwest district. (Campbell).

TABANID FLIES (Tabanus spp.) - OKLAHOMA - T. lineola (striped horse fly) and T. atratus (black horse fly) up to 8 per head on some Payne County cattle. (Okla. Coop. Sur.). UTAH - Tabanid flies annoyed horses at Snowville and Fielding, Box Elder County. T. punctifer active in Salt Lake City Airport area, Salt Lake County; horseflies and deer flies troublesome to cattle at Richmond, Cache County. (Thornley et al.).

MOSQUITOES - ALABAMA - Heavy and annoying people at Margargel Community, Monroe County. Populations very heavy throughout State largely due to excessive rains this year. (Lemons et al.). MINNESOTA - Declined at Minneapolis and St. Paul week ending July 10. Aedes vexans, Coquillettidia perturbans, and A. sticticus dominant. A. vexans predominant in daytime and evening bite collections. Aedes larvae very few. Some increase in Culex tarsalis in this area. C. tarsalis heavy at Fargo and Moorhead in areas previously flooded. No encephalitis cases reported nor is encephalitis virus known to be in mosquito population. (Minn. Pest Rpt.). NEW MEXICO - C. tarsalis larvae averaged 2.1 per dipper at Mesquite, Dona Ana County. (N.M. Coop. Rpt.).

BROWN RECLUSE SPIDER (Loxosceles reclusa) - KENTUCKY - Collected from Washington County residence by R. Greenwell July 23, 1975. Determined by R. Scheibner; confirmed by D.E. Barnett. This is a new county record. (Barnett).

BENEFICIAL INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Parasitism of Schizaphis graminum (greenbug) on sorghum light, 1-3 percent, in several southwest counties. Few mummies in Payne County field and in 3 Beckham County fields. (Okla. Coop. Sur.). KANSAS - Good control of greenbug in Atchison County sorghum field. Parasitism none or light in greenbug-infested sorghum checked in Kansas. (Bell). NEBRASKA - Parasitism of greenbug ranged less than one percent to 4 percent on sorghum in east, southeast, and central districts. (Raun et al.).

A MYMARID WASP (Anaphes flavipes) - This parasitoid recovered from Oulema melanopus (cereal leaf beetle) eggs as follows: MICHIGAN - Altena Township, Mecosta County, June 17 by D. Loree. Determined by P.R. DeWitt. NEW YORK - Fayetteville, Seneca County, June 16 by T. Crowe. Determined by R.D. Gaines. These are new county records. (PPQ).

GYPSY MOTH PARASITES - WEST VIRGINIA - These parasites of Porthetria dispar (gypsy moth) released in effort to establish on native hosts. Total released to date by county: Hampshire - Brachymeria intermedia (a chalcid wasp) 32,405. Pimpla sp. (an ichneumonid wasp) 946. P. turionellae 455. P. instigator 112. Apanteles liparidis (a braconid wasp) 641. A. porthetriae 250. Meteorus pulchricornis (a braconid wasp) 188. and Palexorista inconspicua (a tachina fly) 153; Hardy - B. intermedia 20,502. Pimpla sp. 550. Pimpla turionellae 200. A. liparidis 1,000. A. porthetriae 244. M. pulchricornis 222. and Palexorista inconspicua 188; Grant - B. intermedia 2,000. (Coffman).

A CHALCID WASP (Brachymeria ovata) - WEST VIRGINIA - Three females recovered from Galleria mellonella (greater wax moth) pupae-baited parasite traps in Kanawha County July 10, 1975. Collected and determined by C.C. Coffman. This is a new county record. (Coffman).

GREEN LACEWINGS (Chrysopa spp.) - OKLAHOMA - Heavy, one per plant in some sorghum fields in southwest counties. Eggs heavy in untreated fields. Heavy on Harmon County sunflowers. Numerous on Payne County sorghum. Light on Sequoyah County soybeans. (Okla. Coop. Sur.).

A CINNABAR MOTH (Tyria jacobaeae) - OREGON - About 288,000 late instars from established colonies in Coos and Linn Counties collected and redistributed to western areas infested with tansy ragwort. (Isaacson).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - Larvae taken on oats as follows: NEW JERSEY - Stillwater Township, Sussex County, June 20, 1975, by R.J. Balaam. NEW YORK - Bethlehem, Albany County, June 23, 1975, by R. Spaide. Determined by R.F. White. WISCONSIN - See CEIR 25(30):626. Newmunster, Kenosha County, June 19, 1975, by D. Hessner and M. Conrad. Determined by D.L. Hayner. These are new county records. (PPQ).

EUROPEAN CHAFER (Amphimallon majalis) - OHIO - Two positive finds detected in Cuyahoga County, some distance from regulated area on east side of Cleveland. One find very heavy, with 100+ adults collected in single bait trap. (Roach).

GRASSHOPPERS - OKLAHOMA - Damaged margins of cotton fields in several southwest counties. Damage heavy on heads and leaves of grain sorghum in margins of Beckham County field; mostly caused by Melanoplus differentialis. (Okla. Coop. Sur.). NEBRASKA - Complex of Melanoplus femurrubrum, M. differentialis, and M. bivittatus moved out of maturing pastures and roadsides into corn in central district. Up to 15 per square yard in some fields. Melanoplus spp. moved out of roadside into alfalfa field in Nemaha County. Averaged 1,200 per 100 sweeps in margin bordering road and 800 per 100 sweeps in field; Completely defoliated 30 feet of margin. (Raun, Miller). NORTH DAKOTA - Grasshoppers destroyed 4 sections of Federal pastureland (crested wheatgrass) in Slope County. Melanoplus sanguinipes mostly fifth instars and adults, averaged 40 per square yard. M. sanguinipes and M. bivittatus dominant in all counties below. Margin counts from less than one up to 12 (averaged 4) per square yard in Sargent County; mostly fourth instars to adults. Margin and field counts ranged less than one up to 12 (averaged 3) per square yard in Dickey County; mostly fourth instars to adults. Field and margin counts averaged less than one in Traill and Richland Counties; mostly fourth instars to adults. (Brandvik, Scholl). IDAHO - Fourth and fifth instars of M. indigenus one per square yard on grassy ridge at 5,100 feet at South Fork Salmon River, Valley County. (Brusven).

GYPSY MOTH (Porthetria dispar) - NORTH CAROLINA - Six males taken in sexlure traps. One from Gates County July 8 (first time adult male trapped in county) and 4 from Duck area of Dare County July 18. Remaining collection from truck stop at Charlotte, Mecklinburg County. (Singletary).

JAPANESE BEETLE (Popillia japonica) - TENNESSEE - Damaged variety of trees and truck crops in upper east area. (Hammett). MARYLAND - Above normal rainfall past 20 days favored survival in central area home lawns and commercial turf. Adults active in almost all areas and egg laying continued. (U. Md., Ent. Dept.). INDIANA - Collected in Japanese beetle trap at Cedar Grove, Franklin County, by J. Kingdon July 9, 1975. Determined by R.D. Gordon. This is a new county record. (PPQ). Adults averaged less than one per plant (ranged 1-5 per infested plant) on outer 4 rows of corn in Starke County field treated 2 days earlier. (Matthew).

MORMON CRICKET (Anabrus simplex) - NEVADA - Total of 22,000 acres of rangeland treated in Pony Creek area, Sulphur Spring Range, Elko County. (Kail). IDAHO - Spotted populations damaged several hundred acres near Rockland and Arbon Valleys, Power County. Some migration into cropland. Locally heavy on range in Bennet Mt. area, Elmore County. (Schow, Edwards).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Catches in traps in Reeves and Pecos Counties decreased during past week. (Neeb).

HAWAII INSECT REPORT

New State Record - Apterous adults and nymphs of an APHID (Dactynotus sonchi) infested many Sonchus oleraceus (annual sowthistle) plants at Hickam Air Force Base, Honolulu, Oahu, during survey conducted May 30, 1975. More than 100 specimens collected by R. Mau. First record of Dactynotus sp. in State. Determined by M.B. Stoetzel; confirmed by L.M. Russell. (Sanidad, Mau).

General Vegetables - CABBAGE LOOPER (Trichoplusia ni) and CABBAGE APHID (Brevicoryne brassicae) light in 5 acres of head cabbage at Kula, Maui. About 40-50 percent of mature heads damaged by T. ni; 30-40 percent of B. brassicae parasitized. DIAMONDBACK MOTH (Plutella xylostella) infestations and damage light in 5 acres of head cabbage and 3 acres of cauliflower at Kula. Larvae and pupae in cabbage planting and only larvae in cauliflower. (Miyahira).

Beneficial Insects - First recovery of an ENCYRTID WASP (Ooencyrtus erionotae), egg parasite of Erionota thrax (banana skipper) made July 11, 1975, on Wainaku, Hawaii Island. Of 24 egg clusters, 66.6 percent noted with at least one egg parasitized. Parasitized 46 percent of 71 eggs collected. Parasite established at Wainaku for 3 months. Larvae of a PTEROPHORID MOTH (Oidaematophorus sp.) found July 9 for first time on second site at North Kona (1,500-foot elevation). Defoliation clearly visible in lush growth. Eggs and larvae easily found and many adults flushed during survey. (Matayoshi).

LIGHT TRAP COLLECTIONS

State	County	Locality	Date	Time	Temp- ature, °F.	Precip- itation inches	Type of trap	DL = darklight I = incandescent W = mercury vapor O = other	Agrotis inflata	Ergemene agrea (salinaria caterpillar)	Euxoa auxilialis (army cutworm)	Feltia subteranea (strawling cutworm)	Heliothis virescens (tobacco budworm)	M. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Lobesia compositella (garden webworm)	Lobesia panolis (garden webworm)	Lobesia sticticalis (beet webworm)	Manduca quinquevittata (tomato hornworm)	Manduca sexta (cocoons hornworm)	Ortalis nobiliss (cucumber hornworm)	Perithous saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (cabbage looper)	Crops
ARIZONA		Mesa 6/23-7/6, 14-16					BL																				
CALIFORNIA		Bellota 7/16			62-72	0	BL	6																			
		Clements 7/15			62-86	Trace	BL	9																			
COLORADO		Denver 7/14-21					BL	1	6																		
FLORIDA		Gainesville 7/18-24					BL		3		1																
INDIANA (Counties)		Laporte 7/12-18					BL	1																			
		Tippecanoe 7/12-18					BL	25																			
KANSAS		Garden City 7/21, 23					BL	1		4																	
		Rossville 7/22					BL	20																			
KENTUCKY (Counties)		Caldwell 7/21-22					BL	10																			
		Fayette 7/23-25					BL	3			3																
MICHIGAN (Counties)		Lenawee 7/15-21					BL	77																			
		Oceana 7/15-21					BL	117																			
MINNESOTA		Fergus Falls 7/17-23					BL																				
		Worthington 7/17-23					BL																				
MISSISSIPPI		Stoneville 7/18-24			73-95	Trace	2BL	15	4		4	2	24														

WEATHER OF THE WEEK ENDING JULY 27

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Precipitation focused mainly on the southeastern third of the Nation. When violent storms lashed the central Plains and middle Mississippi Valley, Illinois received the heaviest blow. In the southern Plains, heavy rains and rising waters troubled Texas and Oklahoma. Across the Nation, temperatures were warm and rose above normal in the west-northwest and parts of the northern Plains. Cooler air, however, brought the mercury down in much of the Plains regions.

PRECIPITATION: After kicking up so many storms across the Nation last week, the weather settled down somewhat on Monday. As precipitation withdrew, sunny skies moved over much of the Great Lakes, Ohio Valley, Plateau, and Pacific coast regions. Conditions cleared along the Atlantic coast; drier air pushed the rains aside. Rainfall focused on areas from the northern Rockies through much of the Plains and into the lower Mississippi Valley. Early afternoon skies on Tuesday were sunny to partly cloudy over most of the country. Later in day, however, thundershowers highlighted by heavy rains developed from the south Atlantic coast into the lower Mississippi Valley and gulf coast. Across the Plains, showers also sprang up from the Dakotas into western Texas. The heaviest rains soaked Redland, Texas, with over 2 inches in only one hour and in Zachary, Louisiana, dumped 3 inches in one hour. Outside the thunderstorm areas, fair weather spread through the central United States to the Pacific coast and from the Ohio Valley and Great Lakes to the northern Atlantic coast. What started out as a quiet day Wednesday, grew violent by late afternoon when thunderstorms lashed the central Plains and middle Mississippi Valley. Illinois was the hardest hit. A tornado in Canton, Illinois, caused extensive damage and a number of injuries and not far away 85 m.p.h. winds slammed Peoria. Elsewhere, storms were numerous in the south Atlantic States but were more scattered toward the southern Plains. Meanwhile, the western and northeastern portions of the country basked under sunny skies. By late Thursday, widespread heavy thunderstorms had command of the southeastern third of the Nation. In this area, a cold front chased heavy thunderstorms from northeast New York to northern Oklahoma. Throughout the day storms continued in the Midwest. Reports from Canton, Illinois, listed 5 fatalities and 44 injuries from Wednesday's tornado. On the heels of warm humid air that prompted Chicago to issue a livestock weather safety alert, drier, cooler air edged towards the East and South. To the west, storms dotted the Rockies and much of Intermountain region following an overall trend of lighter, less general, rainfall. In parts of Texas, however, rains again poured up to 4 inches in one hour. Heavy rains and rising waters in the Gulf and Atlantic Coast States set the weather scene for Friday. Precipitation elsewhere played only a minor role as scattered thundershowers spread over the southern and central Plateau and into the Rockies. On Saturday, showers and thunderstorms extended from Oklahoma and Texas throughout the Gulf and into the Atlantic Coast States. Storm activity in the Southwest withdrew but locally heavy rains still aggravated already saturated portions of Texas.

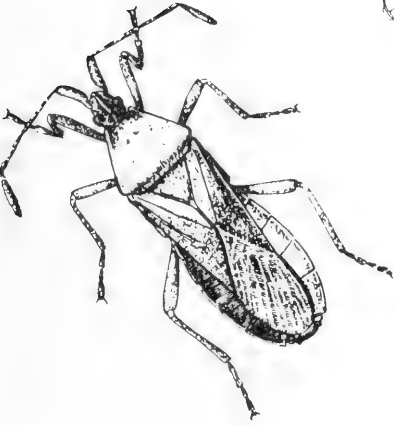
The week ended much as it had begun as precipitation on Sunday was light and widely scattered. Showers and thunderstorms followed a path from Arkansas to the eastern Gulf and southern Atlantic Coast States. The South grew quieter as shower and storm activity from Georgia and Florida through the lower Mississippi Valley region and parts of Oklahoma and Texas became more scattered.

TEMPERATURE: Following a brief respite, warmer weather returned to most of the Nation on Monday as afternoon temperatures rose into the 80's and 90's even as far north as the central Plains. Highs in the 60's and 70's warmed the cooler mountain regions and a few of the 70's moved along the Pacific coast. "Hot" summed up the weather as middle-of-the-week temperatures over the Nation topped normal levels for this time of year. The eastern half of the Nation suffered not only from heat but also the humidity. Some cooler air spread into the northern Plains but elsewhere, in the Nation's midsection, warm conditions persisted. The mercury advanced steadily in the Southwest until Thursday's heat blistered parts of the Desert regions with highs that surpassed 110 degrees. In contrast, highs in only the 60's made it chilly for July in parts of the Great Lakes region. As skies cleared towards the end of the week, nighttime temperatures dipped into the 40's and 50's in portions of North Dakota, Wyoming, and Montana. Meanwhile, readings in the 70's prevailed throughout areas east of this cool air boundary. Sunny skies on Sunday produced warm weather in many parts of the Nation, particularly in the northern two-thirds of the Great Plains and the interior of the Pacific coast. Havre, Montana, noted for its cool temperature readings, scored a surprising 106 degrees.

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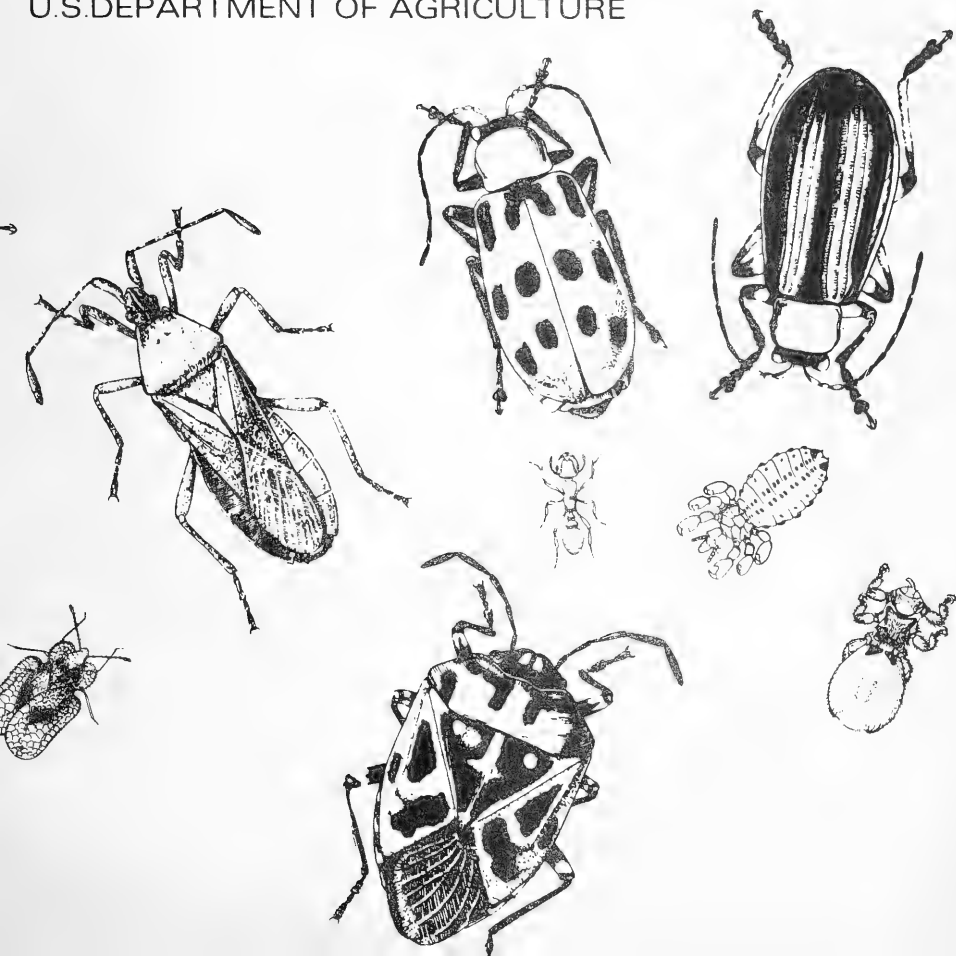


VOL. 25 NO. 32

August 8, 1975

Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

ARMYWORM damage widespread in Wisconsin and New York. Severe damage possible in Maine. (p. 657).

GREENBUG very severe in parts of Colorado, Texas, and Oklahoma. (p. 658).

POTATO LEAFHOPPER heavy on alfalfa in southern Wisconsin, widespread in Pennsylvania, and a major pest in New York. (p. 659).

LESSER CORNSTALK BORER adults heavy in Georgia and larvae heavy on peanuts in Oklahoma. (p. 663).

VARIEGATED CUTWORM heavy on potatoes in parts of Idaho, Colorado Wisconsin, Michigan, and New York. (p. 665).

Detection

New State records include SPOTTED ALFALFA APHID in Pennsylvania (p. 659) and a LEAFHOPPER in California (p. 668).

For new county records, see page 672.

Special Reports

Estimates of Damage by the European Corn Borer to Grain Corn in the United States in 1974. (pp. 677-678).

Reports in this issue are for week ending August 1 unless otherwise indicated.

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SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - NEW MEXICO - Defoliated young sorghum plantings in Luna County. (N.M. Coop. Rpt.). MINNESOTA - Scattered economic infestations in Aitkin, Pine, Mille Lacs, Carlton, and Chisago Counties. Major portion of outbreak on decline. Overall infestation more widespread than reported. Infested 50+ counties, covering virtually entire State, except for northeast corner. Acreage sprayed totaled well into hundreds of thousands, but many acres treated needlessly. (Minn. Pest Rpt.). WISCONSIN - Populations collapsed in nearly every area due to pupation, parasitism and predation, and chemical controls. Oats most adversely affected crop, 40-50 percent of grain lost in some fields. Larval control applied to several thousand acres of crops. Damage significant in Trempealeau, Dunn, Polk, Barron, Washburn, Sawyer, Rusk, Chippewa, Eau Claire, Jackson, Pepin, Wood, Lincoln, Marathon, Langlade, Shawano, Oconto, Marinette, Door, Kewaunee, and Green Lake Counties. (Wis. Ins. Sur.). OHIO - Damaged 10-40 percent of sweet corn in 3-leaf stage in Washington County. (Lewis).

NEW YORK - Armyworm damage severe by July 18 in 4 acres of sweet corn in Steuben County. Current populations damaged corn and oats statewide. Damage severe on no-till Broome County corn stand. Stripped leaves and heads in half of Steuben County oatfield. (Muka et al.). MAINE - Widespread on corn week of July 14. Damaged many oatfields in Aroostook County; treatments applied. Severe damage to small grains possible. (Gall).

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Crop damage survey from Antioch, Contra Costa County, north to Red Bluff, Tehama County. Curly top infection heaviest at one percent in beetfield west of Woodland, Yolo County. Counts increased in northern Merced County to southern San Joaquin County. Mostly nymphs in second generation. Curly top ranged 20-40 percent (normal infection level) in beets in Antelope Valley, Los Angeles County. Averaged 22 leafhoppers per 10 sweeps of Russian-thistle throughout valley. (Cal. Coop. Rpt.). COLORADO - Ranged 0-100 per 100 sweeps in sugar beet fields of Arkansas Valley. (Schweissing).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Ranged 4-5 per ear in Haskell County sweet corn. Averaged about one per row foot in most Marshall County peanuts, but ranged 6-8 per row foot in one field. Averaged 7 per 10 sweeps of Harmon County alfalfa. Averaged one per head in Caddo County grain sorghum. (Okla. Coop. Sur.). TEXAS - Decreased in Blacklands area past 7-10 days. Continued light in most north-central area sorghum. Moderate in McCulloch County. Light in Concho, Nolan, El Paso, Pecos, Reeves, Glasscock, Midland, and Martin Counties. (Turney et al.). Continued to damage sweet and field corn in Cottle and Knox Counties. (Boring). MISSISSIPPI - Infested half of corn ears in 6 Tallahatchie County fields week ending July 25. (Robinson). ALABAMA - Young larvae trace in 35 soybean fields in Mobile, Baldwin, and Wilcox Counties. Moths along fence line; some moths in fields. Catch of 25 adults in blacklight trap in southern Baldwin County July 28. (Harris et al.). MARYLAND - Flight activity continued to increase in all areas. Tip injury levels ranged 2-10 percent in process sweet corn on lower Eastern Shore. Damage in central production areas very light. Damage levels expected to increase very rapidly next 10 days. Mostly first and second instars. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - MISSISSIPPI - Ranged 100-150 per sorghum plant on 10 percent of 50-acre field week ending July 25. (Robinson). TEXAS - Heavy on grain sorghum in Nolan County. (McWhorter). OKLAHOMA - Ranged 50-200 per grain sorghum plant in Cimarron County. Light in Texas and Jackson Counties. (Okla. Coop. Sur.). WISCONSIN - Very heavy on older corn with brown silks, 75 percent of plants have colonies of 500+ per plant. Younger plants less affected, but 500+ per plant on 10+ percent of plants in some fields in green silk. Heaviest in central counties. (Wis. Ins. Sur.). OHIO - Completely infested field of sweet corn in Washington County; each colony consisted of few to several hundred aphids. Lady beetle adults Hippodamia convergens (convergent lady beetle) and Coccinella novemnotata feeding on about half of colonies. (Lewis et al.).

GREENBUG (Schizaphis graminum) - ARIZONA - Treatments applied to several sorghum fields at Bowie and San Simon, Cochise County. (Ariz. Coop. Sur.). NEW MEXICO - Ranged from light in Union and Colfax Counties to heavy in Chaves and Eddy Counties. Sorghum treated past 14 days in Luna and Hidalgo Counties. Controls ineffective. (N.M. Coop. Rpt.). COLORADO - Increased on sorghum in Arkansas Valley, up to 600 per plant and damage to lower leaves evident. (Schweissing).

TEXAS - Greenbug generally increased on grain sorghum throughout Rolling Plains area. Moderate to heavy in Childress, Fisher, Jones, Knox, Motley, and Stonewall Counties. Some producers with heavier infestations applied controls. Heaviest on preboot to hard-dough stage. Heavy in Nolan County. Heavy isolated infestations in McCulloch County. Moderate to heavy in Glasscock, Upton, Reagan, Reeves, and Pecos Counties. Killed isolated fields of young sorghum in Glasscock County. Built up again following treatment. Many fields required second application. Beneficial insects had no effect. (McWhorter et al.).

OKLAHOMA - Greenbug heavy on Jackson County grain sorghum. Ranged 2,000-3,000 per plant on headed sorghum and up to 500 per leaf on 18-inch sorghum. Controls effective. Ranged 200-300 per plant in Harmon County. Averaged 1,000 per plant in 24-inch Payne County sorghum. Heavy in Pawnee County. Ranged 50-500 per plant in Cimarron County and 1,500-3,000 per plant in Texas County. Some control difficulty in Texas County. Small, scattered colonies on corn in some Texas County fields. Up to 5,000 per leaf in many fields in Custer, Washita, Beckham, and Caddo Counties. (Okla. Coop. Sur.).

ARKANSAS - Greenbug infestations light and scattered in Clay County. (Thomason). MISSOURI - Light on east-central area sorghum. Light to moderate on 3-29 percent of plants. Previously heavier in 3 of 5 fields. (Munson). IOWA - Infested several Audubon County sorghum fields, lower leaves dying; fields treated July 30. (DeWitt). SOUTH DAKOTA - Increased significantly on milo east of Missouri River. Infestations in Tripp County west of river very light for time of year, will probably become heavier next 14 days. Infested milo showed severe drought stress. (Kantack).

PICKLEWORM (*Diaphania nitidalis*) - GEORGIA - Heavy on late cucumbers and squash in Spalding County. (Dupress). TENNESSEE - Larvae damaged vine and fruit of squash plants in many central area locations. (Gordon).

POTATO LEAFHOPPER (*Empoasca fabae*) - MISSOURI - Light to moderate, 15-250 per 10 sweeps, on alfalfa in east-central and northeast areas. Stunted and yellowed plants in most dry fields. (Munson).

WISCONSIN - Potato leafhopper heavy on second-growth alfalfa in southern half of State with much variation among fields. Averages ranged 15-25 per sweep. Up to 50+ per sweep in southwest areas; injury evident in most second-growth fields, but severity variable, depending upon age of cutting, leafhopper population, and chemical treatments. Damage confused with boron deficiency, drought stress, and summer black stem disease. Some concern over new alfalfa seedlings in southwestern counties. One or fewer per 10 sweeps in untreated new seedlings under oats in Grant and Crawford Counties. Most injury in new seedlings due to summer black stem and drought. Ranged 2-6 per sweep of soybeans over most of southern and northwestern counties. On lower leaves of all plants. Counts varied on vegetables depending on control measures applied. Counts per sweep averaged under one in snap beans, lima beans, and wax beans in southern and east-central districts, averaged less than 3 on potatoes in central district, under one on navy and kidney beans in west-central district, and up to 7 in snap bean field in Pepin County. (Wis. Ins. Sur.).

OHIO - Potato leafhopper lighter on forage legumes in southeast counties than found earlier in other parts of State. Adult averages per sweep by county: Guernsey 1.0, Belmont 0.6, and Noble 0.7. (Lewis). PENNSYLVANIA - Continued increase on alfalfa statewide. Heaviest counts in southern and central counties. Adults per sweep: 13-16 in York and Franklin Counties and 0-6 in Wayne, Monroe, Erie, Crawford, and Butler Counties. Damage up to 25 percent where counts heavy. Over 300 adults per night in blacklight traps in southeast, central, and southwest counties. (Lilley et al.). NEW YORK - Still most important alfalfa pest statewide. Especially severe in central area. Heaviest in 35 years in Tompkins and Tioga Counties. Nymphs averaged one per sweep with severe stunting and yellowing in Dutchess County. Damage heavy on second-crop alfalfa in 2 Steuben County fields. Infestations very heavy on many newly established seedlings, second-growth alfalfa, and trefoil in Broome County. Prevalent where conditions dry in Oneida County. (Gyrisco et al.).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - OKLAHOMA - Averaged 5 per 10 sweeps in Harmon County alfalfa field. (Okla. Coop. Sur.). WISCONSIN - Heavy in some alfalfa fields, particularly on sandy soils. Under 5 per sweep in most areas except in Central Sands where 70+ per sweep noted in Waushara County. Counts 25 per sweep in several Columbia and Marquette County fields and one per sweep in Dodge and Sheboygan Counties. (Wis. Ins. Sur.). PENNSYLVANIA - Apteræ averages ranged 20-50 per 100 sweeps in alfalfa field near east Bangor, Northampton County. Collected by J.F. Stimmel and A.G. Wheeler July 9, 1975. Determined by J.F. Stimmel; confirmed by M.B. Stoetzel. This is a new State record. (Wheeler).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Damage light to moderate on southern area tobacco. (U. Md., Ent. Dept.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Egg mass counts remained between 5-30 per 100 corn plants on Eastern Shore. Process sweet corn fields sprayed twice to keep ear injury levels below 20 percent. (U. Md., Ent. Dept.). KENTUCKY - Larval activity high in most fields. (Barnett). MISSOURI - Infested corn plants 0-18 percent in east-central and northeast areas. Larvae 0-7 (mostly second instar) per plant. Most infestations very light. Adults still in fields; fresh eggs scarce. (Munson). MICHIGAN - Second-generation adults emerged. (Cress).

MINNESOTA - First reports of European corn borer emergence for season from southwest district; moths increased in light traps. (Minn. Pest Rpt.). WISCONSIN - Hot temperatures favored development. Blacklight trap catches increased greatly at most southern sites. Larvae mostly fourth and fifth instars, except near Lake Michigan where many third instars present. Pupae as far north as Pepin and Waushara Counties and as far east as Waldo, Sheboygan County, an area that does not ordinarily produce clear-cut second flights. Larvae increased in Lake Michigan area, with up to 35 percent of plants infested in few samples. Second-generation egg mass hatched in central area. Outlook for heavy, prolonged moth flight continues. (Wis. Ins. Sur.).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - TEXAS - Increased on corn in Hale County. Egg masses and young larvae on 30-40 percent of some plants. Some controls undertaken. (Latham).

FALL ARMYWORM (Spodoptera frugiperda) - GEORGIA - Feeding in corn whorls and light to heavy in sorghum whorls across State. (Suber). ALABAMA - Larvae, 1-10 per stalk, destroyed young corn in one to 30-acre fields in Bullock, Mobile, Coffee, Covington, and Marengo Counties and other southern counties. Lighter on prebloom grain sorghum in Wilcox and Baldwin Counties. New moth flights within 5-13 days expected to move into grasses and other hosts as far as northern border. (Hatchett et al.). OKLAHOMA - Infested 10-15 percent of young sorghum terminals in Jackson County. Moderate to heavy in Custer, Caddo, Washita, and Beckham Counties. (Okla. Coop. Sur.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - KANSAS - Two moths caught in light trap in Stevens County near Courtland July 3, 1975. Collected and determined by K.O. Bell. This is a new county record. (Bell).

CORN ROOTWORMS (Diabrotica spp.) - MISSOURI - D. virgifera (western corn rootworm) and D. longicornis (northern corn rootworm) adults 3-41 per 10 corn plants in east-central and northeast area. (Munson). MINNESOTA - Diabrotica spp. pupation and emergence well underway. Two badly damaged fields in Olmsted County. Very hard crust of soil supported corn. (Minn. Pest Rpt.). WISCONSIN - Pupation and emergence continued. Diabrotica spp. adults very heavy, 25 per plant, in individual cornfields; silk damage in some fields. Lodging up to 80 percent in untreated Dane County plot; lodging in most fields less than 10 percent and

adults less than 4 per plant. Diabrotica virgifera in nearly every field as far east as Lake Michigan. D. longicornis appeared more numerous species in damaged Columbia County fields. (Wis. Ins. Sur.).

IOWA - Diabrotica spp. ranged 7-10 per ear on seed corn plants in O'Brien County. Cut silks in Tama and Marshall Counties. (DeWitt). OHIO - D. longicornis adults light in far southeastern counties July 29 and 30. Averaged only one per 25 plants in selected fields in Belmont, Guernsey, Noble, and Washington Counties. (Lewis). NEW YORK - New adults of D. longicornis on Tompkins County corn July 20. Rootworms averaged 2.4 per plant in untreated second-year corn in Seneca, Yates, Ontario, and Cayuga Counties. Lodging less than one percent. (Willson et al.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Decreased on grain sorghum past 7-10 days in Blacklands area. Isolated infestations in Limestone County where controls applied. Continued light in most north-central area fields. Heavy in some Hill County fields. Ranged 1-15 small larvae per head. Heaviest on sorghum in soft-dough stage. (Hoelscher et al.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Decreased on grain sorghum in south-central area. Continued very heavy with up to 30-35 adults per head on blooming sorghum. Controls applied to terrace channel areas and late-planted fields. Above treatment levels in most late-blooming fields in north-central area. Populations exploded in Hill and Ellis Counties. Infested sorghum in Fisher County past 2 weeks. Light in Concho and Nolan Counties. Isolated heavy infestations in McCulloch County. (Cole et al.). OKLAHOMA - Damaged 5 percent of early planted Caddo County grain sorghum. (Okla. Coop. Sur.).

BANKS GRASS MITE (Oligonychus pratensis) - OKLAHOMA - Small, scattered colonies in most Texas County corn. (Okla. Coop. Sur.). COLORADO - Increased on corn with hot, dry weather. Infested up to the tenth and twelfth leaf in Arkansas Valley and up to third leaf in some Weld County fields. (Hantsbarger, Schweissing).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - UTAH - Damage lighter than normal; many fields treated in Cache County. (Burtenshaw). COLORADO - Larvae decreased to 2 per 10 sweeps, adults averaged 2 per 10 sweeps in north-central area week ending July 25. (Hantsbarger). NORTH DAKOTA - Collected on alfalfa in rural areas of Ransom and LaMoure Counties by C.G. Scholl July 8, 1975. Determined by W.J. Brandvik. These are new county records. (Scholl).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Averaged 30 per 10 sweeps on Harmon County alfalfa. (Okla. Coop. Sur.). WISCONSIN - Declined on alfalfa past 2 periods due to marked increase in parasitism by braconid wasps. Predation by lady beetles and Nabis fesus (a damsel bug) heavy. (Wis. Ins. Sur.).

AN APHID (Acyrtosiphon sp., caraganae group) - CALIFORNIA - Taken on sweetclover at El Centro, Imperial County, April 24, 1975, by R.A. Flock and L. Pineda and on alfalfa at Wheatland, Yuba County, May 14 by D.L. Wilson. Determined by T. Kono. These are new county records. (Cal. Coop. Rpt.).

VARIEGATED CUTWORM (Peridroma saucia) - IOWA - Larvae 5-10 per square foot preventing alfalfa regrowth in Woodbury and Harrison Counties. (DeWitt).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Adult pinhole damage on new growth of third-crop alfalfa. Adults per sweep by county: Wayne and Monroe 10-15; York, Washington, and Franklin 0-2. Mines 2-5 per plant in heavier counts. (Snelbaker et al.).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Adults and larvae fed on 25-35 percent of soybean leaves in 3 fields of 70+ acres in Mobile County. Controls applied. (Harris et al.).

MARYLAND - Second-generation adults continued to emerge throughout Eastern Shore and southern areas. Egg laying continued, but larval damage remained light. Pest not yet recovered from heavy rains of mid-June. Heaviest damage (less than 10 percent of total acreage) approached 30-percent defoliation level. Most injury caused by new adults. (U. Md., Ent. Dept.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Adults 0-10 per 25 sweeps in Harrison, Covington, Lauderdale, Rankin, Bolivar, Panola, and Oktibbeha Counties week ending July 25. (Robinson). Currently, adults per 25 sweeps by county: Bolivar, Sunflower, Washington, Holmes, Carroll, Rankin, and Montgomery averaged one; Prentiss and Lee ranged 2-5. (Harrison).

LOCUST LEAFMINER (Xenochalepus dorsalis) - VIRGINIA - Adults collected July 17 damaging soybeans near wooded area heavily populated with locust trees. Adults taken on Stafford County soybeans July 22. Determined by W.A. Allen. Feeding on soybeans near wooded areas in King George County July 16. (Surlis).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - GEORGIA - Moderate to heavy in Tift County field week ending July 26; treatments needed. (Suber). ALABAMA - Second-generation larvae appeared in several soybean fields in Mobile and Baldwin Counties. Fully grown larvae and moths light to heavy with 10 per 10 square yards in Mobile County field. No economic damage. (Vickery et al.).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Heavy on soybeans at new locations in Lawrence County. Heavy on soybeans in Coffee County. Collected by J.L. Cagle July 23, 1975. Determined by R.E. Morrison. Coffee County is a new record. (Gordon).

PEANUTS

SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) - GEORGIA - Light to very heavy in south-central and southwest areas week ending July 26. Some controls ineffective probably due to heavy rainfall. Currently light to heavy from central peanut belt to western and southern State borders. (French).

LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) - GEORGIA - Moths heavy throughout south-central and southwest areas week ending July 26. (French). OKLAHOMA - Second-generation larval infestations up to 53 percent on Marshall County peanuts. (Okla. Coop. Sur.).

REDNECKED PEANUTWORM (*Stegasta bosqueella*) - OKLAHOMA - Terminal infestations averaged 30 percent on peanuts in Marshall and Harmon Counties. Light in Haskell County. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - TEXAS - Continued increase on older cotton throughout Rolling Plains. Light in most counties. Square damage 15-25 percent in some fields in Baylor and Wichita Counties. Damage heavier, 25-60 percent, in several fields in Knox and Wilbarger Counties and up to 90 percent in some older fields in Jones County. Increased in south-central area. Some late cotton treated. Next generation about to start. Largest number trapped in Rio Grande Valley since traps started in April; ranged 0-34 (averaged 0-11) per trap. Many adults in all fields fed on remaining squares, blooms, and unopened bolls. Complete square damage in many fields but noneconomic. Increased along creek and river bottoms where overwintered adults heavy. Economic in several fields in Bell and Coryell Counties. Continued to hatch in some fields in Collin, Hunt, and Tarrant Counties. Punctured squares 8-92 percent. Heaviest in fields without proper overwintered control. Generally light, but continued to increase in Hill and Ellis Counties near overwintering areas; sudden increase is expected within next 2 periods. Light in Nolan County. Moderate to heavy in Concho and McCulloch Counties. (Cole et al.). OKLAHOMA - Punctured squares ranged 15-20 percent on cotton in Jackson, Tillman, Greer, Harmon, and Kiowa Counties; up to 60 percent in some fields. Very few live weevils in most fields. Averaged 40 percent in Caddo County. (Okla. Coop. Sur.).

ALABAMA - Second and overlapping generations of boll weevil punctured squares statewide. Infestations 7-90 (averages ranged 15-25) percent depending on control efforts. Unfavorable weather hindered controls. (Lowery et al.). GEORGIA - Infestations generally increased week ending July 26. Up to 68-percent punctured squares in southern area. (Womack). Currently, very heavy in Calhoun County cotton field. (King, French). SOUTH CAROLINA - Statewide problem, heaviest in Piedmont counties, week of July 25. Daily rains past 14 days hindered control and allowed increase. Annual migration in southeastern counties expected week of July 28. (Sparks). TENNESSEE - Damage continued serious in western area. Controls satisfactory. Overlapping

cotton made favorable conditions for second-generation boll weevil "hatch-out" due August 10. Heavy migration expected. Punctured squares 10-60 (averaged 30) percent. Controls necessary. (Locke). Punctured squares 10-50 percent in central area. (Cagle).

BOLLWORMS (Heliothis spp.) - ARIZONA - Heaviest range of H. zea (bollworm) per 100 terminals: 1-20 eggs in Pinal, Maricopa, Graham, and Yuma Counties; 1-5 larvae in all above counties except Yuma. (Ariz. Coop. Sur.). TEXAS - H. zea light in Kent, Knox, Wichita, and Wilbarger Counties. Eggs and small larvae found in many cases. Heavy egg laying in lush fields in south-central area. Larvae 93 percent H. virescens (tobacco budworm) in cotton field in Fort Bend County. Highs of 48 percent H. zea eggs this period, compared with over 120 percent last period. High of 35 larvae per 100 terminals in one field. Infested fewer fields because many fields defoliated or treated. Eggs decreased past 2-3 days in Blacklands area. Heavier on late-planted cotton with much tender growth. Beneficial insects effective here and in untreated north-central area fields. Larvae 40 per 100 plants in treated field in Collin County and 4 per 100 plants in nearby untreated field. More larvae expected next period than found this period in north-central area. Egg laying decreased in Hill and Ellis Counties. Late-planted cotton had more eggs. This generation should complete life cycle this period. Next significant egg laying after first week in August. Bollworms light in Concho County. Light to medium in Reeves and Pecos Counties; eggs ranged 2-60 percent across area. Moderate to heavy in Glasscock, Reagan, Upton, and Midland Counties. Ranged 10-60 per 100 plants in isolated fields. Egg laying decreased across Trans-Pecos area. (Cole et al.).

OKLAHOMA - H. zea eggs ranged 5-14 per 100 terminals, larvae 5-10 per 100 terminals, and damaged squares ranged 5-14 percent in Jackson, Harmon, Greer, Tillman, and Kiowa Counties. One Jackson County field averaged 10,000 live larvae per acre with some larvae dead, apparently of virus disease. Larvae averaged 15 per 100 terminals in Caddo County. Moderate to heavy in Custer, Washita, and Beckham Counties. Heavy in Grady County. (Okla. Coop. Sur.).

ALABAMA - Flights increased rapidly in southern area, mostly H. zea. Egg laying and small larvae increased in Wilcox and other Southern counties. Controls hindered by rain and usual seasonal moth increase will probably cause major problem in much of cotton. (Harris et al.). GEORGIA - H. zea eggs 2-45 (averaged about 20) per 100 terminals and larvae 1-25 (averaged about 6) per 100 terminals in southern area week ending July 26. (Womack). SOUTH CAROLINA - Heliothis spp. heavy; eggs 30-70 per 100 plants in many counties and H. zea hatching in unprotected fields week of July 25. (Sparks). TENNESSEE - Not general in west area, but heavy in few cotton fields. Second generation in all fields. Controls necessary where counts heavy. Larvae 1-15 per 100 terminals in central area. (Cagle).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Light on cotton in Baylor, Cottle, and Kent Counties. Moderate to heavy in Knox, Wichita, and Wilbarger Counties. Some infestations exceeded average of one fleahopper per terminal. Very few squares present where damage excessive. Numbers variable throughout north-central area. Remained heavy in Hill and Ellis Counties on cotton

planted in June, up to 1-3 fleahoppers in every terminal. Majority of June cotton has no square set, due to fleahopper and/or bollworm infestations. Fleahopper light in Concho and Nolan Counties. Remained moderate to heavy in Pecos and Reeves Counties. Remained light to heavy across Pecos Valley and El Paso Valley areas. (Boring et al.). OKLAHOMA - Light to moderate, 5-20 per 100 terminals, on cotton in southwest counties. (Okla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Heaviest range of damaged squares per 100 squares by county: Pinal 26+ in 41 fields, Maricopa 11-25 in 32 fields, Graham 1-10 in 256 fields, and Yuma 11-25 in one field. (Ariz. Coop. Sur.). TEXAS - Remained moderate to heavy in Reeves and Pecos Counties. Remained light to heavy across Pecos Valley and El Paso Valley areas. Controls applied in Pecos Valley. (Bagley, Neeb).

COTTON APHID (Aphis gossypii) - OKLAHOMA - Very heavy in Jackson County cotton field; light in most fields. Scattered heavy infestations in Washita and Caddo Counties. (Okla. Coop. Sur.).

TOBACCO

NOCTUID MOTHS (Heliothis spp.) - TENNESSEE - Fields at or above control levels: 20 of 21 fields in Franklin and Lincoln Counties (Cagle); one of 22 fields in Macon, Smith, Sumner, and Trousdale Counties, up to 100 larvae per acre (Gregory).

GREEN PEACH APHID (Myzus persicae) - KENTUCKY - Increased rapidly; light to heavy in most tobacco fields. (Barnett).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Adults light on sunflower fields in Hale County. Very light in Pecos Valley area. (Latham, Neeb). NEW MEXICO - Heavy losses to commercial sunflower at Clovis, Curry County. (N.M. Coop. Rpt.). OKLAHOMA - Very heavy (up to 20 larvae per head in 90 percent of heads) in some sunflower fields in Harmon and Jackson Counties; 2 fields treated 3 times. Most larvae near maturity and some pupae found. (Okla. Coop. Sur.).

SUNFLOWER BEETLE (Zygogramma exclamationis) - NEW MEXICO - Heavy populations defoliated sunflowers along U.S. Highway 64 in Colfax County. Recovered from commercial sunflower planting in Chaves County. (N.M. Coop. Rpt.).

POTATOES, TOMATOES, PEPPERS

VARIEGATED CUTWORM (Peridroma saucia) - IDAHO - Damaged potatoes, larvae 10-50 per plant, in 160 acres at Fort Hall, Bancroft County. (Gardner). COLORADO - Heavy in many Weld County potato fields. Larvae averaged 60 per 10 feet of row in some fields. (Hantsbarger). WISCONSIN - Principal species in many commercial potato fields and some gardens in State. (Wis. Ins. Sur.). MICHIGAN - Severe on northern area potatoes. (Lamkin). NEW YORK - Damaged most major potato areas, including Steuben, Wayne, and Genesee Counties. (Tingey, July 20).

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - DELAWARE - Second-brood larvae on Sussex County sweet peppers with about 5 percent of untreated peppers infested with second and third instars. Adults still heavy, 25+ per night in blacklight trap collections. (Burbutis). OHIO - Sharp rise in adult emergence and egg laying on peppers. (Rings).

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - IDAHO - Later than normal in Fremont County. Preplant treatments ineffective in gardens. Feeding heavy on tomatoes and eggplants in gardens in Canyon, Latah, and Twin Falls Counties. (Homan et al.).

GREEN PEACH APHID (*Myzus persicae*) - OREGON - Still very heavy on potatoes at Nyssa and Adrian, Malheur County. (Burr).

WASHINGTON - Trap pan counts up to 399 per trap in Grant and Adams Counties July 17. (Wash. State Potato Commission).

COLORADO - Prevalent in many Weld County potato fields; some controls applied. (Hantsbarger). RHODE ISLAND - Continued increase in Washington County in spite of treatments week ending July 25. (Partyka).

POTATO APHID (*Macrosiphum euphorbiae*) - GEORGIA - Heavy on tomatoes in Carroll County garden. (Dewberry, Harris). WISCONSIN - Averaged 25 per leaflet in potato field near Plainfield, Waushara County. In garden planting of potatoes in Eau Claire, Eau Claire County. (Wis. Ins. Sur.).

BEANS AND PEAS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - OHIO - Larvae up to 12 (averaged 4) per plant on beans in Washington County truck farms. All stages present. (Lewis).

COLE CROPS

IMPORTED CABBAGEWORM (*Pieris rapae*) - OHIO - Damage light to moderate on cabbage in Washington County. (Lewis). WISCONSIN - All stages on cabbage statewide. Larvae numerous on cabbage in Columbia and Washington Counties. (Wis. Ins. Sur.).

CUCURBITS

SQUASH BUG (*Anasa tristis*) - TEXAS - Infested gardens in Baylor, Cottle, Foard, Knox, Wilbarger, and Young Counties. Continued problem in north-central area. Moderate to heavy in Concho, Callahan, McCulloch, and Sterling Counties. (Turney et al.).

MELON APHID (*Aphis gossypii*) - OKLAHOMA - Moderate to heavy on watermelons in Comanche County and on watermelons and cantaloups in Caddo and Washita Counties. (Okla. Coop. Sur.).

GENERAL VEGETABLES

ASPARAGUS BEETLE (*Crioceris asparagi*) - CALIFORNIA - Adults moderate to heavy on asparagus at El Cajon, San Diego County. (Cal. Coop. Rpt.).

BLACK SWALLOWTAIL (*Papilio polyxenes asterius*) - SOUTH CAROLINA - Larvae taken on parsley in Edgefield County by H. Miller July 9, 1975. Determined by D.K. Pollet. This is a new county record. (McCaskill).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - WASHINGTON - Pheromone trap catch results by county: North-central area - 0-31 week ending July 26, Whitman - averaged 7.3 per trap week ending July 26, Yakima - 0-91 week ending July 28, Grant and Adams at Royal Slope - 198 and outside Royal Slope - 0-39. (Jackson et al.). MICHIGAN - Pheromone trap catches increased as second-generation emergence continued. (Olsen).

OBLIQUEBANDED LEAFROLLER (Choristoneura rosaceana) - NEW YORK - Significant infestations in increasing number of apple orchards, especially in Lake Ontario fruit belt. Species now considered potential pest. (Brann).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Damage heavy to ripe peaches and plums in Major County and to peaches in Kiowa, Caddo, Washita, Custer, and Beckham Counties. (Okla. Coop. Sur.).

PLUM CURCULIO (Conotrachelus nenuphar) - TEXAS - Heavy on Hays County peaches. (Stewart).

TEXAS LEAFCUTTING ANT (Atta texana) - TEXAS - Continued to inflict heavy damage on pecan, plum, and peach trees in certain areas of Uvalde County. (Stewart).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Emergence remained unusually high. Catches by county: Hennepin 96, Brown 42, Faribault 9, Ramsey 100-200. (Minn. Pest Rpt.).

ROSY APPLE APHID (Dysaphis plantaginea) - SOUTH CAROLINA - Taken from apples in Chester County by D.C. Wylie July 10, 1975. Determined by D.K. Pollet. This is a new county record. (McCaskill).

EUROPEAN RED MITE (Panonychus ulmi) - MICHIGAN - Built up rapidly in many blocks across State. Some predators moved into trees. Biological control achieved in several orchards. (Olsen).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Light on pecans in Lee County and heavy on untreated pecans in Guadalupe County. Infested Bell County pecans. Moderate on pecans in Concho and Callahan Counties; light in Nolan County; heavy in McCulloch County. Resumed activity on pecan trees in many counties in Uvalde area. Defoliated Hays County pecans. (Cole et al.). MISSISSIPPI - Larvae heavy in pecans in many areas, heaviest infestation 10-15 webs per tree week ending July 25. (Robinson). ALABAMA - Broods ranged 5-30 in many pecan trees and other nearby host trees in all parts of Mobile and Baldwin Counties. Webs completely covered some large trees. Lighter in Escambia, Monroe, Wilcox, Bullock, and other southern counties. (Golf et al.).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - TEXAS - Moderate in Concho and Callahan Counties. Second generation infested pecans in some areas of Limestone, Hill, Navarro, and Bell Counties. Scattered and light to moderate. Some treatment for second generation. Heavy counts damaged pecans in Roaring Springs, Motley County. Light on pecans in Upton and Ward Counties. (Hoelscher et al.).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Very heavy and devastating on Bell County pecans. On pecan trees in Milam and Guadalupe Counties. Defoliated Hays County pecans. Light in Pecos County pecans. (Stewart et al.).

PECAN WEEVIL (Curculio caryae) - TEXAS - Moderate on McCulloch County pecans. (McWhorter). GEORGIA - One female and 2 males in emergence trap in Pike County. About 200 adults collected in 800 emergence traps, still relatively light with some damage from adult feeding in Peach County. (Dupree, Payne).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Very heavy on Hamilton County pecans. Damage and shedding of many leaves from some large native pecan trees. Light in McCulloch County. Light to moderate on isolated pecan trees in Brewster and Jeff Davis Counties. (McWhorter et al.).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - COLORADO - Damaged spruce in Este Park area, Larimer County, week ending July 25. (Hantsbarger).

SPRUCE SPIDER MITE (Oligonychus ununguis) - OHIO - Built up throughout northeast area. Hot, dry weather favored growth and reproduction. (Balderston). Light to moderate on nursery planting of Canadian hemlock in Lake County. Mottled foliage; some severe yellowing. (Endebrock, Wells).

RUSTY TUSSOCK MOTH (Orgyia antiqua) - OREGON - Heavy on pin oak (spotty on other tree species) along street at Portland, Multnomah County. Seriously defoliated some trees. Females predominant and egg laying about completed. Some larvae fully grown. Cocoons, with and without egg masses, very heavy on tree trunks. Second-generation larval hatch expected in 7-14 days. (Westcott, Nicolaison).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Still light on ornamental trees in Upton, Ward, and Brewster Counties. Light to moderate in Nolan, McCulloch, and Callahan Counties. (Neeb, McWhorter). WISCONSIN - Noticeable on many tree species in southern half of State. (Wis. Ins. Sur.).

ELM LEAF BEETLE (Pyrrhalta luteola) - SOUTH CAROLINA - Taken from elms in Dorchester County July 24, 1975, by J.L. Gowdy. Determined by D.K. Pollet. This is a new county record. (McCaskill). TEXAS - Continued to damage elms in north-central area. Light in Sterling and Concho Counties. Moderate to heavy on elms in Upton, Ward, Pecos, Reeves, Glasscock, Brewster, Jeff Davis, and Culberson Counties. (Turney, Neeb).

LOCUST LEAFMINER (Xenochalepus dorsalis) - MARYLAND - Severe damage to locust trees continued in all southern counties. Damage appears heaviest of past several years. (U. Md., Ent. Dept.).

A LEAFHOPPER (Japananus hyalinus) - CALIFORNIA - Specimens collected from maple tree at Fresno, Fresno County, by W. Kelzer and D. MacMillan June 16, 1975. Determined by R. Gill; confirmed by J.P. Kramer. This is a new State record. (Cal. Coop. Rpt.).

OBSCURE SCALE (Melanaspis obscura) - SOUTH CAROLINA - Taken from maple in Colleton County July 8, 1975, by J.R. White. Determined by K. Pollet. This is a new county record. (McCaskill).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 273 cases reported from continental U.S. July 13-19 as follows: Texas 257, New Mexico 6, Arizona 10. Total of 295 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 177 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 163,832,300 as follows: Texas 153,207,800; New Mexico 3,018,600; Arizona 7,605,900. Total of 14,904,900 sterile flies released within Barrier of Mexico and 2,000,000 released south of barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - TEXAS - Heavy on Knox County cattle. Expected to increase in north-central area. Light to moderate on cattle in Glasscock, Ward, Upton, Reagan, and Martin Counties. Moderate to heavy on cattle in Brewster, Jeff Davis, Reeves, and Crockett Counties. Moderate to heavy on cattle in McCulloch, Nolan, Concho, Callahan, and Sterling Counties. Light to moderate on sheep and goats in Concho, Sterling, McCulloch, and Nolan Counties. (Boring et al.). OKLAHOMA - Averaged 750 per head on cows and 700 per head on yearlings in Payne County. Ranged 500-600 per head on cows and 300-400 per head on yearlings in Ellis County. Moderate to heavy in Comanche County. (Okla. Coop. Sur.). ARKANSAS - Infestations very light in some herds and very heavy in others depending on extent of control measures applied. (Boyer). MISSISSIPPI - Averaged 15 per cow in 40 head in Yalobusha County; 150 per cow in 100 head in Oktibbeha and Noxubee Counties. (Robinson).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Much lighter on pastured cattle week ending July 25 than previous week. Averaged 9 per face on 10 head in herd of 50 beef cattle in Oktibbeha County. Averaged 6 per head in one Yalobusha County herd. Adults currently averaged 4 per face in Oktibbeha County and 8 per face on 40 head in Yalobusha County. (Robinson). ARKANSAS - Collected from cattle July 21-24 near Searcy, White County; Conway, Faulkner County; Oppelo, Conway County; Dardanelle, Yell County; Clarksville, Johnson County; and Rudy, Crawford County. Taken from cattle and horses July 28-31 near Lake Village, Chicot County; Hamburg, Ashley County; Monticello, Drew County; McGehee, Desha County; Pine Bluff, Jefferson County; Sheridan, Grant County. All collections by W.P. Boyer. Determinations by E.P. Rouse. All are new county records. (Boyer). KENTUCKY - Adults averaged 45 per animal at one Fayette County location and ranged 20-25 at second location. (Knapp). MARYLAND - Annoying, 40-60 per head on most dairy and beef herds in central area. (U. Md., Ent. Dept.). OHIO - Heavy on cattle in Tuscarawas County, partly responsible for high incidence of pink eye disease in one herd there. (Lyon).

MOSQUITOES - RHODE ISLAND - Aedes sollicitans heaviest in at least 5 years in Washington and Newport Counties week ending July 25. (Relli). WISCONSIN - Absence of appreciable rainfall in July reduced mosquito problem in all areas. (Wis. Ins. Sur.). MINNESOTA - Hot, dry weather reduced numbers in all types of

collections during past week in Minneapolis and St. Paul. Aedes vexans predominant in trap and bite collections. Culex tarsalis comprised 14 percent of trap collections. No human cases of western equine encephalitis in previously flooded areas of Red River Valley where C. tarsalis very abundant. Some 30 municipalities in Norman, Clay, and Wilkin Counties fogged with controls every 2-3 days for 10 days to reduce C. tarsalis populations. (Minn. Pest Rpt.).

GULF COAST EAR TICK (Amblyomma maculatum) - TEXAS - Discovered on cattle near Batesville, Zavala County. Heavy on Hays County cattle. (Stewart).

BENEFICIAL INSECTS

A BRACONID WASP (Microctonus colesi) - OHIO - Reared from Hypera postica (alfalfa weevil) adults collected in Delaware County, April 26, 1975, and Union County April 29, 1975. Collections and determinations by D.R. Lewis. These are new county records. M. colesi now believed to be present statewide. (Flessel).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GOLDEN NEMATODE (Heterodera rostochiensis) - NEW YORK - Collected from potato field in Savannah Township, Wayne County, by C.H. Clift June 28, 1974. Determined by I. Granek and A.M. Golden. This is a new county record. (PPQ).

GRASSHOPPERS - UTAH - Total of 10,368 acres of rangeland treated in Hill Creek and Willow Creek areas of Uintah County July 15-17. Some gardens and foothill alfalfa in Cache County currently infested as grasshoppers move from vacant lots and roadsides. (Stephens, Knowlton). MONTANA - Ranged 15-20 per square yard on 150,000 acres of Stillwater County rangeland week of July 25. Predominant species Melanoplus sanguinipes, M. femurrubrum, and M. bivittatus. All instars present, majority in first to third instar. Adults (20 percent) 10+ per square yard on 300,000 acres of rangeland in Big Horn County. Nymphs about 30-50, mainly Melanoplus spp., per square yard in small pockets of 100-1,000 acres of mountainous range in Gallatin County. Acreage may exceed 50,000 acres. (Pratt).

GYPSY MOTH (Porthetria dispar) - First time males found for county in following 2 States. VIRGINIA - One trapped at Williamsburg, York County, July 23. OHIO - Two trapped at Macksburg, Washington County, July 22. (PPQ). MICHIGAN - First catch of year, one male, July 24 in Union Township, Isabella County, (Moore). RHODE ISLAND - Egg laying noted in Providence County. total of 435 acres noticeably defoliated to July 22. (Relli).

JAPANESE BEETLE (Popillia japonica) - GEORGIA - Trapped for first time in Atlanta area, Fulton County, May 29, 1975. (PPQ). TENNESSEE - Infestation covered eastern half of Polk County; garden and truck crops damaged. (Teasley). OHIO - Silk feeding in all fields surveyed in southeast counties. Up to 5 adults per ear on 4-25 percent of corn. (Lewis). PENNSYLVANIA - Adults heavily defoliated sassafras and wild cherry trees in Chestnut Hill and Ross, Monroe County, on July 23. (Sporer). Adults per 10 sweeps of alfalfa: 18 at Shippensburg, Franklin County, July 22; 14 at Mercersburg, Franklin County July 23; 18 at York Haven,

York County, July 25. (Snelbaker). MAINE - Large swarm of Japanese beetles at Portland, Cumberland County. One major infestation covered at least 0.5 acre of golf course turf and many similar acres elsewhere. Moderate feeding damage on elm, alder, willow, cherry, and maple at Auburn, Androscoggin County. (Gall).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Single fly trapped on grounds of motel at San Ysidro, San Diego County, adjacent to international line by P. Jones July 21, 1975. Determined nonsterile by M. Wasbauer. (Cal. Coop. Rpt.).

MORMON CRICKET (Anabrus simplex) - IDAHO - Damaged alfalfa and winter wheat; several thousand acres of cropland treated. Heaviest in Deep Creek range of hills with populations moving into Arbon and Rockland areas of Power County. (Schow).

PINK BOLLWORM (Pectinophora gossypiella) - ARKANSAS - Adults trapped at Keiser, Mississippi County, July 24 and 28. LOUISIANA - Trapped at Alexandria, Rapides Parish, July 17, and southwest Gilliam, Caddo Parish, July 24. (PPQ). TEXAS - Remained light in Pecos and Reeves Counties. Light in isolated fields in Glasscock, Reagan, and Upton Counties. (Bagley, Neeb). ARIZONA - Heaviest range of infested bolls per 100 bolls by county: Pinal 6-15 in 3 fields, Maricopa 6-15 in 3 fields, Graham 1-5 in 27 fields, and Yuma 25+ in 13 fields. (Ariz. Coop. Sur.).

HAWAII INSECT REPORT

Forage Legumes - Over 50 nymphs and adults (apterae and alates) of SPOTTED ALFALFA APHID (Therioaphis maculata) collected on only host in area, Medicago lupulina (black medic) at Hickam Air Force Base, Oahu. Infestations confined to original area of first discovery. Delineation surveys will continue. (Beardsley et al.).

Households and Structures - Large colony of FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus) infested utility pole at Kipa, Molokai, by July 25. Workers, soldiers, and alates present. Extensive damage. Confirms earlier report (October 1967) of establishment on Molokai. Recorded from all major islands except Lanai. (Lai et al.).

Fruits and Ornamentals - AN ARMORED SCALE (Pseudaulacaspis cockerelli) moderate to heavy on oleander at Hickam Air Force Base, Kapahulu, and Kaimuki, Oahu. Exceeded 30 scales per leaf. Generally confined to older leaves. (Sanidad, Mau).

Beneficial Insects - Eleven adults of a TACHINA FLY (Eucelatoria sp. near armigera) emerged from 90 Melipotis indomita (a noctuid moth) larvae collected from kiawe trees (Prosopis pallida) at Hickam Air Force Base. Parasitism about 12 percent. Many empty pupal cases of a BRACONID WASP (Meteorus laphygmae) on trees. Four adults emerged from Melipotis larvae. (Teramoto).

DETECTION

New State Records - A LEAFHOPPER (Japananus hyalinus) - CALIFORNIA - Fresno County. (p. 668). SPOTTED ALFALFA APHID (Therioaphis maculata) - PENNSYLVANIA - Northampton County. (p. 659).

New County Records - ALFALFA WEEVIL, (Hypera postica) NORTH DAKOTA - Ransom, LaMoure (p. 661). AN APHID (Acyrtosiphon sp., caraganae group) CALIFORNIA - Yuba, Imperial (p. 662). BLACK SWALLOWTAIL (Papilio polyxenes asterius) SOUTH CAROLINA - Edgefield (p. 666). A BRACONID WASP (Microctonus colesi) OHIO - Delaware, Union (p. 670). ELM LEAF BEETLE (Pyrrhalta luteola) SOUTH CAROLINA - Dorchester (p. 668). FACE FLY (Musca autumnalis) ARKANSAS - White, Faulkner, Conway, Yell, Johnson, Crawford, Chicot, Ashley, Drew, Desha, Jefferson, Grant (p. 669). GOLDEN NEMATODE (Heterodera rostochiensis) NEW YORK - Wayne (p. 670). OBSCURE SCALE (Melanaspis obscura) SOUTH CAROLINA - Colleton (p. 669). ROSY APPLE APHID (Dysaphis plantaginea) SOUTH CAROLINA - Chester (p. 667). SOYBEAN CYST NEMATODE (Heterodera glycines) TENNESSEE - Coffee (p. 662). WESTERN BEAN CUTWORM (Loxagrotis albicosta) KANSAS - Stevens (p. 660).

CORRECTIONS

CEIR 25(27):559 - "SESIID MOTHS ... Paranthrene tricincta ..." should read "Paranthrene tabaniformis ..." Determined this species by T.D. Eichlin. (Purrington, Boggs).

WEATHER OF THE WEEK ENDING AUGUST 3

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Contrasts in precipitation and temperature were key features of the week's weather picture. A tropical depression favored the already saturated Atlantic and gulf coast areas with the bulk of heavy rainfall but scarcely touched the parched Plains areas. The eastern third of the Nation, particularly the Northeast, sweltered under record breaking highs while the western third fared under mild and even cool temperatures.

PRECIPITATION: After closing out the week on a stormy note, the weather on Monday and Tuesday lost most of its punch. Any action there was centered around the Ohio Valley where a cold front triggered thunderstorms from New York to Indiana. A low pressure system hovered over the Gulf of Mexico raising thundershowers in the South Atlantic and Gulf Coast States. Showers also developed from western Montana into Arizona and even spilled over into the Rockies and Intermountain regions. South of a stationary front, high humidity blanketed the southeast quarter of the Nation. Meanwhile, north of the front, more comfortable conditions prevailed from the Great Lakes to the North Atlantic coast regions. Wednesday's weather, however, livened up a bit. The gulf depression travelled into southern Mississippi distributing thunderstorms along the gulf and South Atlantic coasts. Northwest Florida seemed to get more than its share, heavy rains soaked Milton with 4.5 inches in only 6 hours. Elsewhere, a high pressure system kept the northeast quarter of the Nation sunny, but light winds forced parts of New York, Michigan, Maryland, Ohio, and Virginia to issue air stagnation advisories. Moving at a slow pace, the gulf storm center on Thursday spread into Mississippi, Alabama, and Louisiana. Meanwhile, a slow moving cold front touched off scattered showers and thundershowers across parts of the north, the central Plains and northern Rockies. Things weren't as bright as they seemed in the sunny northeast quarter of the Nation as air stagnation advisories remained in effect from Virginia to lower Michigan. On Friday the storm center weakened as it drifted across Mississippi into southeast Arkansas. Scattered rains persisted over already soggy portions of the Southeast and northwest Florida battled extensive lowland flooding. Saturday delivered unwanted rains to the saturated gulf States and left sections of the parched Plains begging for moisture. Diminishing rains only teased the middle Mississippi Valley and eastern Kansas as they drifted across the Corn Belt. Hazy skies in the Northeast called for more air stagnation alerts. Showers and thunderstorms moving from the West on Sunday began to push stagnant air slowly towards the Atlantic. Elsewhere, fair skies dominated the western half of the Nation into the upper Mississippi.

TEMPERATURE: In the week's weather review, the temperature drew the most attention as records were broken or tied in many parts of the Nation. Hot weather made news in the Plains as the mercury in some spots rested at or above the 100 degree mark and stayed in the 90's elsewhere. Thunderstorms cooled some areas at the beginning of the week but relief was only temporary. Other areas, however, couldn't even look forward to cooler evenings. Tuesday's

1 a.m. reading in Mobridge, South Dakota, held at 89 degrees. In contrast, the Northwest registered temperatures in the 50's as did the eastern Great Lakes and northern New England areas. High humidity added to the problems of the already warm southeast quarter of the Nation. The Plains and upper Midwest had the same complaint, it was hot. At midweek, early morning lows in the 70's reigned over the Plains, Mississippi Valley, and South. Duluth, Minnesota, 70 degrees, set a record for the highest minimum for the date. In the northwest United States, cloudy skies trailed a cold front holding afternoon temperatures in the 50's. Nighttime temperatures dropped considerably in parts of the Northwest and in some spots of Nevada and Oregon the mercury even dipped into the 30's. Boise, Idaho, scored a record low Thursday with a reading of 44 degrees. Friday was a day for extremes. Marquette, Michigan, broke its record high of 93 degrees and Pocatello, Idaho, dropped to a record breaking low in the morning of 44 degrees. Unseasonably hot weather in the northeast tightened its grip as the week progressed. For Alpena, Michigan, Friday was the fourth consecutive day that daily record temperatures had been broken or tied. Afternoon temperatures reached into the 100's in Pennsylvania, and Maine sweltered under its most severe heat wave in over 25 years. Fair weather and mild temperatures in the western third of the Nation made that area the envy of the eastern third where conditions were warm to hot, humid, and hazy. Boston experienced its warmest night in over 100 years with an early morning low on Saturday of 83 degrees. Record highs for the day were pinned on San Francisco, 89 degrees, and Muskegon, Michigan, 92 degrees. And the heat went on. More daily record highs set for Saturday in the New England areas: Hartford, Connecticut, 101 degrees and Portland, Maine, 103 degrees. Records were still being set from North Carolina to Vermont, but temperatures finally began their slow descent on Sunday. A cold front fanned Maine and parts of New Hampshire, and reached into Massachusetts lowering temperatures to the 70's. Nearby, however, in Philadelphia, 98 degrees hit a record high for the third day in a row. Elsewhere, a summer cold front chilled Minnesota to the mid 50's. The East still simmered but temperatures also dipped in the central Plains.

Estimates of Damage by the European Corn Borer
to Grain Corn in the United States in 1974

Compiled by the New Pest Detection and Survey Staff
PPQ, APHIS

The loss to grain corn attributed to the European corn borer (*Ostrinia nubilalis* (Hübner)) in 1974 is estimated to be about 42,529,000 bushels in 15 corn-producing States. In these States the loss was 1.06 percent of production. This loss is about 0.9 percent of the total national crop estimated at 4,651,167,000 bushels ¹. The value of the loss, based on the season average prices received by farmers for corn ², is \$148,865,000. These loss estimates are only for the States shown in Table 1, and are based on the counties or districts surveyed during the fall of 1974 within the States ³.

Table 1 is a composite of State and Federal estimates. These estimates were prepared by using production data ¹, and prices received ², released by the Statistical Reporting Service. The basis for the loss estimates was determined by the survey of European corn borer populations during the fall of 1974 ³. The index of 3 percent loss per borer per plant was used to compute the loss in bushels.

Estimated losses to grain corn for the past 23 years in States where the fall abundance survey was conducted are as follows:

1974	42,599,000 Bushels	\$148,865,000
1973	139,395,000 "	329,272,000
1972	65,821,000 "	83,367,000
1971	305,545,000 "	319,777,000
1970	195,885,000 "	250,178,000
1969	163,501,000 "	182,509,000
1968	154,554,000 "	161,287,000
1967	59,661,000 "	63,837,000
1966	121,236,000 "	155,876,000
1965	54,318,100 "	59,374,160
1964	87,116,000 "	97,478,000
1963	120,647,000 "	127,838,000
1962	88,245,000 "	93,695,000
1961	65,044,000 "	68,998,000
1960	102,991,000 "	96,085,000
1959	67,763,000 "	71,979,000
1958	100,699,000 "	98,434,000
1957	180,897,000 "	158,841,000
1956	97,971,000 "	119,535,000
1955	155,355,000 "	182,579,000
1954	191,614,000 "	261,415,000
1953	90,000,000 "	125,466,000
1952	53,270,000 "	77,205,000

¹ Crop Production, 1974 Annual Summary, Crop Reporting Board, Statistical Reporting Service, USDA, January 16, 1975.

² Crop Values, Season Average Prices Received by Farmers and Value of Production 1972, 1973, and 1974, Crop Reporting Board, Statistical Reporting Service, USDA, January 16, 1975.

³ Cooperative Economic Insect Report 25(7):69-76, 1975.

Table 1. Estimates of Damage by the European Corn Borer to
Corn Grown for Grain in the United States in 1974

State	Districts Included ¹	Estimated Data				
		Total Production	Value Per Bushel	Value of Production	Loss of Crop	
	Number	1,000 Bu.	Dollars	\$1,000	1,000 Bu.	\$1,000
Delaware	1	12,416	3.50	43,456	1,257	4,399
Illinois	9	830,830	3.60	2,990,988	8,082	29,094
Indiana	12	387,660	3.50	1,356,810	3,036	10,625
Iowa	12	948,000	3.50	3,318,000	5,746	20,110
Kansas	9	131,480	3.45	453,606	966	3,333
Kentucky	1	95,200	3.50	333,200	189	663
Michigan	5	110,410	3.45	380,915	2,889	9,966
Minnesota	7	359,900	3.45	1,241,655	1,010	3,484
Missouri	8	149,050	3.50	521,675	4,949	17,321
Nebraska	5	380,800	3.45	1,313,760	9,074	31,305
North Carolina	4	116,180	3.40	395,012	1,192	4,052
North Dakota	1	7,301	3.45	25,188	30	103
Ohio	5	266,450	3.55	945,898	1,657	5,883
South Dakota	5	76,890	3.45	265,271	1,998	6,893
Wisconsin	9	154,360	3.60	555,696	454	1,634
Totals		4,026,927		14,141,130	42,529	148,865

¹ Cooperative Economic Insect Report 25(7):69-76, 1975.

Prepared by New Pest Detection
and Survey Staff

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(32):667-668, 1975

U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

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AGRICULTURE
AGR 101



Cooperative Economic Insect Report

Issued by

PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
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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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

CORN LEAF APHID heavy in parts of all reporting States. Drought conditions in Central States adding to problems. (p. 681).

GREENBUG heavy in Texas, Oklahoma, and Nevada. (p. 681).

POTATO LEAFHOPPER economic on various crops in Wisconsin, heavy on alfalfa in Maryland, and severe on alfalfa in Vermont. (p. 682).

FALL ARMYWORM heavy in Alabama, South Carolina, and Rhode Island. More injury expected in Maryland. (pp. 682, 684).

MEXICAN BEAN BEETLE heavy in Alabama, Maryland, and Indiana. A eulophid wasp suppressed larvae in Maryland. (pp. 684, 686).

BOLL WEEVIL punctured up to 90 percent of squares in Oklahoma and Alabama. Damage expected to increase in Louisiana. (pp. 684-685).

Detection

- CHESTNUT GALL WASP reported for first time in United States. Known only from Asia. (p. 698).

A New State Record for OLDHOUSE BORER in Kentucky. (p. 690).

For new county records see page 693.

Reports in this issue are for week ending August 8 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING JULY 10

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Headlining the week's weather story, a high pressure system favored most of the Nation with mild temperatures and sunny skies. It pulled cool dry air into the northeast. Temperatures reversed their course and dipped into the 60's and 70's. Scarce precipitation brought more bad news to the parched Plains States as what little there was fell across the eastern third of the Nation mostly in the Great Lakes region and throughout the south Atlantic and Gulf Coast States.

PRECIPITATION: The beginning of the week, rains over the eastern third of the Nation broke up the weekend heat wave in the northeast. Early Monday morning, the weather had little to say but showers and storms soon increased in both number and intensity, Rainfall led a slow moving cold front eastward until by midday, a pattern of precipitation trailed from the lower Great Lakes region into central Texas. In parts of Mississippi and Louisiana, flooding served as a reminder of last week's drenching. Because of light winds, Maryland and most of Virginia kept an eye on their air stagnation levels. Meanwhile, the northwestern two-thirds of the country fared under mild weather and sunny skies. Showers and thunderstorms built up from the Great Lakes into the central Appalachians. On Tuesday areas along the gulf complained louder about being too wet. Meanwhile, little relief was in sight for the parched middle Mississippi Valley. Maryland and Virginia breathed a little easier on Tuesday when the air stagnation advisory was lifted in the afternoon. In the west, showers and storms made their way across Nebraska and South Dakota. Much of the Nation enjoyed pleasant air and sunny skies at midweek. Severe weather was noticeable by its absence. Showers and thunderstorms were confined to an area from the lower Great Lakes region southeast to the Atlantic coast and from south Virginia and east Kentucky to the eastern gulf coast area. Isolated activity kicked up afternoon showers in parts of Florida. Elsewhere, showers

Weather of the week continued on page 696

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - COLORADO - Light on various grasses around Fort Collins, Larimer County. (Hantsbarger). MINNESOTA - Outbreak over. (Minn. Pest Rpt.). NEW HAMPSHIRE - Generally present in unsprayed sweet corn. (Bowman).

CORN EARWORM (Heliothis zea) - IDAHO - Very light on southwestern area corn, averaged 5 percent infestations in corn silking by July 16. Heaviest at 15 percent on corn silking July 11. (Scott). TEXAS - Larvae very heavy; defoliated peanuts in some Blacklands areas. Light to moderate in Rolling Plains area. (Curtis et al.). FLORIDA - Moderate and increasing week ending August 1 in Jackson County peanut fields; light in soybeans. (Fla. Coop. Sur.).

NORTH CAROLINA - Corn earworm larvae light but adults present in all soybean fields for first time this season in Wilson, Sampson, Johnston, Pitt, and Washington Counties. Light trap catches 100+ per night July 31 to August 3 in 2 Sampson County traps and 600+ for one night in Halifax County trap. (Wrench et al.). MARYLAND - Moths 10-28 per night at blacklight stations in Caroline, Kent, Montgomery, Carroll, and Harford Counties; averaged less than 3 per night in other areas. Tip injury in processing sweet corn increased slightly on Eastern Shore. Damage ranged 2-15 percent. Levels in central counties ranged 2-3 percent. (U. Md., Ent. Dept.). NEW JERSEY - Catches in blacklight traps increased steadily. (Ins.-Dis. Newsltr.). RHODE ISLAND - Problems on unsprayed fields and in gardens in Providence County. (King).

CORN LEAF APHID (Rhopalosiphum maidis) - COLORADO - Moderate to heavy on Pueblo County sorghum. (Hantsbarger). OKLAHOMA - Heavy in some fields in Beckham, Caddo, Washita, and Kiowa Counties. (Okla. Coop. Sur.). IOWA - Increased on field corn in northern and eastern counties. Some upper leaves brown and dead due to heavy populations on drought-stressed corn in Grundy, Hamilton, Hardin, Black Hawk, and Wright Counties. Treatments applied. (Iowa Ins. Sur.). ILLINOIS - Heavy in some cornfields in Ogle County; damage light. Potentially serious due to local drought conditions. (Ill. Ins. Rpt.). WISCONSIN - Winged forms leaving older corn, trace populations on nearly dry crop near corn. Moderate in most fields, colonies of 500+ on 5-10 percent of plants in some late-planted fields. Honeydew heavy in some fields. (Wis. Ins. Sur.). RHODE ISLAND - Heavy on early planted field corn in Newport County. (Relli).

GREENBUG (Schizaphis graminum) - TEXAS - Heavy on grain sorghum at San Angelo, Hale County, and Rolling Plains areas. Some infestations heavier now than in 1968. (McWhorter et al.). OKLAHOMA - Very heavy in many grain sorghum fields in west-central counties. Up to 5,000 per leaf in Beckham, Washita, and Caddo Counties. Damaged or killed small sorghum in Kiowa County. Decreased on older sorghum, ranged 500-2,000 per row foot on younger sorghum (14 to 24-inch) in Greer and Jackson Counties. (Okla. Coop. Sur.). NEVADA - Mostly this species and Macrosiphum avenae (English grain aphid) heavily infested 300 acres of wheat at Lovelock, Pershing County; honeydew present. (Martinelli).

POTATO LEAFHOPPER (Empoasca fabae) - TEXAS - Problem on isolated Comanche County peanut fields. (Hoelscher, Curtis). MISSOURI - Moderate to heavy, 30-280 per 10 sweeps, on alfalfa in south-central area. (Munson). ILLINOIS - Damage light to moderate on alfalfa in northwest district. (Ill. Ins. Rpt.). WISCONSIN - Averaged about 30 per sweep, ranged 5-150+ in southern two-thirds of State. Damage evident in nearly all fields, injury severe on some second-growth alfalfa. Injury most evident on older regrowth, dry sites, and in sparser stands. Many acres of snap and lima beans treated. Bean fields quickly reinfested from heavy populations on alfalfa. Ranged from 2 per sweep on untreated Barron County snap beans up to 12 per sweep on Dane County lima beans. Ranged 2-3 per sweep on recently treated beans in Trempealeau and Eau Claire Counties. Treatments applied to potatoes for past several weeks. (Wis. Ins. Sur.).

MICHIGAN - Potato leafhopper observed on edges of potato fields. (Cress). MARYLAND - Very heavy, 40-200 per 10 sweeps, on third-cutting alfalfa in Harford, Carroll, and Baltimore Counties. Ranged 5-40 per 10 sweeps; damage appears light to moderate in Frederick, Montgomery, and Howard Counties where untreated. (U. Md., Ent. Dept.). VERMONT - Severe infestations prevalent statewide week ending August 5. "Hopperburn" or yellowing and alfalfa stunting common and usually most severe on field margins. (Nielsen).

SPOTTED ALFALFA APHID (Therioaphis maculata) - FLORIDA - Very light on 15-inch alfalfa at Gainesville, Alachua County, week ending August 1. (Fla. Coop. Sur.); NEVADA - Moderate on seed alfalfa in Dixie Valley, Pershing County. (Munk).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - SOUTH DAKOTA - Large flights in southeastern section. Control of second brood difficult due to need of insecticide at junction of ear and plant. (Walgenbach). MINNESOTA - Second-generation moths emerged. Heavy in light trap at Lambert, Redwood County. (Minn. Pest Rpt.). WISCONSIN - Adult activity increased on corn; egg masses on beans in Central Sands area. Pupae increased except in northeast counties where most of first generation still in fourth instar. (Wis. Ins. Sur.). MICHIGAN - Counts high, peaked 10-14 days early. Second generation active on sweet corn, snap beans, and peppers. (Cress). DELAWARE - Averaged 30+ per night in most blacklight traps. (Burbutis).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Up to one per sorghum head in Greer, Harmon, Tillman, and Kiowa Counties. (Okla. Coop. Sur.). ALABAMA - Larvae of this species and another noctuid moth destroyed corn crop in 25+ acres in Coffee County. Larvae infested all 2-foot corn and 10-acre field of silking corn near Union Springs, Bullock County. Heavy, up to 7 larvae per stalk, in 8-acre field in Marengo County 3 weeks before dough stage. Nearly defoliated many stalks. (Speed et al.). MARYLAND - Ear injury levels in processing sweet corn increased to 5 percent in central area and on Eastern Shore. Foliar injury ranged 3-6 percent in several late-planted silage cornfields in Frederick County. Injury expected to continue to increase in all areas. (U. Md., Ent. Dept.). RHODE ISLAND - Controls for fall

armyworm required on commercial corn in Newport County by August 1. Currently infested field and sweet corn in all counties. Most destructive to terminals of pretassel plants in Bristol and Newport Counties. Larvae 2-7 per plant in field corn. (Chavez et al.).

CORN ROOTWORMS (*Diabrotica* spp.) - ALABAMA - Many *D. longicornis* (northern corn rootworm) adults cut silks on ears in Jackson County field. (Richardson). VIRGINIA - *D. longicornis* adults taken in Tazewell County cornfield September 19, 1974. Collected by T.E. Tabor. Determined by W.A. Allen. This is a new county record. (Surles).

INDIANA - *D. virgifera* (western corn rootworm) adult collected from cornfield in Knox County by J. Thieme August 5. Determined by F.T. Turpin. This is a new county record. (Meyer). ILLINOIS - *D. longicornis* and *D. virgifera* light to heavy in northwestern areas; occasional cornfields average 15 per plant. (Ill. Ins. Rpt.). WISCONSIN - *Diabrotica* spp. adults numerous in many cornfields, 5 or more per plant common in southern counties and 1-2 per plant in west-central counties. Silk damage not widespread. Egg laying began before August 1 at Arlington, Columbia County. Adult emergence about 60 percent completed in Columbia County; emergence ranged 35-40 per plant in untreated rows. (Wis. Ins. Sur.).

MINNESOTA - *D. longicornis* and *D. virgifera* adult corn rootworm survey in full swing. Counts in southeast and central districts remained high but lodging not extensive. Some high counts in southeast district by county: Winona 105,615 beetles per acre, Dakota 82,745 per acre, and Houston 65,304 per acre. Averaged 37,564 beetles per acre with 40-percent lodging in Washington County field. (Minn. Pest Rpt.). SOUTH DAKOTA - Severe corn rootworm larval damage in untreated first-year corn following oats in several east-central counties. Roots few in 8 fields with lesser damage in other fields. *D. longicornis* dominant. First-year corn damage in fields following spring wheat and flax. Silk clipping peaked. (Krysan et al.).

SORGHUM WEBWORM (*Celama sorghiella*) - TEXAS - Moderate to heavy on grain sorghum in Blacklands area. (Hoelscher, Buxkemper). OKLAHOMA - Moderate, 15 per sorghum head in Pawnee County. (Okla. Coop. Sur.).

SORGHUM MIDGE (*Contarinia sorghicola*) - TEXAS - Heavy on grain sorghum in San Angelo and Blacklands areas; lighter in Rolling Plains and north-central areas. (Hoelscher et al.). OKLAHOMA - Damaged 5-10 percent of older sorghum fields checked in Washita and Caddo Counties. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

A SCARAB BEETLE (*Ataenius spretulus*) - MARYLAND - Damage heavy to bluegrass and bentgrass fairways in several golf courses in Montgomery and Howard Counties. Larvae and adults ranged 8-70 per square foot. Treatments with a cyclodiene compound and 2 organic phosphates for past 8 weeks ineffective. (U. Md., Ent. Dept.). NEW JERSEY - Severely damaged annual bluegrass on several golf courses in late June and early July. Grubs 100-200+ per square foot. (Ins.-Dis. Newsltr.).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Populations being monitored on about 50,000 acres in northern Lincoln County, 35 miles east of Corona. Additional 75,000 acres involved in Union, Colfax, and Harding Counties. (N.M. Coop. Rpt.).

SALTMARSH CATERPILLAR (Estigmene acrea) - NEW MEXICO - Continued to migrate through Quay, Curry, and Roosevelt Counties; consumed large numbers of field and ornamental crops. (N.M. Coop. Rpt.).

FORAGE LEGUMES

ALFALFA SEED CHALCID (Bruchophagus roddi) - NEVADA - First-generation adults emerged at Orovada, Humboldt County. (Stitt).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Damaging counts on 500+ acres of soybeans on several farms in Madison County. Controls applied. Lighter in other acreage. (Chapman et al.). MARYLAND - Expected increases appeared on Eastern Shore. Egg masses in about 25 percent of pest management soybean fields on Eastern Shore. Adults predominate in most fields but first and second instars actively feeding. Very little spraying. Mummies of larvae in about half of soybean acreage in southern area and Eastern Shore. Parasitized by Pediobius foveolatus (a eulophid wasp) released throughout Eastern Shore and southern area during June and July. (U. Md., Ent. Dept.). INDIANA - Oviposition probably peaked in heavily infested Lawrence County fields, eggs few in Clark, Scott, and Jefferson Counties and other south-central district counties although adults numerous in some fields. (Edwards, Meyer).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ALABAMA - Soybean stalks lodged in all fields examined in Montgomery County. Girdled and lodged 1-10 plants per 5 foot of row in many parts of a field of 100+ acres. (Crouch et al.). OKLAHOMA - Light on soybeans in Sequoyah County. Up to 2 per sweep and 0-1 lodged plant in Le Flore, Wagoner, and Muskogee Counties. (Okla. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Small second-generation larvae 4 per foot of row in soybean field next to cornfield recently destroyed in Coffee County. (Speed). SOUTH CAROLINA - Larvae in many counties in central and southern areas. Feeding on blooming soybeans, heads of milo, and maturing field corn. (Sparks).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Light on cotton in most counties in Rolling Plains area, moderate in San Angelo area. Activity increased in Blacklands area. Heavy in Rio Grande Valley and north-central area. Much south-central area cotton matured enough so that weevils no longer economic. (Boring et al.). OKLAHOMA - Punctures totaled 20 percent in McClain County. Egg punctures 90 percent in some cotton fields in Washita and Kiowa Counties. Light in Beckham County. Egg punctures 30-40 percent in Grady County. Eggs on 4-30 percent of terminals in Greer,

Tillman, Jackson, and Harmon Counties; up to 90 percent punctured squares in some fields. (Okla. Coop. Sur.). LOUISIANA - Damaged square counts increased week of August 5 and will continue to rise. New "hatch-out" started last week. (Tynes). ALABAMA - Damaging counts on cotton statewide, infested 10-90 (averaged 15-20) percent of squares. Controls poor due to rainy weather and off-schedule control applications. (McQueen).

BOLLWORMS (Heliothis spp.) - ARIZONA - H. virescens (tobacco budworm) averaged 12.5 larvae per 100 bolls in several cotton fields at Litchfield and El Mirage, Maricopa County. (Ariz. Coop. Sur.). TEXAS - H. zea (bollworm) eggs decreased in Reeves, Pecos, Hill, and Ellis Counties. Light populations in north-central and Rolling Plains. Increased in gulf coast area. Heavy in Blacklands, Rio Grande Valley, and San Angelo area. (Bagley et al.). OKLAHOMA - Damaged 95 percent of some cotton fields in Beckham County; up to 50 percent in Grady County. Heavy counts in Washita County. Damaged squares averaged 27 percent in Jackson County. All 82 larvae checked in Jackson County were H. zea. Counts decreased with small numbers of eggs in most southwest area fields; larvae ranged 0-5 percent with some fields up to 28 percent; damaged squares ranged 2-12 percent. Damage 2 percent in Payne County. (Okla. Coop. Sur.).

LOUISIANA - Larvae nearly all H. zea on cotton in central, northwest, and northeast areas. H. virescens comprised small percentage of larvae; controls effective. Larvae from mid-July generation. Eggs few or none, larvae large, on cotton week of August 5. Damaged squares up to 39 percent in few fields but less than 5 percent in most fields. (Tynes). ALABAMA - Heliothis spp. larvae and egg laying increased sharply past 10-12 days and continued statewide. Larvae heavy, 7-35 per 100 cotton stalks in Marengo, Elmore, Russell, Hale, Chambers, Conecuh, and many other counties. Controls became difficult. (McQueen). SOUTH CAROLINA - H. zea and H. virescens eggs still heavy statewide. All larval stages present. Damage heavy. Average H. zea egg count August 1 about 30 percent in Dillon County. (Sparks, Moody).

BEE T ARMYWORM (Spodoptera exigua) - SOUTH CAROLINA - Larvae damaged cotton in most Coastal Plain counties; control difficult. (Sparks).

TOBACCO

GREEN PEACH APHID (Myzus persicae) - KENTUCKY - Remained heavy on untopped tobacco. Parasites and predators increased. (Barnett).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Increased on sunflowers in Pecos and Reeves Counties and High Plains area. (Bagley, McIntyre). OKLAHOMA - Larvae 1-2 per head on early blooming sunflowers in Harmon County. (Okla. Coop. Sur.). NORTH DAKOTA - Larvae 0.5-0.75 inch long and still hatching. Up to 40-50 per sunflower head. Damage in following counties: Griggs, Steele, Eddy, Foster, Nelson, Stutsman, Barnes, Sargent, Dickey, Ransom, La Moure, western Walsh, and eastern Ramsey. Heaviest damage to early planted sunflowers, planted before May 20. Heavy in some fields. (McBride).

A NYMPHALID MOTH (Chlosyne lacinia) - NEW MEXICO - Large numbers defoliating commercial sunflowers in Dona Ana County. (N.M. Coop. Rpt.).

CARROT BEETLE (Bothynus gibbosus) - OKLAHOMA - Light trap counts by county: Tillman 8,577, Jackson 3, and Greer 1,969. (Okla. Coop. Sur.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - OKLAHOMA - Ranged 2-5 per head in early blooming sunflowers in Harmon County. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

VARIEGATED CUTWORM (Peridroma saucia) - MINNESOTA - Extensive outbreak nearly over because of pupation. Garden tomatoes and potatoes hardest hit. Several economic infestations on commercial potatoes in Todd County. (Minn. Pest Rpt.). WISCONSIN - Still active and damaged variety of garden crops and commercial potatoes. Injury heavy in Langlade County field; pupae numerous but few larvae evident. (Wis. Ins. Sur.).

PEPPER WEEVIL (Anthonomus eugeni) - NORTH CAROLINA - One-acre test plot near find of new State record in 1974 showed 35 percent aborted peppers. Further survey of 200 acres negative. (Singletary et al.).

GREEN PEACH APHID (Myzus persicae) - IDAHO - Light in 60-acre potato field near Porthill, Boundary County. (Studer). MICHIGAN - Moderate on peppers, celery, and potatoes. (Cress).

BEANS AND PEAS

EUROPEAN CORN BORER (Ostrinia nubilalis) - ALABAMA - Numerous larvae in stalks of mature southern peas at Grand Bay, Mobile County, by July 29, 1975. Collected and determined by H.F. McQueen. This is a new county record. (McQueen).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - IDAHO - Blacklight trap catches at Twin Falls, Twin Falls County, peaked 45-72 per trap July 28-31, similar counts but 10-12 days later than in 1974. Of 6 traps, only one trap caught total of 700+ on August 1. (Blickenstaff).

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - Many adults flew to perennial legumes in southeastern Nez Perce County; defoliated margins of alfalfa fields. Defoliated immature Austrian winter peas in Grangeville and northern Idaho County. (Fisher).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Adults and larvae continued heavy and damaged snap and lima beans in Clay County and other areas. (Barker).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - NEVADA - This species and Pieris rapae (imported cabbageworm) heavily damaged broccoli in gardens at Reno, Washoe County. (Lauderdale). NEW HAMPSHIRE - Building up. (Bowman).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - NEW MEXICO - Averages per pheromone trap by county week ending August 1: Bernalillo 18.1, De Baca 16, Grant 14.5, Lincoln 45, Los Alamos 0.5, Otero 21.3, Rio Arriba 10.8, Sandoval 20.9, San Juan 26.2, Sante Fe 11.2, Valencia 6.1. (N.M. Coop. Rpt.). IDAHO - Total of 28 males in Moscow, Latah County, pheromone trap August 1-7. (Portman).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Damage heavy to ripe peaches in Washita, Beckham, Roger Mills, and Major Counties. (Okla. Coop. Sur.).

PEARSLUG (Caliroa cerasi) - UTAH - Became problem in unsprayed sour cherry orchards in Utah and Weber Counties. (Davis).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Emergence declined. Adults per trap by county: Hennepin 48 and Faribault 13. (Minn. Pest Rpt.).

PEAR PSYLLA (Psylla pyricola) - UTAH - Moderate in pear orchards at Orem, Utah County, north Ogden and Roy, Weber County; some nymphs. (Davis). MICHIGAN - Built up to very high numbers in Oceana County. No controls. (MacLean, Cater).

APPLE APHID (Aphis pomi) - NEW HAMPSHIRE - Remained worst problem on apples. Very prevalent in nonbearing blocks. (Bowman).

EUROPEAN RED MITE (Panonychus ulmi) - UTAH - Outbreak in apple orchard at Roy, Weber County, most severe in State past 20 years. (Davis). MICHIGAN - Increased on apples past few weeks, controls applied to prevent or retard bronzing. Typhlodromus fallacis (a phytoseiid mite) in 42 percent of past management orchards; 5 percent achieved biological control. (Olsen). NEW JERSEY - Activity increased on apples statewide. (Ins.-Dis. Newsltr.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Moderate to heavy on pecans in Rolling Plains, San Angelo, and Uvalde areas; heaviest in south-central area. (Stewart et al.). OKLAHOMA - Colonies 1-10 per tree on 10-50 percent of pecan trees in Muskogee, Wagoner, Le Flore, and Haskell Counties. (Okla. Coop. Sur.). ALABAMA - Larvae became numerous on pecans and persimmons in Lamar and Fayette Counties; up to 12 broods in more heavily infested trees. Broods 10-30 per tree in most trees not treated for pecan insects in lower Mobile County. (Wilson, Deakle).

WALNUT CATERPILLAR (Datana integerrima) - ALABAMA - Early instars of second generation damaged many young pecan orchards in south Mobile County. Full-grown larvae of first generation defoliated isolated pecan trees in Montgomery County. (Deakle et al.).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Scattered light infestations in Okmulgee and Muskogee Counties. Scattered moderate to heavy infestations on pecans in Jefferson County. (Okla. Coop. Sur.).

SMALL FRUITS

ORANGE TORTRIX (Argyrotaenia citrana) - OREGON - Contamination problem on harvested boysenberries, red raspberries and blueberries in western Washington County. Up to 6-8 larvae per 100-ounce sample taken from 100 cannery flats. (Collins).

FOREST AND SHADE TREES

FIR ENGRAVER (Scolytus ventralis) - IDAHO - Severely injured mature grand fir timber near Lowell, Idaho County, by July 30. (Kulhavy).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - WISCONSIN - Scattered infestations in northern two-thirds of State, third and fourth instars present. Heavy northwestern Langlade County infestation threatened young red pine plantation. (Wis. Ins. Sur.).

BALSAM TWIG APHID (Mindarus abietinus) - UTAH - Conspicuously infested some firs in Logan and Tony Grove Canyons, Cache County, and Monte Cristo, Rich County. (Knowlton).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Widespread distribution in eastern area revealed by multilure attractant traps. New county records: Baker, Baker County; Prineville, Crook County; Redmond, Deschutes County; John Day, Grant County; Barns, Harney County; Condon, Gilliam County; Heppner, Morrow County; Moro, Sherman County, Fossil, Wheeler County; Portland, Multnomah County. All collected by R.L. Penrose and R.E. Brown in late May and June 1975. Determined by R.L. Penrose. (Penrose, Brown).

LOCUST LEAFMINER (Xenochalepus dorsalis) - NORTH CAROLINA - Up to 95 percent defoliation of black locust trees in Walnut Mountain area, Madison County. Pupae 2-3 per leaf. Extensive damage reported earlier along National Interstate Highway 40 in Haywood County. (Bowers). RHODE ISLAND - Larvae actively mining leaves of ornamental locust trees in Washington County. (Kerr).

IMPORTED WILLOW LEAF BEETLE (Plagioderma versicolora) - WEST VIRGINIA - Adults and larvae collected on white willow August 7 at Jacksons Mill, Lewis County; damage light. Collected and determined by J.D. Hacker. This is a new county record. Damaged 80-90 percent of 15 ornamental willow trees in Kanawha County by August 6. (Hacker).

ELM LEAF BEETLE (Pyrrhalta luteola) - ALABAMA - Larvae and adults heavily damaged all 100+ elms in trailer park at Selma, Dallas County. (Lemons, Falls). TEXAS - Moderate to heavy on ornamentals in Rolling Plains and San Angelo areas. (Boring, McWhorter). UTAH - Damaged foliage of some elms at Salt Lake City, Salt Lake County. (Knowlton). OREGON - Second-generation adults emerged in northern and central area onto American elms in Ladd District of Portland, Multnomah County, New adults on elms at Prineville, Crook County. (Penrose).

ASIATIC OAK WEEVIL (Cyrtopistomus castaneus) - WEST VIRGINIA - Damage moderate to heavy on 700 acres of red, scarlet, and white oaks; damage to oaks throughout county light. (Miller, Hacker).

FALL WEBWORM (Hyphantria cunea) - NORTH CAROLINA - Webs 3-7 on 50+ percent of cherries, sourwoods and persimmons. More severe than in 1973 or 1974. (Johnston). PENNSYLVANIA - Several larval webs, larvae 0.75 inches long, on 6 ornamental crabapple trees at Erie, Erie County, August 1. Webs evident along Dauphin County roadsides. (Simons, Nealey). MICHIGAN - Webbing common statewide on birch, hickory, cherry, apple, and other hosts. Larvae in third to fourth instars. (Wallner). NEW HAMPSHIRE - Webs very evident, rapidly increased in size and number. (Bowman).

ORANGESTRIPED OAKWORM (Anisota senatoria) - WEST VIRGINIA - Light defoliation of scarlet oaks along one mile of U.S. Highway 50 on top of Schaffener Mountain, Hampshire County. (Coffman).

A LEAFBLOTCH MINER (Phyllonorycter salicifoliella) - UTAH - Severely damaged cottonwood foliage in Zion National Park at Springville, Washington County. Many leaves fell. (Knowlton).

A CECIDOMYIID MIDGE (Taxodiomyia cupressiananassa) - INDIANA - Galls collected from ornamental Taxodium distichum (baldcypress) in Tippecanoe County by D.L. Schuder July 16. Determined by D.L. Schuder. This is a new county record. Previously reported from 5 counties bordering Ohio River at southern end of State. (Meyer).

AN ARMORED SCALE (Diaspidiotus liquidambaris) - FLORIDA - Infested leaves of Liquidambar styraciflua (sweetgum) tree at residence in Branford, Suwannee County. Collected by A.E. Graham and C.H. Webb July 21, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 437 cases reported from continental U.S. during period July 27 to August 2 as follows: Texas 426, New Mexico 4, Arizona 7. Total of 356 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 137 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 181,627,800 as follows: Texas 168,289,800; New Mexico 3,288,600; Arizona 10,049,000. Total of 14,373,000 sterile flies released within Barrier of Mexico and 2,000,000 released south of Barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - TEXAS - Moderate to heavy on cattle, sheep, and goats in San Angelo, south-central, Blacklands, and Rolling Plains areas. (McWhorter et al.). SOUTH DAKOTA - Counts of 400 per animal common. (Walgenbach). WISCONSIN - Most bothersome on dairy and beef cattle in most locations. Populations generally heaviest on darker cattle, 50+ per side on many. (Wis. Ins. Sur.). INDIANA - Adults, slightly lighter than previous week, about 200 per animal on Tippecanoe County cattle herd. (Dobson).

FACE FLY (Musca autumnalis) - OKLAHOMA - Heavy on Osage County cattle herd. Moderate to heavy on Hughes County cattle. (Okla. Coop. Sur.). SOUTH DAKOTA - Moderate to heavy in Spink and Clark Counties, up to 20 per head. Pinkeye evident in calves. (Balsbaugh) WISCONSIN - Annoyance severe to dairy cattle in Polk County on some farms. (Wis. Ins. Sur.). INDIANA - Lighter than previous

week, about 15 per animal in cattle herd in Tippecanoe County. (Bodson). KENTUCKY - Face fly declined due to cool weather and much rain. (Barnett). VERMONT - Populations very heavy and annoying to livestock. (Nielsen).

A DEER FLY (Silvius pollinosus) - NEW MEXICO - Collected 12 miles east of Fort Sumner, De Baca County, August 7, 1975. Collected and determined by W. Iselin. This is a new county record. (N.M. Coop. Rpt.).

HORSE BOT FLY (Gasterophilus intestinalis) - KENTUCKY - Ovipositing on horses in Jessamine County. (Christensen).

MOSQUITOES - TEXAS - Heavy, still problem in Rolling Plains area. (Boring). UTAH - Generally annoying about Cache County communities and irrigated areas, and in Logan Canyon. (Knowlton). Moderate, below normal, in Rich County. (Roberts). MINNESOTA - Control program for Culex tarsalis, vector of western equine encephalomyelitis, extended to all municipalities in Kittson, Marshall, Polk, Pennington, Becker, Otter Tail, Grant, and Douglas Counties. Total of 62 cases of western equine encephalomyelitis in horses. Mosquitoes declined in light traps at Minneapolis and St. Paul. Aedes vexans and C. tarsalis predominant. C. tarsalis comprised 31 percent of catch. A. vexans predominant in trap and bite collections. Recent rains produced 2 broods, one of which is emerging now. (Minn. Pest Rpt.). MICHIGAN - Heavy local thunder-showers past 2-3 weeks produced large broods of Aedes vexans. Control needed to protect outside activities. (Cress).

HOUSEHOLDS AND STRUCTURES

OLDHOUSE BORER (Hylotrupes bajulus) - KENTUCKY - Adult collected from wood studding in Jefferson County by G.J. Kleier June 5, 1975. Determined by R. Scheibner and D. Barnett; confirmed by T.J. Spilman. This is a new State record. (Barnett).

STORED PRODUCTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - ALABAMA - Many adults harvested with potatoes from field in Cullman County. Adults 3-4 per foot of row during harvest first half of July. Adults, 1-3 per stored potato tuber, damaged 600+ bushels by July 16. Controls applied to stored tubers. (Turner).

BENEFICIAL INSECTS

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Parasitism light, 5 percent on Schizaphis graminum (greenbug) in sorghum in several southwest counties. (Okla. Coop. Sur.).

A TACHINA FLY (Exorista mella) - NEW MEXICO - Specimens reared from Estigmene acrea (saltmarsh caterpillar) released on Hemileuca oliviae (range caterpillar) in northern Lincoln County August 6. Oviposition followed 20 minutes after release. (N.M. Coop. Rpt.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GYPSY MOTH (Porthetria dispar) - GEORGIA - Trapped for first time in Colquitt County, near Moultrie, July 18. (PPQ). NORTH CAROLINA - Trapped for first time in Gates County near Corapeake, July 18. (PPQ). VIRGINIA - Trapped for first time in King William County at West Point, August 1. (PPQ). WEST VIRGINIA - First male moth catch of 1975 season near Vanville, Berkeley County, August 8. (Tustin). PENNSYLVANIA - Adult male at State College, Centre County, July 31. (Rutschky). Adult male in light trap at Howard August 6. (Haas). First records of naturally occurring gypsy moth in these areas. (Shetlar).

GRASSHOPPERS - UTAH - Controls applied to beans in Cache, Box Elder, and Weber County fields to prevent contamination in canneries. (Duncan). NORTH DAKOTA - Adult cropland survey in Pierce County averaged less than one per square yard in fields and averaged one (ranged from less than one to six) per square yard in margins. Melanoplus sanguinipes and M. bivittatus dominant, third instar through adults. (Scholl).

JAPANESE BEETLE (Popillia japonica) - RHODE ISLAND - Adults 5-10 per 10 row feet of field corn, in Newport County. Homeowner complaints continue at high rate in Kent County. (Relli, Bristol).

MORMON CRICKET (Anabrus simplex) - IDAHO - Light on rangeland on Big Freezeout Hill near Emmett, Gem County, August 1. (Baird).

PINK BOLLWORM (Pectinophora gossypiella) - LOUISIANA - Trapped near Vanderville, Bossier Parish, July 30. ARKANSAS - Adults trapped west of Garland, Miller County, July 29. (PPQ).

RED IMPORTED FIRE ANT (Solenopsis invicta) - NORTH CAROLINA - Adults collected at Surf City, Pender County, by E. Sessions and M. Sessions July 17, 1975. Determined by D.R. Smith. This is a new county record. (PPQ).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Very heavy buildup of adults over 10-acre lawn and parking area in Jefferson County by July 25. (Smith).

HAWAII INSECT REPORT

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) light to heavy on green onions at Waianae, Oahu. Heavy in 3 acres, infested more than 90 percent of onion plants; 50-60 percent of leaves not marketable. Moderate in one acre and light in 3 acres nearby. Heavy on one-acre tomato planting at Pulehu, Maui; moderate in 3-acre snapbean planting despite regular control applications. (Miyahira, Mau). WESTERN FLOWER THRIPS (Frankliniella occidentalis) infestations in Manoa lettuce plantings continue as problem. Light, 3-5 thrips per head. Spotted wilt disease present. This thrips known as a vector. This thrips found in Leucaena glauca (koa haole) flowers nearby along with F. invasor (a thrips) at Koko Head, Oahu. F. invasor predominant on koa flowers.

Fruits and Ornamentals - Larvae of a PHALONIID MOTH (Lorita abornana) on Leucaena glauca (koa haole) blossoms at Ewa, Oahu. Second instance of heavy Lorita breeding in koa haole blossoms. Koa haole probably major noncrop host for L. abornana. Immatures and adults of EURASIAN PINE APHID (Pineus pini) heavily infested 6 Pinus sp. trees at Haiku, Maui. Pupae and adults of a LADY BEETLE (Curinus coeruleus) heavy among the aphids, suggesting predation. (Miyahira). BANANA SKIPPER (Erionota thrax) surveys on Kauai and Oahu indicate parasites continuing to suppress banana skipper populations. Skipper virtually ceased to be pest of any importance. Evaluation surveys on these islands will be discontinued as parasite continues to suppress skipper populations. (Sugawa et al.). Light to moderate infestations of ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) continued on roses at Kapahulu, Kaimuki, and Waikiki, Oahu. EULOPHID WASPS (Prospaltella smithi and Encarsia sp.) collected from whitefly infested foliage. (Sanidad).

Beneficial Insects - Total of 511 adults of a PTEROMALID WASP (Pteromalus luzonensis) released at Kapahi, Kauai, during July 1975. This pupal parasite introduced from Guam for control of Papilio xuthus (citrus swallowtail). P. luzonensis very effective parasite of Papilio polytes in Guam. (Mau).

DETECTION

New Western Hemisphere Record

CHESTNUT GALL WASP (Dryocosmus kuriphilus Yasumatsu) - GEORGIA - Stem and petiole galls of this cynipid wasp discovered in planting of Castanea mollissima (Chinese chestnut) at Fort Valley, Peach County, by J.A. Payne in 1974. Galls now present in another chestnut grove at Byron, 15 miles east of original collection site. Infested about 20 trees in each grove. Both collections made by J.A. Payne. First adults emerged from galls May 31, 1975. Determined by A. Menke; confirmed by D.C. Dailey. Known from Japan and Korea. (PPQ).

New State Record - OLD HOUSE BORER (Hylotrupes bajulus) - KENTUCKY - Jefferson County. (p. 690).

New County Records - A CECIDOMYIID MIDGE (Taxodiomyia cupressiananassa) INDIANA - Tippecanoe (p. 689). A DEER FLY (Silvius pollinosus) NEW MEXICO - De Baca (p. 690). EUROPEAN CORN BORER (Ostrinia nubilalis) ALABAMA - Mobile (p. 686). IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) WEST VIRGINIA - Lewis (p. 688). NORTHERN CORN ROOTWORM (Diabrotica longicornis) VIRGINIA - Tazewell (p. 683). RED IMPORTED FIRE ANT (Solenopsis invicta) NORTH CAROLINA - Pender (p. 691). SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) OREGON - Baker, Crook, Deschutes, Grant, Harney, Gilliam, Morrow, Sherman, Wheeler, Multnomah (p. 688). WESTERN CORN ROOTWORM (Diabrotica virgifera) INDIANA - Knox (p. 683).

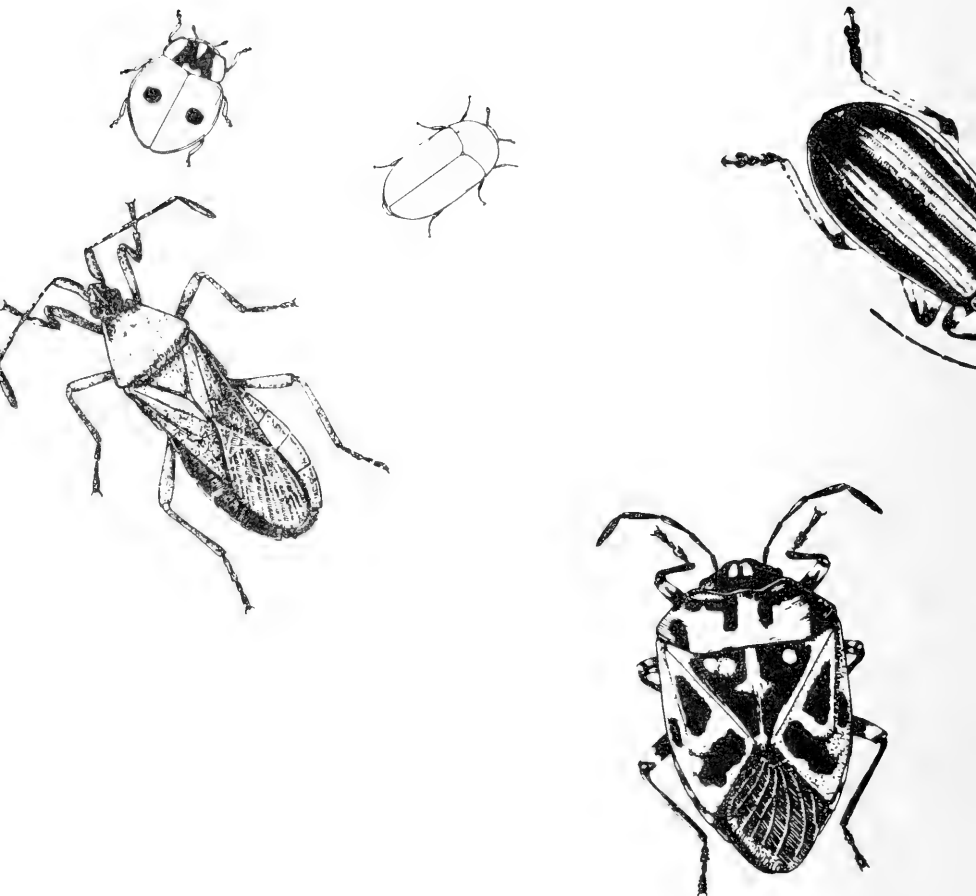
cropped up in the southern Plateau region, mostly in north Arizona and central Rockies. As it headed across the northern Plains, Thursday's cold front triggered severe weather in eastern Montana. In the middle Mississippi Valley, showers sprang up and some formed a line and marched through portions of southeast Arkansas, northeast Louisiana, and west Mississippi. The heaviest rains fell in the southeast, showers and thundershowers stretched from the south Atlantic Coast States along the gulf to east Texas. Otherwise, mild weather favored areas from the northeast almost to the gulf coast. Looking at the weekend weather, just about all the news was good. Severe conditions gave way to fair or sunny skies. A high pressure system covering most of the Nation didn't give rain much of a chance, but kept dry areas dry and wet areas wet. The areas of precipitation, however sparse, centered around eastern New England and from the Tennessee Valley into southeast Texas. Showers and occasional thundershowers rumbled along the gulf and south Atlantic coasts. In the West, light activity dotted the Rockies and Intermountain Regions. Friday's hot dry weather in the Plains pushed the livestock safety alert into the danger level, so showers that formed over the Missouri Valley and central Plains on Saturday were more than welcome. At the end of the week, brief rains dampened the thirsty Midwest and from the Ohio Valley southeast through the South Atlantic and Gulf Coast States to extreme east Texas. This was only a beginning, however, as dry conditions still had a grip on most of the Plains.

TEMPERATURE: Warm humid weather blanketed New England on Monday but readings in the 70's and 80's replaced record-breaking 100-degree weekend temperatures. Further south along the Atlantic coast, however, conditions stayed hot. Neither did things change in the Desert Southwest which heated up to over 110 degrees on Tuesday afternoon. Nearby, however, the already comfortable western quarter of the Nation, particularly the Pacific Northwest, grew a bit cooler. Wednesday's early morning hours were chilly over the north-central States as the mercury dipped into the 40's and 50's from Michigan to the eastern Dakotas. Parts of east Texas cooled as well. Midland scored a record low of 61 degrees. An early afternoon cold front held the temperature in the 60's across much of the northeast while comfortable readings in the 70's ranged from the upper Great Lakes region into North Dakota. A hint of cooling gave hope to the hot Southwest despite the fact that Needles, California, told of an early morning low of 92 degrees. Cool temperatures greeted the central States on Thursday morning. From Michigan to Texas new daily record lows were set. During the day, the high pressure center pulled more cool dry air into the Northeast where readings ranged in the 40's and 70's. The Southwest still baked under rising temperatures but daily records weren't threatened. Seasonable temperatures reigned over the weekend across most of the Nation. Friday's midafternoon readings set the pace for the rest of the week; 70's and 80's from New England and the Great Lakes along the Atlantic and Gulf coasts and in the Far West, 60's along both the northeast and Pacific Northwest coasts, and above 100 degrees throughout the Desert Southwest. A high pressure center kept the northeast cool and on Saturday morning the daily record lows were broken over the lower Mississippi Valley and nearby Plains and in the mid-Atlantic Coast States--Richmond, Virginia 57 degrees.

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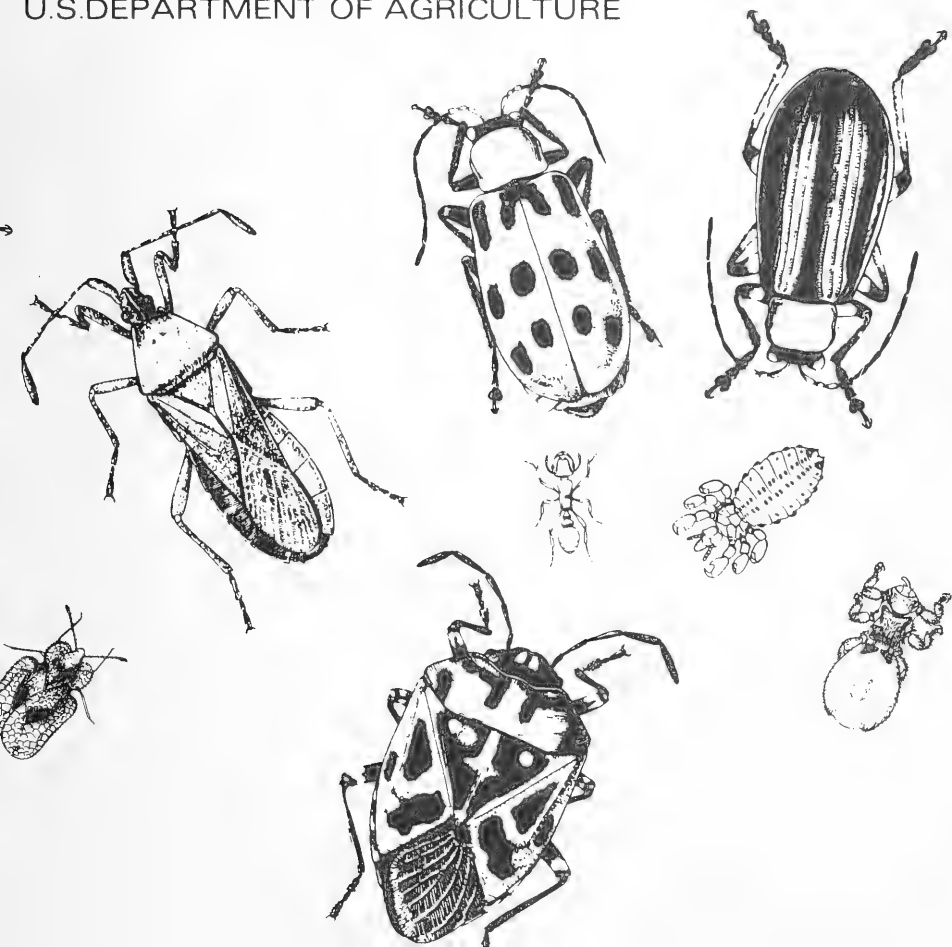
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Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

CORN EARWORM economic on peanuts and cotton in Oklahoma and Texas, corn in Nebraska, and soybeans in North Carolina. (pp. 699, 703-704).

Chemical and biological controls effective for GREENBUG in Oklahoma and Nebraska but ineffective in New Mexico. (pp. 699-700).

VELVETBEAN CATERPILLAR heavy on soybeans earlier than usual in Florida; damage expected in northern Alabama (p. 703).

BOLL WEEVIL punctured up to 80 percent of cotton squares in Georgia and Tennessee. (p. 704).

Detection

New State Records include SPOTTED ASPARAGUS BEETLE in California (p. 705) and a WEEVIL in Alabama (p. 707).

For new county and parish records see page 706.

Special Reports

Distribution of Southern Green Stink Bug (map). (p. 716).

Reports in this issue are for week ending August 15 unless otherwise indicated.

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NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

MID-AUGUST TO MID-SEPTEMBER 1975

The National Weather Service's 30-day outlook for mid-August to mid-September is for temperatures to average above seasonal normals in the North Atlantic States and also in the West Coast States and much of the Great Basin. Below normal temperatures are indicated for the southern Great Plains and the South. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median amount over the eastern quarter of the Nation as well as the southern Great Plains, the lower Mississippi Valley, and parts of the central and southern Plateau region. Elsewhere less than median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MAINE - Continued problem on corn; fields need to be sprayed. (Gall).

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Curly top in only 4 plants in 16 fields of cucumbers, peppers, tomatoes, and sugar beets in northern Salinas Valley and Santa Clara Valley week ending August 8. Counts very light on roadside weed hosts. Less than one percent infection in San Ardo and Hames Valley. (Cal. Coop. Rpt.). UTAH - Spread curly top and caused heavy losses to potatoes and tomatoes in Washington and Juab Counties. (Huber, Jones).

CORN EARWORM (Heliothis zea) - UTAH - Taken each week recently in blacklight trap near Salt Lake City Airport, Salt Lake County. (Stephens, Knowlton). TEXAS - Moderate on grain sorghum in San Angelo area. Declined on peanuts in Comanche County. (McWhorter, Curtis). OKLAHOMA - Moderate to heavy on peanuts in Washita and Caddo Counties, moderate on Jefferson County sorghum heads, and light on soybeans in Sequoyah, Wagoner, Muskogee, and Le Flore Counties. (Okla. Coop. Sur.). NEBRASKA - Trace to moderate in Clay County and throughout northeast district. Eggs on up to 90 percent of silks on late field and sweet corn and popcorn in Hall, Merrick, York, and Fillmore Counties. Up to 5 per ear infested all ears in southern Gage County cornfield. (Gary et al.).

ALABAMA - Larvae of corn earworm and Spodoptera frugiperda (fall armyworm) ranged 2-10 in and on all corn ears in 30-acre field at Loachapoka, Lee County. Larvae entered ears at silk tips and along side and stem portions. S. frugiperda 10:1 over H. zea. (McQueen). NORTH CAROLINA - Second through fourth instars in most of 20 open canopy blooming soybean fields. Few northern Coastal Plain fields near threshold, 50 percent of 15 Sampson and Duplin County fields at threshold; one second through third instar larva per foot of row. Moths active in all fields surveyed. (Quinn, Hunt). OHIO - Larvae very light in northwest counties week ending August 8. Heaviest at 2 per 25 corn plants in Hardin County field. (Lewis).

CORN LEAF APHID (Rhopalosiphum maidis) - WISCONSIN - Still heavy in some late fields of dent and sweet corn, populations on early corn collapsed. Colonies of 500+ per plant on 10+ percent of plants; aphids on tassels, silks, and undersides of all leaves. (Wis. Ins. Sur.). MAINE - Effect worsened by drought. Heavy in some cornfields in central area. Completely covered tassels; colonies of 500+ aphids on leaves. Some parasites, disease, and lady beetles Adalia bipunctata (twospotted), Hippodamia convergens (convergent), and H. tredecimpunctata tibialis (thirteenspotted) increasing. (Gall).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Significant resistance to initial chemical controls on small grains in Luna, Curry, and Roosevelt Counties. Suggest "biotype D" present for first time in State. (N.M. Coop. Rpt.). COLORADO - Infested sorghum in all areas of Arkansas Valley, up to 500 per plant in some fields with up to 50 percent of plants infested. Controls underway in many fields. (Schweissing).

TEXAS - Greenbug remained heavy on grain sorghum in San Angelo and Rolling Plains areas. Controls applied at Lubbock, Lubbock County. (McWhorter et al.). OKLAHOMA - Decreased statewide on sorghum. Many fields in western half of State treated; predators and parasites increased in many untreated fields to point where they control greenbugs. Scattered moderate to heavy infestations still in most areas, many aphids 20-75 percent parasitized. (Okla. Coop. Sur.). NEBRASKA - Parasitism by Lysiphlebus testaceipes (a braconid wasp) almost 100 percent in eastern third of State. Parasitism at or near 100 percent in northeast district except possibly in northern Knox and Boyd Counties. Greenbug averaged 18 per plant, field averages ranged 0-120 per plant; parasitism 95-100 percent. Other fields in east and southeast districts free or nearly free of greenbugs. Parasitism somewhat lighter in southwest district but on increase. Parasitism around McCook, Red Willow County, ranged 30-35 percent. Wasps much fewer in northern part of district. Parasitism 3 percent at North Platte, Lincoln County. (Campbell et al.).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Populations collapsed in several untreated, uncut alfalfa fields. Declined from 50+ and 150+ per sweep 14 days ago to 3 and 13, respectively. Decrease apparently due to rapid reproduction decline; small nymphs few in any field. Averaged 9 per sweep in southern counties, less than 5 per sweep in Chippewa, Barron, Dunn, and northern Trempealeau Counties, and 10+ per sweep in Pepin, Pierce, St. Croix, Buffalo, and Eau Claire Counties. Ranged 20-50 per sweep in some west-central area fields. Up to 25 per sweep in some Winnebago County fields. (Wis. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Ranged 3-30 per sweep on seed alfalfa at Lovelock, Pershing County. Ranged 125-150 per sweep with large amounts of honeydew in 30-acre field. Heavier in greener fields and in lower valley. Some controls applied. (Munk). UTAH - Damaged some seed alfalfa at Delta and Sutherland, Millard County. (Chapman). OKLAHOMA - Averages per 10 sweeps, one field each per county: Pawnee 140, Noble 25, Kay 70, Grant 550, Alfalfa 10, and Woods 2. (Okla. Coop. Sur.).

TOMATO HORNWORM (Manduca quinquemaculata) - MISSISSIPPI - Larvae heavy, 2+ per plant, in garden tomatoes in Issaquena and Oktibbeha Counties week ending August 8. (Robinson).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Egg masses on average of 52 percent of corn in 9 northeast district fields. Field averages ranged 0.01-1.04 egg masses per plant. Hatch beginning and first-brood moths still active. Egg masses on 50 percent of plants in Antelope County. Two eastern district fields averaged 40 percent of plants with egg masses. Moths heavy and active in northwest Dawson County. (Witkowski et al.). MISSOURI - Second-brood infestations light in most south-central area fields. Infested plants ranged 0-17 percent. Larvae ranged 1-4, mainly third instars, per infested plant. (Munson).

WISCONSIN - Heavy in blacklight traps in southern, central, and west-central counties. Egg masses on 8-10 percent of corn in south-central counties, more on some sweet corn. Up to one-fourth

of eggs ready to hatch. European corn borer pupae and empty pupal cases outnumber fifth instars in southern, central, and west-central areas. Moths and pupae now present will make up second adult flight. (Wis. Ins. Sur.).

FLORIDA - One European corn borer female collected in blacklight trap at Monticello, Jefferson County, by J.C. Ball June 10, 1975. Determined by D.C. Ferguson. This is a new county record. (Fla. Coop. Sur.). DELAWARE - Adults averaged 15 per night in blacklight trap collections in Sussex County. (Burbutis). MAINE - Continued spotty, from 5 per corn plant and almost 100 percent infestation in Waldo County to almost none in west-central area. (Gall).

FALL ARMYWORM (Spodoptera frugiperda) - NEVADA - Infested less than 5 percent of field corn surveyed in Pahrnagat Valley and Panaca, Lincoln County; damage confined to developing tassels and whorls. (Barclay et al.). MISSISSIPPI - Heavy on late-planted pretassel corn in Oktibbeha and Noxubee Counties week ending August 8. Larvae 1-4 on all experimental plants. Larvae 1-2 per plant in 25 percent of plants in 30-acre Noxubee County field. Percent of plants infested by county: Lowndes 5-10, Jefferson 90, and Copiah 50. (Robinson). GEORGIA - Light to heavy in all stages of corn statewide week ending August 9. Controls applied to corn in early tassel to prevent damage to small ears. (Suber).

VARIEGATED CUTWORM (Peridroma saucia) - NEBRASKA - Damage light to moderate to corn statewide. Damage light in Knox County field. Infested 50 percent of ear tips in Antelope County field. Trace in Clay County. Ear tip infestation averaged 30 percent in 4 fields checked in Hall, Merrick, York, and Fillmore Counties. Infested field at Ainsworth, Brown County. (Campbell et al.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Continued to damage sorghum in Hill and Ellis Counties. Light in Rolling Plains. (Buxkemper, Boring).

CORN ROOTWORMS (Diabrotica spp.) - UTAH - D. virgifera (western corn rootworm) moderately damaged untreated corn in Box Elder County; adults active at Garland. Some injury at Lehi, Utah County. Heavy at south Jordan, Salt Lake County; adults on leaves and silks. (Lindsay et al.). NEBRASKA - Diabrotica spp. adults averaged 1.45 per plant in Clay County. Field averages ranged 0-8.5 per plant. Averaged 2.4 per plant in 9 northeast district fields. Adults up to 5 per ear tip in York, Fillmore, Hall, and Merrick Counties. (Raun et al.). SOUTH DAKOTA - Diabrotica spp. adults 2-25 per plant in most eastern fields. (Walstrom). MINNESOTA - West-central district survey for Diabrotica spp. completed. Counts less than half that of 1974; lodging negligible. Southwest district survey 50 percent complete; counts averaging about half that of 1974. Near record populations in southeast district with severe lodging in some counties. Total of 248,757 beetles per acre in Olmsted County cornfield with 90-percent lodging; 138,593 per acre in another field with 70-percent lodging. South-central district populations will be near 1974 levels, down from previous years, but still heavy. (Minn. Pest Rpt.).

OHIO - Diabrotica virgifera taken in 2 cornfields (one per 25 plants) in Van Wert County August 4, 1975, and in one Hancock County field (one per 100 plants) August 5. Adults one per 25 plants in one field each in Lucas, Wood, and Sandusky Counties on August 12 and adults one per 100 plants in one field each in Allen, Auglaize, and Mercer Counties on August 13. Collected and determined by D.R. Lewis. These are new county records. D. longicornis light in northwestern counties. Up to 72 beetles per 25 plants. Averages by county: Fulton 2.5, Henry 19.5, Lucas 1.3, Wood 4.9, Ottawa 1.5, Sandusky 39.5, Seneca 14.3, Wyandot 5.0, Allen 24.0, Mercer 9.5, and Auglaize 4.7. (Lewis).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Heavy on grain sorghum in San Angelo, Hill and Ellis Counties, and Rolling Plains areas. (Buxkemper et al.).

BANKS GRASS MITE (Oligonychus pratensis) - OKLAHOMA - Increased on Texas County corn; some fields treated. (Okla. Coop. Sur.).
COLORADO - Light to moderate in untreated cornfields in Arkansas Valley. Some infestations up to twelfth leaf on plants with much foliar injury. Many fields received first treatment. (Schweissing).

TURF, PASTURES, RANGELAND

A SCARAB BEETLE (Ataenius spretulus) - OHIO - Second-generation larvae severely damaged golf course at Cincinnati, Hamilton County. Larvae averaged 300 per square foot. (Niemczyk).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Damaging populations on Coastal Bermuda grass and other grass lawns in Autauga and Lee Counties. (Kirkpatrick et al.).

CHINCH BUG (Blissus leucopterus leucopterus) - NEW YORK - Lawns damaged in Chemung, Broome, Suffolk, Orange, and Chautauqua Counties. (Willson).

GRASS BUGS (Labops spp.) - UTAH - Most abundant of grass bugs discoloring range grasses in Franklin Basin, Cache County. Moderately damaged some Millard County range areas. (Jones). Labops spp. adults moderate, active from 9,000-foot elevation to summit area on planted grasses in Ephraim Canyon, Sanpete County. Some still nymphs; others mating at 10,000-foot elevation. (Haws, Knowlton).

FORAGE LEGUMES

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Averaged 52 per 10 sweeps in Pawnee County alfalfa. Ranged 1-8 per 10 sweeps in Noble, Kay, Grant, Alfalfa, and Woods Counties. (Okla. Coop. Sur.).

VARIEGATED CUTWORM (Peridroma saucia) - UTAH - Heavy on alfalfa at Huntsville, Weber County, in Davis County, and Garland, Box Elder County. More conspicuous than in several years. (Brindley et al.).

ALFALFA WEEVIL (Hypera postica) - NEVADA - Late instar averages per sweep of hay alfalfa in Lake Valley, Lincoln County, by area: North - 2, central - one, and south - less than one. Probably represents abnormal second generation. (Zoller et al.).

PEA APHID (Acyrtosiphon pisum) - COLORADO - Up to 70 per sweep in some alfalfa fields in Arkansas Valley. (Schweissing). NEBRASKA - Early cutting recommended for one Lincoln County alfalfa field. (Campbell).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - TENNESSEE - Damage very light to alfalfa in Franklin, Coffee, Rutherford, Williamson, and Davidson Counties week ending August 8. Damage in very small spots within fields. (Gordon et al.).

LYGUS BUGS (Lygus spp.) - NEVADA - Up to 17 per sweep on seed alfalfa at Orovada, Humboldt County. (Stitt, August 8). Nymphs and adults ranged 15-20 per sweep in several seed alfalfa fields at Lovelock, Pershing County. (Munk).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - By August 14, larvae on soybeans ranged 3-30 (averaged 8-10) per foot of row. High numbers, 17 days earlier than usual, in fields treated 3 times in Gulf County, and in Calhoun and Gadsden Counties where half of fields treated once. (Fla. Coop. Sur.). ALABAMA - Second generation widespread in southern and central areas on most soybeans; some larvae in extreme northern Colbert County. Excessive populations expected to damage late-developing beans in September and October due to more widespread and northerly located populations. (Pitts et al.).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Heavy, up to 277 per 30 row feet, in Wagoner County soybeans. Light in Muskogee, Sequoyah, and Le Flore Counties. (Okla. Coop. Sur.). ILLINOIS - Up to 10 per foot of row in Grundy and Livingston Counties; averages ranged 3-5 per foot. Defoliation noneconomic. About 50 percent fully grown larvae. No diseased larvae. (Ill. Ins. Rpt.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - TENNESSEE - Defoliated 50-75 percent of about 200 acres of soybeans in Lincoln County. Controls applied. (Pendergrass, Cagle).

GREEN STINK BUG (Acrosternum hilare) - VIRGINIA - Heavy in 5-acre Westmoreland County soybean field. (Allen).

PEANUTS

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - GEORGIA - Light to heavy from middle of peanut belt to western and southern borders week ending August 9. (French).

COTTON

BOLLWORMS (Heliothis spp.) - TEXAS - H. zea light on cotton in High Plains and Hill and Ellis Counties. Moderate to heavy in San Angelo area; heavy in Rio Grande Valley and Rolling Plains areas. (McIntyre et al.). OKLAHOMA - H. zea-damaged squares ranged 5-90 percent in Jackson County and up to 50 percent in Washita and Caddo Counties, and averaged 10 percent in Grady County. (Okla. Coop. Sur.). LOUISIANA - Percentage of H. virescens (tobacco budworm)

increased significantly week of August 8. Percentage of larvae collected from cotton by parish: Caddo and Bossier 30, Ouachita 34, Natchitoches 19, Rapides 17, and Tensas 15. Egg laying increased in upper Red River Valley. (Tynes). ARKANSAS - Heliothis virescens comprised 21 percent of population on cotton. Heavy, scattered infestations. (Wall).

MISSISSIPPI - Second-generation Heliothis spp. larvae infested cotton statewide week ending August 8. Treatments generally successful. Up to 15 percent of terminals infested in some fields, possibly due to recent rains. (Robinson). TENNESSEE - Heliothis spp. very heavy in Shelby, Hardeman, and Fayette Counties. Increased in Madison and Gibson Counties. Up to 20 larvae per 100 bolls in untreated fields in Lincoln County; controls effective. (Cagle, Pendergrass). GEORGIA - Egg laying heavy, up to 20 larvae per 100 cotton terminals in Dooly County field week ending August 9. (Womack).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Moderate to heavy on cotton in Rio Grande Valley and San Angelo areas; light in Hill and Ellis Counties. Heavy in Rolling Plains. Increased in south-central area. (Norman et al.). MISSISSIPPI - Second-generation punctured squares ranged by county week ending August 8: Alcorn 18-30, Carroll 0-37, Copiah 0-100 on 600 acres, Lowndes 0-10, Noxubee 2-25 on 2,500 acres. (Robinson). ALABAMA - Still heavy, 2-90 percent statewide. Averages ranged 15-30 percent. Emerged from old squares at much higher rate than in most years due to heavy egg laying; controls could not be properly applied. (Lowery et al.). GEORGIA - Many young adults fed in blooms statewide week ending August 9. Punctured squares up to 80 percent in some fields where controls interrupted by rain. (Womack). TENNESSEE - Survey limited week ending August 8 due to rain. Punctured squares ranged 8-82 percent in southern tier of counties of western area. (Locke). Boll weevil currently at, or above, control levels in most cotton areas. Up to 70 percent punctured squares in fields surveyed. Recent rains continued to make controls difficult. (Pendergrass, Cagle).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Light on cotton in Hill and Ellis Counties; light to moderate in San Angelo area. (Buxkemper, McWhorter). OKLAHOMA - Very heavy in Caddo and Washita Counties. (Okla. Coop. Sur.).

COTTON APHID (Aphis gossypii) - TEXAS - Problems on High Plains cotton. Moderate to heavy in Rolling Plains. (McIntyre, Boring).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - ALABAMA - Numerous infestations at field edges in Lee and Cherokee Counties; one field treated in Cherokee County. (Dean et al.).

TOBACCO

TOBACCO BUDWORMS (Heliothis spp.) - TENNESSEE - Nine of 11 fields surveyed in Trousdale, Sumner, Smith, and Macon Counties, and all fields surveyed in Lincoln County at, or above, control levels. (Gregory, Cagle).

TOBACCO HORNWORMS (Manduca spp.) - TENNESSEE - Six of 11 fields surveyed in Trousdale, Sumner, Smith, and Macon Counties at, or above control, levels. Increased in almost all fields. (Gregory).

SUGAR BEETS

VARIEGATED CUTWORM (Peridroma saucia) - UTAH - Injured sugar beets at Garland, Box Elder County. (Parrish).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Heavy on sunflowers in Rolling Plains; light in High Plains. (Boring, McIntyre).

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Adults increased in light traps in Rolling and High Plains areas. (Boring, McIntyre). OKLAHOMA - Light trap catches by county: Tillman 5,253, Greer 3,500, and Jackson 14. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

BLACK CUTWORM (Agrotis ipsilon) - MAINE - Damaged about 20 percent of tubers in commercial field of potatoes. Hot weather caused feeding below soil level. (Gall).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - First larvae of season in 20-acre field of Russett potatoes near Aurora, Clackamas County. Ranged 2-14 per 5 foot of row. (Collins).

TOMATO PINWORM (Keiferia lycopersicella) - TEXAS - Increased throughout south-central area. (Cole).

GREEN PEACH APHID (Myzus persicae) - MAINE - Appeared in yellow trap pans. Alates in traps and in potato fields. Heaviest counts in traps per night by area. Corinna 2,000+, southern Aroostook - several hundred, northern and central Aroostook - a few. (Gall).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - UTAH - Heavy on beans in Cache, Box Elder, and Salt Lake County gardens. (Knowlton, Lindsay). NEBRASKA - Larvae ranged 5-6 per bean plant in 16 north-western district fields. (Hagen). DELAWARE - Adults common on lima beans statewide. (Burbutis).

GREEN CLOVERWORM (Plathypena scabra) - NEW YORK - Active on western area snap and dry bean fields. Hot weather allowed buildup. (Muka).

GENERAL VEGETABLES

SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) - CALIFORNIA - Adults taken from asparagus at Carmichael, Sacramento County, August 7, 1975, by M. Terry and J. Dickson. Determined by T. Seeno. This is a new State record. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Adults increased steadily. Larvae infested cucurbits, tomatoes, and cole crops in Accomack County. Averaged 15 per plant on untreated collards at Painter Station. Very little polyhedrosis virus. (Hofmaster).

VARIEGATED CUTWORM (Peridroma saucia) - ILLINOIS - Severely damaged garden tomatoes in Cook and other northeast district counties. (Ill. Ins. Rpt.).

SPINACH LEAFMINER (Pegomya hyoscyami) - MAINE - Active in 3 areas on spinach and swiss chard. (Gall).

DETECTION

New State Records - SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) - CALIFORNIA - Sacramento County. (p. 705).
A WEEVIL (Scyphophorus acupunctatus) - ALABAMA - Mobile County. (p. 707).

New County and Parish Records - AN ARGASID TICK (Ornithodoros coriaccus) CALIFORNIA - Solano, Siskiyou, Humboldt (p. 710).
A COCKROACH (Cryptocercus punctulatus) VIRGINIA - Patrick (p. 708).
EUROPEAN CORN BORER (Ostrinia nubilalis) FLORIDA - Jefferson (p. 700).
FACE FLY (Musca autumnalis) TENNESSEE - Franklin, Rutherford (p. 709).
GULF COAST TICK (Amblyomma maculatum) ARKANSAS - Sevier (p. 710).
A PUNCTUREVINE SEED WEEVIL (Microleptus lareynii) OKLAHOMA - Grant, Alfalfa, Garfield (p. 710).
RED IMPORTED FIRE ANT (Solenopsis invicta) TEXAS - Refugio (p. 711).
WESTERN CORN ROOTWORM (Diabrotica virgifera) OHIO - Van Wert, Hancock, Lucas, Wood, Sandusky, Allen, Auglaize, Mercer (p. 702).
A WHITEFRINGED BEETLE (Graphognathus peregrinus) LOUISIANA - Richland (p. 711).

HAWAII INSECT REPORT

General Vegetables - CARMINE SPIDER MITE (Tetranychus cinnabarinus) moderate to heavy in small plantings (less than 0.25 acre) of mustard cabbage, bush beans, and eggplant at Koko Head, Oahu. All stages present; damage light. Results of TOMATO PINWORM (Keiferia lycopersicella) survey in July at Kula, Maui, showed light infestations in preharvest and harvest stage tomatoes. Heavy in planting left standing after harvest. (Miyahira).
BROAD MITE (Polyphagotarsonemus latus) heavy in acre of eggplant at Waimanalo, Oahu. More than 40 per square inch on infested leaves; nearly all plants infested. Severe terminal damage on many plants. Damage light in backyard eggplant plantings at Koko Head and Ewa, Oahu.
Heavy CHINESE ROSE BEETLE (Adoretus sinicus) damage on eggplant foliage in several backyard gardens at Ewa; 40-60 percent of leaf area destroyed. Heavy BEET ARMYWORM (Spodoptera exigua) infestation in 0.25 acre of green onions at Koko Head. At least 80 percent of plants infested, leaf loss light. (Mau).

Fruits and Ornamentals - BANANA SKIPPER (Erionota thrax) reported in late July from east Maui for first time. Light in several banana plantings at Haiku. Light (8 late instars and 3 pupae) recovered from 12 banana trees at Iroquois Point, Oahu. No larvae parasitized. Few light infestations in surrounding residential area and at Ewa Beach, Oahu. (Miyahira et al.).

Beneficial Insects - Four releases of a PTEROMALID WASP (Pteromalus luzonensis), a pupal parasite of Papilio xuthus (citrus swallow-tail), totaling 1,190 adults made at Kahului (3 releases) and Lahaina, Maui. First releases on Maui. (Miyahira).

DECIDUOUS FRUITS AND NUTS

GREEN JUNE BEETLE (Cotinis nitida) - TEXAS - Heavy on peaches and apples in Rolling Plains area. (Boring).

PEARSLUG (Caliroa cerasi) - UTAH - Injury to pear and apple foliage conspicuous in Juab County orchards. (Jones).

PEAR PSYLLA (Psylla pyricola) - UTAH - Moderate in some Box Elder County pear orchards. (Lindsay).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Scattered light to moderate infestations on pecans in Mayes, Haskell, Murray, Pontotoc, and Jefferson Counties; some heavy infestations in Jefferson County. (Okla. Coop. Sur.).

OBLIQUEBANDED LEAFROLLER (Choristoneura rosaceana) - OREGON - Severe damage to 25-acre filbert orchard at Salem, Marion County. (Niizee).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Light to moderate on pecans in San Angelo area; heavy in south-central and Rolling Plains areas. (McWhorter et al.). WEST VIRGINIA - Moderate in Summers, Mercer, McDowell, Mingo, Monroe, and Raleigh Counties; nests 1-3 per tree on scattered walnut and hickory trees. (Hacker).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Emergence in walnut orchards at Dundee, Yamhill County, peaked August 9. Average daily counts for 10 traps in orchards rose from one per trap July 31 to August 6, to 4.3 during August 6-13. (Niizee).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Moderate to heavy on pecan trees in Payne (up to 45 per leaflet), Kingfisher, Murray, and Pontotoc Counties. (Okla. Coop. Sur.).

CITRUS

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Very severe on citrus and gardenias in parts of Sacramento, Sacramento County. Controls difficult; in some cases property owner removed trees and shrubs. (Cal. Coop. Rpt.).

ORNAMENTALS

A WEEVIL (Scyphophorus acupunctatus) - ALABAMA - Larvae ate out stalks and killed yucca and century plants west of Mobile, Mobile County. Collected by H.B. Brackin and L.W. Lockhart May 27, 1975. Determined by R.E. Warner. This is a new State record. (PPQ).

A FLEA BEETLE (Systema frontalis) - OHIO - Much damage to commercial mum planting near Oberlin, Lorain County. Earlier this season, counts heavy on forsythia. Feeding damage apparent in both cases. (Wells).

A TINGID BUG (Stephanitis takeyai) - OHIO - On Exbury hybrid azaleas in Stark County nursery adjacent to block of Pieris, the usual host, Azalea is new host record for State. Damage light to moderate on both hosts. (Kelly).

EUONYMUS SCALE (Unaspis euonymi) - TEXAS - Heavy on ornamentals in Rolling Plains. (Boring).

FOREST AND SHADE TREES

WHITE PINE WEEVIL (Pissodes strobi) - MAINE - Destruction of leaders continues. More severe in 1975 than in past years, or at least more homeowners concerned. (Gall).

A COCKROACH (Cryptocercus punctulatus) - VIRGINIA - Collected from pine 2x4 on home site in Patrick County by P.J. Egan April 23, 1975. Determined by D. Mullins. This is a new county record and extremely low elevation (1,000 feet) for species in State. (Surles).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Flight activity declined markedly at Portland, Multnomah County, first half of August. Only 24 beetles taken in 2 multilure traps in Ladd District August 1-11. Lighter catch in northwest Portland than in central and eastern portions. Two traps in Peninsular Park area caught 38 beetles. One in Portsmouth district caught 193 June 2 to August 7. (Penrose).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Moderate to heavy in San Angelo area. (McWhorter). NEW MEXICO - Damage light at Sante Fe, Sante Fe County, where not previously known. Damage in Dona Ana County spreading northward, pupation noted. (N.M. Coop. Rpt.). UTAH - Unusually severe in Juab County. (Jones). OREGON - Infestations in northern and central areas indicated second-generation adults fed on foliage. More damage expected. (Penrose).

IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) - WEST VIRGINIA - Damaged 75-80 percent of foliage on most willows throughout McDowell County and scattered trees in Mingo and Monroe Counties. Larvae pupated, but adults few. (Hacker).

SADDLED PROMINENT (Heterocampa guttivitta) - MAINE - Hardwood defoliation heavy at Topsfield, Washington County. (Gall).

YELLOWNECKED CATERPILLAR (Datana ministra) - ILLINOIS - Seriously defoliated crabapple, maple, and other hardwoods in central area. (Ill. Ins. Rpt.).

MIMOSA WEBWORM (Homadaula anisocentra) - OKLAHOMA - Infested 75 percent of mimosa trees at Oklahoma City, Oklahoma County. Defoliation ranged 5-100 percent. Some damage to honeylocust. (Okla. Coop. Sur.).

BOXELDER LEAFROLLER (Gracillaria negundella) - NEVADA - Heavy larval damage to boxelder continued at Elko, Elko County; many trees severely damaged. (Martinelli).

SYCAMORE LACE BUG (Corythucha ciliata) - NEW JERSEY - Heavy on sycamores along city streets in central and northern counties. (Ins.-Dis. Newsltr.).

MAN AND ANIMALS

SCREWORM (Cochliomyia hominivorax) - Total of 572 cases reported from continental U.S. August 3-9 as follows: Texas 527, New Mexico 9, Arizona 36. Total of 359 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 286 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 198,255,000 as follows: Texas 182,024,000; New Mexico 3,108,600; Arizona 13,122,000. Total of 11,485,800 sterile flies released within Barrier of Mexico and 2,000,000 released south of Barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - FLORIDA - Averaged 520 per beef animal near Gainesville, Alacha County. (Fla. Coop. Sur.). TEXAS - Heavy on cattle in San Angelo, Rolling Plains, and south-central areas. (Boring et al.). OKLAHOMA - Ranged 300-1,000 per head on Payne County cattle. Moderate to heavy in Comanche County. (Okla. Coop. Sur.). NEW MEXICO - Light to moderate. Averages ranged 50-100 per animal in Otero County. Ranged 400-500 per head on treated Lincoln County range cattle. (N.M. Coop. Rpt.). COLORADO - Ranged 90-200 per animal on untreated range cattle in Weld County. (Hantsbarger). NEBRASKA - Averaged 500+ per head on untreated cattle in Lincoln and McPherson Counties. (Campbell).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Averaged 4.6 per face on 10 beef cattle in Oktibbeha County week ending August 8. Ranged 20-50 (averaged 35) per face in Alcorn County herd. (Robinson). TENNESSEE - Adults taken on cattle in Franklin and Rutherford Counties August 6, 1975. Collected and determined by J. Cagle and C. Gordon. These are new county records. (Gordon, Bruer). WISCONSIN - Very heavy and annoying to Fond du Lac County cattle. (Wis Ins. Sur.). NEBRASKA - Averages ranged 35-40 per untreated animal and 15 per treated animal on cattle in canyon and river pastures in Lincoln and McPherson Counties. (Campbell). UTAH - Annoyed horses at north Logan and Smithfield, Cache County. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Averaged 15 per leg on cattle in untreated lots in Lincoln and McPherson Counties. (Campbell). WISCONSIN - Annoyance severe to dairy cattle in parts of Polk County. (Wis. Ins. Sur.).

TABANID FLIES (Tabanus spp.) - OKLAHOMA - Ranged moderate to heavy on Murray County cattle. Heavy in localized favorable areas in Payne County. Species present in Payne County: T. sulcifrons, T. abactor, T. lineola, and T. atratus. (Okla. Coop. Sur.).

MOSQUITOES - ARKANSAS - Anopheles spp., mostly A. quadrimaculatus, increased in Lonoke County; 1,000+ per New Jersey light trap per night. Psorophora confinnis decreased to less than 20 per trap per night. (Meisch). OHIO - Light trap catches at Columbus, Franklin County, August 5 and 7 increased over previous week and averaged 41 adults per trap per night. Culex pipiens predominant. Aedes vexans and C. restuans present. (Ohio Dept. Health). UTAH - Abundant in Juab and Box Elder Counties. Very troublesome at Randolph, Rich County. (Jones et al.).

AN ARGASID TICK (Ornithodoros coriaceus) - CALIFORNIA - Taken from carbon dioxide pit traps in deer beds under trees. Collected in Siskiyou County June 17, 1975, and near Vacaville, Solano County, July 17 by M.N. Oliver; at Garberville, Humboldt County, July 2 by T. Vanzel. All determined by E.C. Loomis. These are new county records. (Cal. Coop. Rpt.).

GULF COAST TICK (Amblyomma maculatum) - ARKANSAS - Taken from dog at De Queen, Sevier County, July 1, 1975, by S. Stallard. Determined by E.P. Rouse. This is a new county record. Only previous collection in 1950-1951 in Washington County. (Boyer).

BENEFICIAL INSECTS

AN ICHNEUMONID WASP (Bathyplectes curculionis) - SOUTH DAKOTA - Numbers in southeast area equal those in west area. Percent parasitism of Hypera postica (alfalfa weevil) larvae collected in June by county: Union 20.9, Yankton 38.81, Bon Homme 27.78, and Clay 33.33. (Walstrom).

A BRACONID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Increased rapidly in sorghum infested by Schizaphis graminum (greenbug) in western one-half of State. Parasitism ranged up to 50 percent in west-central area, and up to 30 percent in Panhandle area. (Okla. Coop. Sur.).

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Very heavy in aphid-infested sorghum and alfalfa in north-central and northwest counties. Heaviest in alfalfa, 60 adults and 20 larvae per 10 sweeps, in Grand County. (Okla. Coop. Sur.).

A SAPYGID WASP (Sapyga pumila) - NEVADA - This parasite of Megachile rotundata (alfalfa leafcutter bee) increased in seed alfalfa fields at Orovada, Humboldt County. (Lauderdale).

A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) - OKLAHOMA - Taken from puncturevine near Gilbert, Grant County, and 5 miles north of Cherokee, Alfalfa County, August 12, 1975, and at Kremlin, Garfield County, August 14. Collected and determined by D.C. Arnold. These are new county records. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - CALIFORNIA - Camnula pellucida and Oedaleonotus enigma heavy near Lake Henshaw and Warner Springs, San Diego County, week ending August 8. Adults on egg beds. Treatment completed on 736 acres of public land with economic counts. Control areas in seedling pine plantation in Shasta and Trinity National Forests, Siskiyou County. Averaged 9 per square yard on 1,434 acres in Harvey Valley, Lassen National Forest, Lassen County; controls planned. Averaged 8 per square yard on about 1,955 acres in Tule Lake National Wildlife Refuge; all infested acreage in heavy small grain stands; no controls planned. (Cal. Coop. Rpt.). NEVADA - Bradynotes obesa averaged 9 per square yard (75 percent adults, 25 percent nymphs) on 2,000 acres of rangeland in Blue Lake area, Pine Forest Range, Humboldt County. (Anderson).

UTAH - Grasshoppers 1-3 per square yard on range at 9,000-foot elevation to summit of Ephraim Canyon, Sanpete County (Knowlton). More grasshoppers lightly damaged grain crops in some Box Elder County areas. (Lindsay). NEBRASKA - Melanoplus spp. heavy in borders of some northeast district corn. Grasshoppers severely damaged warm season grass rangeland at Mead, Saunders County; treatment recommended. (Mayo et al.). NORTH DAKOTA - Adult survey conducted. Margin averages per square yard by county: Slope 4, Bowman 2, Hettinger 3.5, and Grant and Sioux 2. Field averages per square yard by county: Slope 1.5, Hettinger 3, Grand and Sioux - one, Melanoplus bivittatus and M. sanguinipes dominant. (Scholl). MINNESOTA - Annual adult survey underway. Only economic in west-central district. Ranged 9-12 per square yard in 2 Traverse County alfalfa fields, mainly M. femurrubrum. Grasshoppers in road ditches and field margins in northwest, southwest, south-central, and central districts. (Minn. Pest Rpt.).

GYPSY MOTH (Porthetria dispar) - GEORGIA - Trapped for first time in Colquitt County near Moultrie July 18. (PPQ). VIRGINIA - Trapped for first time in Greensville County at Emporia August 4. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - ARKANSAS - Trapped in Lonoke County August 12. (PPQ). TEXAS - Light in Wilbarger County of Rolling Plains area, unusually early on cotton. (Boring).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Eight adults collected 8 miles west of Tivoli, Refugio County, by B.M. Culley August 14, 1975. Determined by B. Greer. This is a new county record. (PPQ).

WHITEFRINGED BEETLES (Graphognathus spp.) - LOUISIANA - One G. peregrinus adult collected on Diodia teres (poorjoe) at Rayville, Richland Parish, by G.L. Forcht July 18, 1975. Determined by R.E. Warner. This is a new parish record. (PPQ). MISSISSIPPI - Graphognathus spp. averaged 2 per 25 sweeps in 50 acres of prebloom Harrison County soybeans week ending August 8. (Snowden). ALABAMA - Graphognathus spp. adults feeding on soybean leaves in 30-acre Winston County field at one per 1.5 feet of row, one of heaviest infestations on northern area field crops. With heavy egg laying and mild winter, heavier infestations in this and other northern counties expected in 1976 and future years. (Murphy et al.).

LIGHT TRAP COLLECTIONS

OREGON Mt. Angel 8/7-15 St. Paul 8/7-15	Precipitation	Type of trap	Crops	
			Temperature	Humidity
SOUTH DAKOTA Brookings 8/7-13	BL	DL - Jacklight	57	21
	BL	DL - Jacklight	18	15
TENNESSEE (County) Madison 8/4-11	BL	DL - Jacklight	2	2
	BL	DL - Jacklight	1	1
VIRGINIA Blacksburg 8/8-14	BL	DL - Jacklight	1	5
	BL	DL - Jacklight	18	9
WEST VIRGINIA (Counties) Monroe 8/11 Randolph 8/13	BL	DL - Jacklight	2	3
	BL	DL - Jacklight	113	780
WISCONSIN Lancaster 8/7-11 Mazomanie 8/7-11	BL	DL - Jacklight	79	6
	BL	DL - Jacklight	289	11

WEATHER OF THE WEEK ENDING AUGUST 17

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: A slow moving cold front made news when it broke the hot dry spell over the Plains and upper Mississippi Valley, significant rains favored Iowa and spilled over into Missouri. By the end of the week, the frontal system stretched eastward targeting its heaviest rains on the northeast, central, and southeast portions. Near normal temperatures dominated most of the Nation but cooler readings across the northern Plains reflected the movement of the weather system eastward.

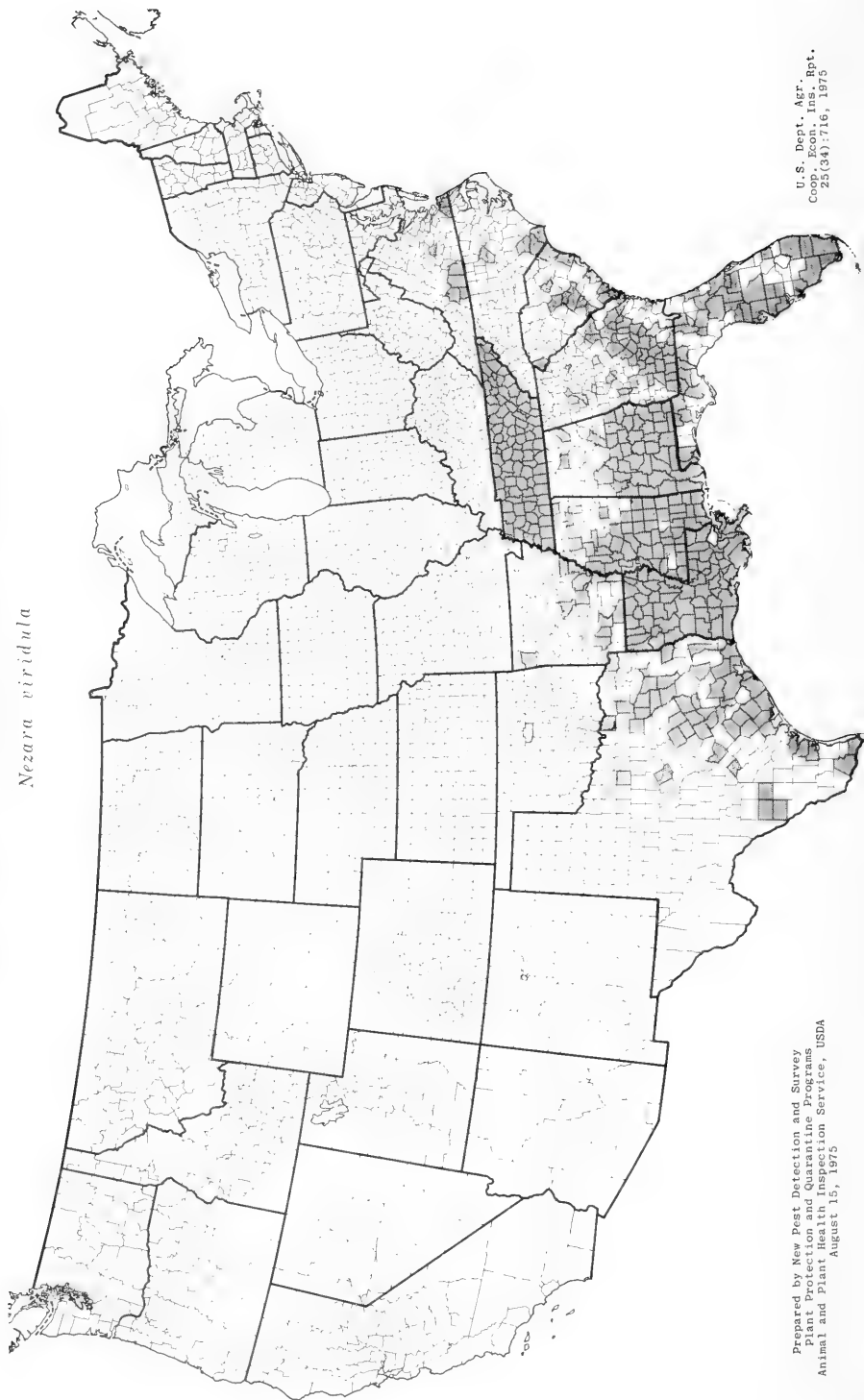
PRECIPITATION: All eyes were turned to the central Plains Monday, as dry conditions persisted. A few scattered showers turned up in Iowa but had little effect. In Kansas City, Missouri, only 0.25 inch of rain had fallen in 50 days. Other areas got more than their share. Thunderstorms sprang up along the Atlantic and gulf coasts and gained momentum in the Ohio and middle Mississippi Valleys and throughout the southern Great Lakes States. Showers dotted southern portions of the Rockies and Plateau regions. Otherwise, fair weather sprawled across an area from the northern Pacific coast to the upper Mississippi Valley and from the southern Plains into the southern Appalachians. An early morning rash of thunderstorms broke out Tuesday in the central and southern Intermountain Regions and deserts and high mountains of California. At the same time, a band of storms assembled in southwest Texas. By afternoon, showers staked a bigger claim and also covered an area from the western Great Lakes into the middle Missouri Valley. It took a while, but substantial rains finally reached the parched midlands on Wednesday to lend a hand to those crops that still held on. A slow moving cold front drifting south and east through the Plains and upper Mississippi Valley touched off storms mostly in Upper Michigan through southern Wisconsin, northern Illinois across Iowa and southern Nebraska into northern Kansas and eastern Colorado. In the central and southern Plains, afternoon thundershowers kicked up locally heavy rains that continued into the evening hours. Even though the frontal system drifted slowly east and west on Thursday, rainfall still held its ground against the hot dry weather in the central Plains. Scattered activity persisted across the northern, west-central, and southwestern Plains. By noon time, the front had taken up residence in upper and middle Mississippi Valley. Scattered showers stretched across the central Gulf States and from the middle Mississippi Valley to the middle Atlantic coast. Friday, rainfall shifted eastward. Thundershowers covered areas from the middle Atlantic States across the Appalachians into the Ohio and Tennessee Valleys. Meantime, more showers turned up along the central and southern gulf coast, southern Plains and extended from the northern Plains into the northern Rockies. Otherwise, dry weather dominated the New England States, the Midwest, and far western parts of the country. Weekend showers were accompanied by isolated severe weather around the Nation. Showers and thundershowers stayed on in the upper Mississippi Valley following a front from southern New England down the Ohio Valley through southeast Oklahoma and into southwest Texas. The coast was clear along the south Atlantic except for a few thundershowers in Florida that were accompanied

by damaging winds. Fair conditions reigned over much of the north-central and southwest United States, interrupted by some isolated showers in the northern and central Rockies. General rains spread from the Pacific into western Oregon and northern California. The strongest activity, however, focused on the north-east, southeast, and central parts of the Nation.

TEMPERATURE: Readings in the 100's that are so common in the Desert Southwest turned up on Monday in Kansas and Missouri. Warm weather shoved the mercury into the 80's and 90's across much of the Nation. The Pacific coast noted temperatures in 60's and 70's and a few 70's dotted the northern Appalachians and Upper Great Lakes areas. Warm conditions across the western half of the Nation eased a bit on Tuesday. Readings in the 90's took some of the edge off the 100's heat in the Desert Southwest and middle Plains. In the northern Plains, afternoon temperatures in the lower 70's reflected movement of a cold front southward into the central Plains and east to the Missouri Valley. As a high pressure center trailed the cold front across the northern High Plains, Wednesday morning temperatures dipped into the 40's and 50's. Later on, some cooler readings also turned up in areas from the northern and central Rockies to the upper Great Lakes. Thursday's temperature pattern in the central and northern High Plains again testified to the arrival of cooler air there with readings in the 60's and 70's. Cooler but not unusual temperatures in the 50's and 60's dominated the north and central Pacific coast. For the rest of the Nation it was like summer, ranging in the 80's and 90's. Friday set the pace for a near normal weekend across most of the Nation: some 50's in the mountains and along the Pacific coast, low 100's in the desert areas, and 90's over the southeast quarter. The northern Plains held out as the exception. From Montana to Upper Michigan, afternoon highs stopped in the 60's and 70's.

Distribution of Southern Green Stink Bug

Nezara viridula



Prepared by New Pest Detection and Survey
Protection and Quarantine Program
Animal and Plant Health Inspection Service, USDA
August 15, 1975

U.S. Dept. Agr. Rpt.
Coop. Econ. Ins. Rpt.
25(34):116, 1975

U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101



VOL. 25 NO. 35

August 29, 1975

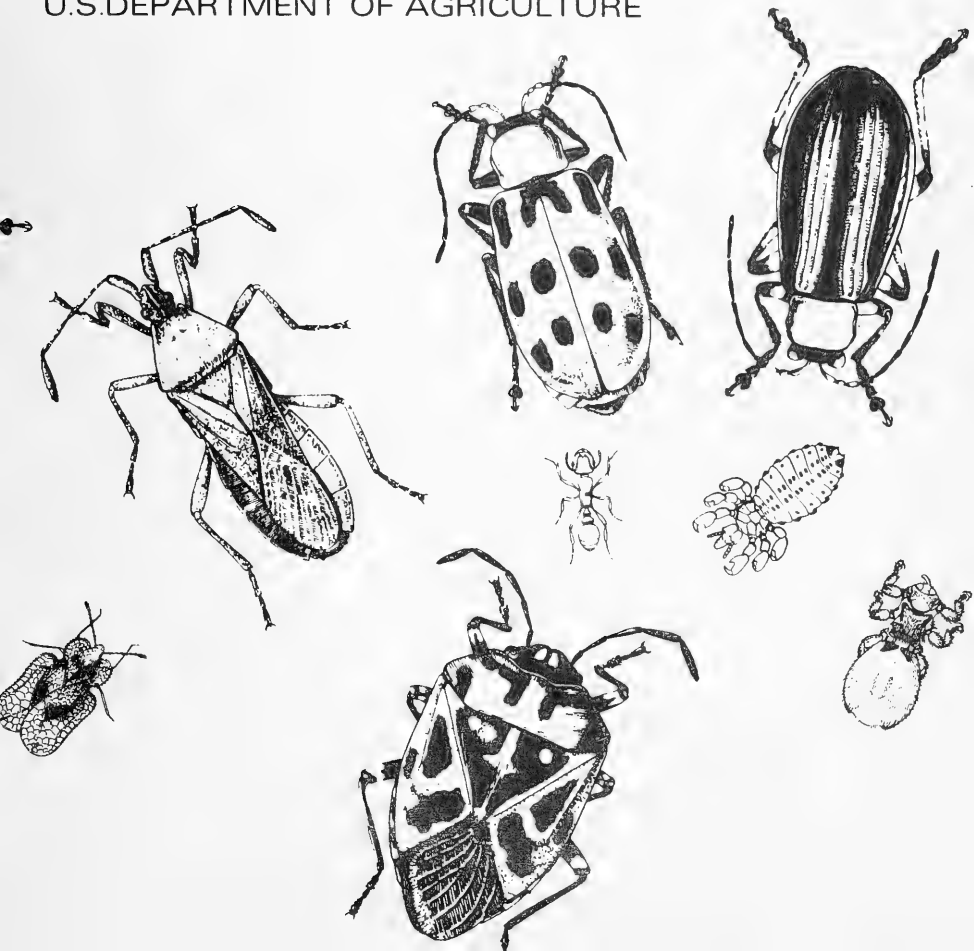
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Cooperative Economic Insect Report

Issued by

PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

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United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM heavy on corn in Kansas and a problem on soybeans in South Carolina and North Carolina. (p. 719).

BOLL WEEVIL punctured up to 80 percent of squares in Oklahoma, Alabama, and Tennessee. (p. 723).

Clinical cases of western equine encephalomyelitis increased in Minnesota. (p. 728).

Detection

One APHID each, found for the first time in Utah (p. 722) and Idaho. (p. 728).

For new county and island records, see page 725.

Reports in this issue are for the week ending August 22 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING AUGUST 24

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Rains during week made little progress in the hot dry central Plains where above normal temperatures persisted. Showers and thunderstorms focused on the Great Lakes and Mississippi Valley regions and stirred up some severe weather in parts of the Midwest. Unseasonably cool temperatures along the Canadian border and Pacific Northwest contrasted the hot humid conditions in the mid-Atlantic Coast States.

PRECIPITATION: Frontal systems that turned up at the beginning of the week delivered rains across much of the Nation, particularly the western half. Moving inland from the Pacific on Monday, one front dumped unusually heavy rains from Washington to central California and sprinkled showers on parts of Montana, Idaho, and Nevada. Another system took over from the Plains to the Atlantic coast carrying thundershowers to North Dakota, eastern Colorado, and portions of Kansas and Nebraska. Meanwhile, scattered activity occurred in the middle and lower Mississippi Valley and Southeast. To the west, fair skies held on from the southern Plateau into the southern Plains and from the Upper Mississippi Valley to north Atlantic coast. Tuesday, scattered thundershowers ranged east from the Mississippi Valley west into the Dakotas. Heavy rains that sparked local floods in northwest Iowa, southwest Kansas, and southwest Arkansas diminished later in the day. Limited precipitation was measured around the country on Wednesday. Some thundershowers rumbled across the upper Mississippi Valley into the northern Great Lakes region, others were scattered along the gulf coast from Florida to Louisiana and through the southern portions of the Plateau and Rockies. Responsible for much of moisture total, heavy storms brought flooding and high winds to Nevada where damage was extensive.

Weather of the week continued on page 732.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MINNESOTA - Light trap catches increased again; possibility of rare second generation. (Minn. Pest Rpt.).

BEEF LEAFHOPPER (Circulifer tenellus) - UTAH - Tomato losses due to curly top disease heavy in Beaver County, moderate in Salt Lake and Davis Counties, and 90 percent of crop in Washington County. (Esplin et al.).

CORN EARWORM (Heliothis zea) - COLORADO - Larvae light in field corn in northeastern area. Generally less than one per 100 ears. (Hantsbarger). OKLAHOMA - Light in sorghum heads in most southwest area fields. Scattered light infestations, up to 2 per 10 heads, in Canadian, Grady, Stephens, Love, Murray, and Garvin Counties. Mostly small larvae up to 7 per row foot on Marshall County peanuts. Averaged 3 per 10 sweeps of Canadian County alfalfa. Light numbers damaged mung bean pods in Kiowa, Greer, and Jackson Counties. (Okla. Coop. Sur.). KANSAS - Larvae heavy, 1-2 per ear on 95 percent of milk-stage corn in Kiowa County. Many eggs on upper leaf surfaces. Larvae heavy in whorls of pretassel corn in Stafford County. Infested 20-50 percent of ears in Finney, Grant, Kearny, and Haskell Counties. Larvae declined in heads of sorghum in southeast district; very few left. (Bell).

ALABAMA - Corn earworm and Spodoptera frugiperda (fall armyworm) destroyed 125 acres of late corn in Crenshaw County. Fall armyworm predominates 10:1. Destroyed 10-50 of late-planted corn in Chambers and Clay Counties. Few larvae feeding on pods in many soybean fields in Geneva and Monroe Counties. Very heavy adult flight in Geneva County; lighter in Monroe County. (Smith et al.). TENNESSEE - Larvae 0-1 per linear foot of soybeans in Hardin, Wayne, Lewis, Maury, Marshall, and Bedford Counties. Larvae in only one percent of fields. (Swindol et al.).

SOUTH CAROLINA - Corn earworm larvae up to 10 per foot of row, soybean foliar loss up to 30 percent, week ending August 15. (Griffin). NORTH CAROLINA - More soybean fields near threshold level August 18-21 in central and southern Coastal Plain counties. About 30 percent of 25 fields with small to medium pods in Montgomery, Anson, Sampson, and Wilson Counties at or above threshold; larvae averaged 1.7 per foot. Fields near threshold increased in Northampton and Halifax Counties. Low percentage of fields in Washington and Hyde Counties at threshold. (Van Duyn et al.).

VIRGINIA - Early instars of corn earworm hatched in Isle of Wight County. Averaged 15 per 30 row feet in 5 fields of late-planted soybeans and 80 per 30 row feet in one field. Larvae light, 5 per 30 row feet, in early planted soybeans. Moths peaked at 317 in City of Suffolk light trap August 16. (Allen). DELAWARE - Some larvae infested lima beans in several areas. (Burbutis).

CORN LEAF APHID (Rhopalosiphum maidis) - UTAH - Some conspicuous infestations of spring barley at Abraham, Millard County. (Chapman). IOWA - Continued to cause upper leaves of corn to turn brown in drought-stressed fields in Butler, Black Hawk, Grundy, and Kossuth Counties week ending August 15. (DeWitt). WISCONSIN - Heavy in corn as far north as Chippewa County. (Wis. Ins. Sur.).

GREENBUG (Schizaphis graminum) - UTAH - Heavy in many milo fields in Washington County. (Huber). TEXAS - Moderate on sorghum in San Angelo area; heavy in Rolling Plains. Some treatment continued in Lubbock and Plainview areas. (McWhorter et al.). OKLAHOMA - Scattered heavy infestations still present on preboot sorghum in southwest counties and in Jefferson County. Up to 1,000 per plant with 10 percent parasitism in Jefferson County field. Only scattered light infestations remain in Texas County. (Okla. Coop. Sur.). KANSAS - Nearly all infestations on sorghum wiped out by Lysiphlebus testaceipes (a braconid wasp) with help from lady beetles. Many greenbugs still in few fields in Scott and Wichita Counties where wasp increasing rapidly. (Bell). WISCONSIN - Up to 25 greenbugs per plant in Richland County grain sorghum field. Populations reduced by parasitism. (Wis. Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - INDIANA - Continued problem on alfalfa. Complex of this species, Acyrtosiphon pisum (pea aphid), and in some fields, Plathypena scabra (green cloverworm), required controls in northern area fields not ready for harvest. (Edwards).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Averaged 70 per 10 sweeps of Canadian County alfalfa. (Okla. Coop. Sur.). NORTH DAKOTA - Ranged 20-130 (averaged 83) per 100 sweeps of alfalfa in Morton and Sioux Counties July 15, 1975. Collected and determined by W.J. Brandvik. These are new county records. (Brandvik).

TOBACCO HORNWORM (Manduca sexta) - NORTH CAROLINA - Harvest completed in 35-40 percent of tobacco fields in Lenoir County. Of 70 late-transplanted fields, 17 at or above threshold. Harvest completed in 50 percent of Bladen County fields. Of 140 later fields, 14 at or above threshold. Averaged 15 per 50 plants in 2 or 3 fields. (Harper et al.).

TOMATO HORNWORM (Manduca quinquemaculata) - INDIANA - Larvae, 10-15 per 100 square feet, heavily damaged tomatoes in 3 commercial fields in Jackson County. (York).

CORN, SORGHUM, SUGARCANE

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - TENNESSEE - Damaged late-planted corn in southern counties of central area. Most corn will be used for silage. (Gordon, Bruer). KENTUCKY - Average percentage infested by county: Graves 11, Henderson 4.4, Union 7.6, Daviess 5.2, Muhlenberg 3.6, Webster 5.6, McLean 4.8, Ohio 0.8, Hopkins 10.8, Christian 7.6, Todd 5.2, Logan 4.4, Simpson 10.0, and Warren 9.2. (Barnett). KANSAS - Second-generation larvae heavy in some corn in south-central counties. Average percentage infested by county: Stafford 80-100, Pawnee 72, Edwards 88, Kiowa 96, Pratt 55, and Rice 10. Moth flights continued with small decline in affected areas. Percent of plants with nonhatched eggs by county: Stafford 8-33, Edwards 20, Kiowa 50. All stages of second-generation larvae in all fields; fully grown larvae heaviest in Stafford, Pawnee, and Edwards Counties. (Bell).

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Percent of corn infested by county: Stafford 24, Pawnee 52, Edwards 16, Kiowa 12, Pratt 30, and Rice 25. Second-generation egg laying completed. Larvae from second instars to fully grown. Moths declined. (Bell). WISCONSIN - Activity and egg laying continued intense; eggs heavy on beans and sweet corn. Egg masses on about half of corn in eastern Grant County. Second instars in tassels in Waukesha County. Cannery applied controls for 7 days. (Wis. Ins. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Heavy on corn for several weeks, particularly in southern Coastal Plain. Sorghum, 60 acres, stripped near Castle Hayne, New Hanover County. (Baker). MISSOURI - Light to moderate on east-central area late corn. Mostly second and third instars on 6-13 percent of plants. Larvae light, 4-31 per head, on late sorghum. (Munson). KANSAS - Larvae on about half of ears of milk-stage corn in Kiowa County; few in ears of early corn and whorls of late corn in Stafford County. Larvae in 30 percent of whorls of late sorghum in Douglas County. (Bell). WISCONSIN - Second and third instars in Waukesha County corn. Infested up to 28 percent of some sweet corn. Feeding mostly confined to tassels. (Wis. Ins. Sur.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - COLORADO - Prevalent in many cornfields in northeastern area, larvae up to 80 per 100 ears in untreated fields. About 30,000 acres treated. (Hantsbarger).

CORN ROOTWORMS (Diabrotica spp.) - UTAH - D. virgifera (western corn rootworm) more of problem from Logan north in Cache County and at West Jordan, Salt Lake County. (Burningham, Roberts). SOUTH DAKOTA - Diabrotica spp. damaged corn following soybeans in Union County. (DeSmet). WISCONSIN - Diabrotica spp. adults numerous, moved into younger corn. Averaged 7+ per plant on 25 plants, up to 15 per plant on some in Grant County field. Numerous around lights and on large variety of flowering plants, such as squash and roses. D. virgifera females finished egg laying, some fields with 41 eggs per pint of soil; adult emergence completed. (Wis. Ins. Sur.). INDIANA - D. virgifera adults collected on corn in Delaware and Randolph Counties by J. Thieme August 9, 1975. Determined by J. Thieme; confirmed by A. Provonsha. These are new county records. (Meyer).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Heavy in blooming sorghum in Rolling Plains. Moderate to heavy in San Angelo area. (Boring, McWhorter). OKLAHOMA - Percentage of damaged grain sorghum by county: Grady 65 and 2 percent, Love 20, Murray 5, and Garvin-one. Recently emerged adults in several of these fields. Counts moderate to heavy in Washita County. (Okla. Coop. Sur.).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - ILLINOIS - Light and non-economic this year. Heaviest in Clinton County with 7.2 puparia per 100 wheat plants. (Ill. Ins. Rpt.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - MONTANA - Counts of 25 per head on late-seeded spring wheat in large area of Teton County. (Pratt).

TURF, PASTURES, RANGELAND

RHODESGRASS SCALE (Antonina graminis) - CALIFORNIA - Infested Johnson grass at Calexico, Imperial County. (Cal. Coop. Rpt.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Up to 27 per 25 sweeps of alfalfa in South Valley area, Bernalillo County. (N.M. Coop. Rpt.). NORTH DAKOTA - Adults one per 200 sweeps of alfalfa in rural area of Dickey County July 21, 1975. Collected by C.G. Scholl. Determined by R.L. Post. This is a new county record. (Scholl). MINNESOTA - Taken from light trap at Duluth, St. Louis County, by Wuotila on August 18, 1975. Determined by B. Ford. This is a new county record. (Minn. Pest Rpt.).

AN APHID (Acyrtosiphon sp., caraganae group) - UTAH - Specimens collected from alfalfa at St. George, Washington County, by D. Huber May 11, 1975. Determined by V.F. Eastop. (Roberts, Knowlton). This is a new State record. (PPQ).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Averaged 75 per 10 sweeps of alfalfa checked in Canadian County. (Okla. Coop. Sur.). NORTH DAKOTA - Up to 5,000 per 100 sweeps in second-cutting alfalfa. Averaged 3,500 per 100 sweeps in Traill and Griggs Counties. (Scholl).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Swarms reported on alfalfa in Safford Valley, Graham County. Worst alfalfa infestation known in area week ending August 15. (Ariz. Coop. Sur.).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - SOUTH CAROLINA - Larvae in soybeans statewide week ending August 15; damage still below economic threshold in most areas. Averaged 2 per foot of row. Foliar loss averaged 3-8 percent. (Griffin). INDIANA - Larvae defoliated 20 percent of soybean field in De Kalb County. (Edwards). IOWA - Larvae, mostly third to fifth instars, 13 per row foot in northern Kossuth County. Soybeans in pod-fill stage with 3-5 percent defoliation. Treatment began. Counts fewer south of Kossuth County; means ranged 1.5-7.0 larvae per row foot. (Iowa Ins. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Second-generation larvae light to heavy I-10 per 6 feet of row in 50,000 acres of soybeans in Geneva and Monroe Counties. Foliar damage 15-30 percent in some fields. Several hundred acres treated in Crenshaw County due to excessive foliar feeding. Larvae generally light in all peanuts surveyed in Geneva County. Larvae 5-25 per 1.5 feet of row with 15-25 percent leaf loss. Adult flights general in area; larval increase expected until harvest. (Bond et al.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - TENNESSEE - About 500 acres of soybeans treated. Foliar feeding in all treated fields, most acreage treated before economic threshold reached. (Cagle).

INDIANA - Mexican bean beetle defoliated 35 percent, up to 100 percent in some parts, of some fields in Clay and Owen Counties. Damage usually in small fields in otherwise wooded areas, but some larger fields severely damaged. Similar damage in Bartholomew County field. (Hallman).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Larvae scarce in all Geneva County peanuts surveyed. Very wet conditions unfavorable. (Reynolds et al.). TEXAS - Light on peanuts in Rolling Plains, increased in Comanche County. (Boring, Curtus). OKLAHOMA - Third-generation larvae infested average of 32 percent of Marshall County peanuts. (Okla. Coop. Sur.).

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Up to 5 per terminal and 18 per row foot on Marshall County peanuts. Infested terminals averaged 58 percent. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Decreased on cotton in south-central area. Light to heavy in Rolling Plains area. Heavy in San Angelo area. (Cole et al.). OKLAHOMA - Punctured 60-80 percent of squares in some fields in southwest counties. Fresh punctures ranged 10-20 percent in treated fields. Averaged 11 percent in Grady County and one percent in Payne County. (Okla. Coop. Sur.). LOUISIANA - Increased in many cotton fields in northeast area. Blooms full of weevils in some fields. (Tynes). ALABAMA - Still heavy statewide, ranged 2-90 (averages of 8-25) percent. Continued to emerge from old squares at higher rate than in most years due to heavy egg laying when growers unable to properly apply controls. (Lowery et al.).

BOLLWORMS (Heliothis spp.) - TEXAS - H. zea (bollworm) damage moderate to heavy in Rolling Plains. Counts moderate in Pecos and Reeves Counties and south-central area. (Boring et al.). OKLAHOMA - H. zea larvae light in most fields of early planted cotton in southwest counties but up to 20 per 100 terminals in few fields. Eggs 20-30 per 100 terminals. Percentage of damaged squares averaged by county: Payne 4, Grady 15, and Jackson 5. Larvae from treated field in Jackson County: 6 H. zea and 5 H. virescens (tobacco budworm). (Okla. Coop. Sur.).

LOUISIANA - H. virescens activity increased in upper Red River Valley week of August 15. Up to 150 eggs per 100 cotton plant terminals on August 14 in Red River Valley. Larvae from field in Red River Parish over 50 percent tobacco budworms. Emerging and active August 13 in central area. Mostly H. zea moths in Rapides Parish. Heaviest egg count in northeast area ranged 10-20 per 100 plant terminals. (Tynes).

ARKANSAS - Total of 219 H. zea and 135 H. virescens taken in Ashley, Jefferson, and Lincoln Counties August 8-19. (Wall, Burleigh). TENNESSEE - Heliothis spp. continued heavy damage in many fields in southern tier of counties in western area. General in infested fields but spotty areawide. Larvae 0-30 per 100 terminals in Crockett County. Up to 22 per 100 terminals in untreated fields in Franklin and Lincoln Counties. Controls effective when properly applied. (Patrick et al.). NORTH CAROLINA -

Boll damage by Heliothis zea and H. virescens ranged 5-10 percent statewide. Up to 60 percent in some fields treated off schedule. Where controls difficult, H. virescens 50+ percent of population. (Whorley). GEORGIA - General Heliothis spp. increase statewide especially where controls interrupted. Eggs up to 48, larvae 0-16 (usually 3-4) per 100 terminals in southern areas week ending August 16. (Womack).

TOBACCO

BUDWORMS (Heliothis spp.) - TENNESSEE - All untopped fields at or above control levels. Larvae ranged 1,400-2,400 per acre. (Gregory).

HORNWORMS (Manduca spp.) - TENNESSEE - Larvae ranged 130-800 per acre. All untopped fields at or above control levels. (Gregory).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Very heavy on tobacco in central area. (Barnett, Thurston).

GREEN PEACH APHID (Myzus persicae) - KENTUCKY - Continued increase, especially on susceptible tobacco varieties in central areas. (Barnett).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Damaged sunflowers in Lubbock area; light to heavy in Pecos Valley area. (McIntyre, Bagley). NORTH DAKOTA - Larvae infested trace to 100 percent of plants in Cass, Grand Forks, Griggs, Steele, Traill, and Walsh Counties. (Scholl).

BANDED SUNFLOWER MOTH (Phalonia hospes) - NORTH DAKOTA - Larvae ranged up to 58 per sunflower head in Cass, Grand Forks, Griggs, Steele, Traill, and Walsh Counties. (Scholl).

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Light trap catches increased in northern area. (McIntyre). OKLAHOMA - Light trap counts by county: Tillman 5,250 and Greer 2,625. (Okla. Coop. Sur.).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - UTAH - Continued problem on untreated and poorly treated bean patches in Cache, Box Elder, and Salt Lake Counties and serious problem in Davis and Salt Lake County beans. (Knowlton, Burningham). MISSOURI - Moderate to heavy on planting of green and lima beans in east-central area. (Munson). INDIANA - Averaged more than one lesion per snap bean pod in 45 acres. Unsuitable for commercial canning in Jackson County. (York).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - NORTH CAROLINA - Larvae extensively damaged 50+ percent of plants on 50 acres of 6-inch snap beans. Dry conditions favored infestations, especially on seedlings. Infested all varieties of beans, peas, and peanuts. (Fleming, Hunt).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Field of snap beans in Waushara County with 4 egg masses per 5 feet of row indicated critical control situation. (Wis. Ins. Sur.).

COLE CROPS

IMPORTED CABBAGEWORM (Pieris rapae) - WISCONSIN - Larvae increased up to 10 per cauliflower head in Outagamie County; some nearly full grown. Controls continued on commercial cabbage in Columbia, Racine, Kenosha, and Outagamie Counties. Eggs 75+ per leaf in garden planting of horseradish. (Wis. Ins. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - WISCONSIN - Larvae 2 or less per treated plant in Outagamie, Columbia, Racine, and Kenosha Counties. (Wis. Ins. Sur.).

GENERAL VEGETABLES

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Adults averaged about 20 per night in Sussex County blacklight trap collections. Larvae average 30 percent in untreated sweet peppers in northwestern Sussex County; egg masses common. (Burbutis).

DETECTION

New State Records - AN APHID (Acyrtosiphon sp., caraganae group) - UTAH - Washington County. (p. 722). AN APHID (Dysaphis foenicula) - IDAHO - Nez Perce County. (p. 728).

New County and Island Records

A WEEVIL (Cleonus piger) - MICHIGAN - One specimen taken on grass at grain handling facility in Elmwood Township, Tuscola County. Collected by D. Stout August 11, 1975. Determined by R.F. Ruppel. (Hanna).

ALFALFA WEEVIL (Hypera postica) NORTH DAKOTA - Dickey. MINNESOTA - St. Louis (p. 722). CRAPEMYRTLE APHID (Tinocallis kahawaluokalani) CALIFORNIA - San Bernardino (p. 727). FACE FLY (Musca autumnalis) ARKANSAS - Woodruff, St. Francis, Lee, Lonoke, Prairie. TENNESSEE - Marshall, Bedford. (p. 727). MIMOSA WEBWORM (Homadaula anisocentra) ALABAMA - Lauderdale. OKLAHOMA - Kingfisher, Stephens (p. 727). SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) OREGON - Wallowa (p. 726). SPOTTED ALFALFA APHID (Therioaphis maculata) NORTH DAKOTA - Morton, Sioux (p. 720). SPRUCE BUD SCALE (Physokermes piceae) WASHINGTON - Kittitas (p. 726). SPRUCE NEEDLEMINER (Taniva albolineana) CALIFORNIA - Siskiyou (p. 726). A TREEHOPPER (Antianthe expansa) HAWAII - Maui (p. 729). WESTERN CORN ROOTWORM (Diabrotica virgifera) INDIANA - Delaware, Randolph. (p. 721).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - OKLAHOMA - Larvae moderate to heavy in apples checked in Osage County. (Okla. Coop. Sur.). WASHINGTON - Pheromone trap catches for north-central areas week ending August 16: Okanogan County - Oroville and Tonasket 0-2, Brewster and Pateros 0-5; Chelan County - Chelan and Manson 0-13, greater Wenatchee 1-8, East Wenatchee 0-13; Douglas County - Rock Island 0-2. (Rushmore).

A TORTRICID MOTH (Platynota flavedana) - NEW YORK - Second-brood flight started in Ulster County August 14. Damage throughout Ulster County orchards. Phosphates commonly used may not be effective against larvae. (Weires).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Heavy feeding on ripe peaches in Jackson and Comanche Counties. (Okla. Coop. Sur.).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Trap counts, declined, by county: Brown 15 and 3, Faribault 38, Hennepin 10, and St. Louis 3. Cover sprays still necessary. (Minn. Pest Rpt.).

PECAN WEEVIL (Curculio caryae) - TEXAS - Light on pecans in Rolling Plains; light to moderate in San Angelo area. (Boring, McWhorter). OKLAHOMA - Adults heavily emerged in southwest counties. Light in Garvin and Kay Counties. Some orchards treated in south-central counties. (Okla. Coop. Sur.).

BLACKMARGINED APHID (Monellia costalis) - OKLAHOMA - Continued heavy on pecans in many areas. (Okla. Coop. Sur.).

ORNAMENTALS

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Very heavy around homes and gardens, taken into homes on flowers in Cache, Weber, and Salt Lake Counties. (Knowlton).

FOREST AND SHADE TREES

SPRUCE NEEDLEMINDER (Taniva albolineana) - CALIFORNIA - Collected on blue spruce at Tulelake, Siskiyou County, by T. Haig and J. Schieber August 4, 1975. Determined by T. Eichlin. This is a new county record. (Cal. Coop. Rpt.).

SPRUCE BUD SCALE (Physokermes piceae) - WASHINGTON - Taken at Thorp, Kittitas County, July 7, 1975. Moderate to heavy on spruce at Ellensburg July 15. Collected by J. Kropf. Determined by L. Campbell. This is a new county record. (Harwood).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - One specimen taken on multilure trap at Enterprise, Wallowa County, July 16 to August 12. Collected and determined by R. L. Penrose. This is a new county record. (Penrose, Brown).

LARGER ELM LEAF BEETLE (Monocesta coryli) - WEST VIRGINIA - Larval damage heavy to elm, basswood, and honeylocust in Hampshire County. Moderately defoliated elms in Grant County. (Miller).

LOCUST BORER (Megacyllene robiniae) - UTAH - Seriously damaged black locust trees in Salt Lake and Davis Counties. (Burningham).

MIMOSA WEBWORM (Homadaula anisocentra) - ALABAMA - Larvae and pupae heavy, taken on mimosa trees at Florence, Lauderdale County, August 15, 1975. Collected by G.C. Cain and D.L. Wilson. Determined by H.F. McQueen. This is a new county record. (McQueen). OKLAHOMA - Scattered light to moderate on mimosa at Kingfisher, Kingfisher County, August 18. Scattered light infestations at Duncan, Stephens County, August 20. Collected and determined by D.C. Arnold. These are new county records. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - TENNESSEE - Heavy in spots in many central areas. Larvae feeding mainly on hickory, walnut, persimmon, and pecan trees. (Gordon, Bruer). INDIANA - Heavy east and west of La Porte County along U.S. Highway 30. (Schuder).

MAPLE LEAF-CUTTER (Paraclemensia acerifoliella) - MICHIGAN - Damaged several hundred acres of mature Benzie County sugar maples; severe defoliation can result, no chemical control available to date. (Norman).

CRAPEMYRTLE APHID (Tinocallis kahawaluokalani) - CALIFORNIA - Nymph and adults collected on crapemyrtle trees at San Bernardino, San Bernardino County, by R. Camblin July 16, 1975. Determined by T. Kono. This is a new county record and apparently first record south of Tehachapi Mountains. (Cal. Coop. Rpt.).

MAN AND ANIMALS

HORN FLY (Haematobia irritans) - TEXAS - Moderate to heavy on cattle, sheep, and goats in San Angelo area. (McWhorter). OKLAHOMA - Averages per head in Payne County: Cows 700, yearlings 750, and bulls 2,500. (Okla. Coop. Sur.). INDIANA - Lighter, 5-7 per animal in Tippecanoe County cattle herd. (Dobson). WISCONSIN - Moderately annoyed Polk County cattle. (Wis. Ins. Sur.).

FACE FLY (Musca autumnalis) - UTAH - Numerous on horses and cattle at Logan, Cache County. (Knowlton, Roberts). OKLAHOMA - Heavy on cattle in some Payne County areas. (Okla. Coop. Sur.). ARKANSAS - Collected from beef cattle by W.P. Boyer at following locations: Augusta, Woodruff County, August 18; Forrest City, St. Francis County, August 19; Marianna, Lee County, August 20; Lonoke, Lonoke County, August 21; De Valls Bluff, Prairie County, August 21. All determined by E.P. Rouse. These are new county records. (Boyer). TENNESSEE - Taken on cattle in Marshall and Bedford Counties August 21, 1975. Collected and determined by C.D. Gordon. These are new county records. (Gordon, Bruer). IOWA - Up to 50 per head on Story County cattle week ending August 15. (DeWitt). WISCONSIN - Annoyed cattle in Fond du Lac and Polk Counties. (Wis. Ins. Sur.). INDIANA - About 200 per animal on Tippecanoe County cattle herd. (Dobson).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 3 per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.). WISCONSIN - Severely annoyed Polk County dairy cattle. (Wis. Ins. Sur.).

MOSQUITOES - UTAH - Annoyance continued generally at Logan, Benson, Smithfield, and Lewiston, Cache County. Annoyance decreased at Deseret, Delta, and Abraham, Millard County. Especially annoying east of Beaver, Beaver County. (Knowlton et al.). TEXAS - Heavy on Knox County rangeland. (Boring). MINNESOTA - Total of 310 cases of western equine encephalomyelitis in 73 counties reported. Light trap counts decreased at Minneapolis and St. Paul. Aedes vexans predominant in light trap and bite collections. Culex tarsalis decreased to 25 percent in light traps. C. tarsalis larvae moderate and A. vexans light. Recent rains likely to produce another brood. Spray program continued. (Minn. Pest Rpt.). WISCONSIN - Activity increased, annoyance severe at times in shrubby suburban lawns at Madison, Dane County. Annoyance to humans and cattle severe at some Polk County sites. (Wis. Ins. Sur.).

A BIBIONID FLY (Plecia nearctica) - ALABAMA - Occasional pair in flight in Geneva County. This is second and last generation of season. Flight increase expected in southwest counties, especially Mobile, Baldwin, and Escambia, next 30-40 days. (Reynolds et al.).

STORED PRODUCTS

AN APHID (Dysaphis foenicula) - IDAHO - Collected from stored carrots at Lewiston, Nez Perce County, by R.L. Kambitsch February 23, 1975. Determined by L.M. Russell. This is a new State record. (Gittins).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - TEXAS - Moderate to heavy in Rolling Plains area. (Boring). NORTH DAKOTA - Melanoplus sanguinipes, Trachyrhachys kiowa, and M. dawsoni dominant in economically infested areas of McKenzie, Golden Valley, Slope, Billings, and Dunn Counties. (Winks). MINNESOTA - Adult survey almost completed. Light in all districts. Averaged 2 per square yard in southwest district; mainly Melanoplus femurrubrum. Ranged 6-8 per square yard in west-central district. Damage on soybeans and corn minor; mainly M. bivittatus. Averaged 5 per square yard in northwest district; mainly M. bivittatus. One per square yard in southeast and south-central districts. (Minn. Pest Rpt.).

GYPSY MOTH (Porthetria dispar) - VIRGINIA - Male moth trapped near Danielstown, Brunswick County, by B. Blythe August 12, 1975. Determined by E.L. Todd. First find for this county. (PPQ). WEST VIRGINIA - Adult males taken in 6 Jefferson County traps, 3 Berkeley County traps, and 2 Morgan County traps. (Tustin). WISCONSIN - Male moth trapped at Appleton, Outagamie County, by R. Zahringer August 18, 1975. Determined by E.L. Todd. First find for this county. (PPQ).

JAPANESE BEETLE (Popillia japonica) - GEORGIA - Trapped for first time at Zebulon, Pike County, by S. Owen July 9, 1975. Determined by E.L. Todd. First find for this county. INDIANA - Adult male trapped in Crawford County by J. Kingdom August 7, 1975, and in Ripley County by L. Godfrey August 11, 1975. Determined by E.L. Todd. First finds for these counties. (PPQ). Currently, soybean defoliation 20 percent in 5-mile area of Kosciusko and Noble Counties. Heavy on soybeans east of La Crosse, La Porte County. (Schuder, Edwards).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Adults increased in Pecos Valley area pheromone traps. (Bagley).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - This vector of Dutch elm disease emerged and flying in infected areas of Sonoma County; about 500 pheromone traps in place. Eradication program underway, some infected trees at Kenwood removed and burned. (Cal. Coop. Rpt.).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Adults, 1-2 per 3 feet of row, in peanuts surveyed in Geneva County. (Reynolds et al.).

HAWAII INSECT REPORT

General Vegetables - CARMINE SPIDER MITE (Tetranychus cinnabarinus) heavy in small planting of watermelon at Poamoho, Oahu. All stages present. Counts in excess of 20 per square inch of leaf. (Tsuda).

Fruits and Ornamentals - A TREEHOPPER (Antianthe expansa) heavy on Physalis peruviana (poha) at Kailua, Maui. Found by Tateyama on August 18, 1975. Nymphs and adults present. Determined by N. Miyahira. This is a new island record. (Miyahira, Mau). One adult each of a SPHINGID MOTH (Theretra nessus) collected at Papaikou and Kona, Hawaii Island, during late July 1975. Collectors unknown. Determined by E. Yoshioka. Moth established at east and west Hawaii Island. (Yoshioka).

Beneficial Insects - Damage by a PTEROPHORID MOTH (Oidaematophorus sp.) obvious at Volcano, Hawaii Island. At least 15 percent defoliation in July. Damage to young terminal growth moderate to heavy in August. Larvae easily found. (Matayoshi, Mau). Total of 9,045 TEPHRITID FLIES (Procecidochares alani) released on Hawaii Island during July at 2 new sites at South Kona. Found established at 2 other sites. (Matayoshi). A BRACONID WASP (Apanteles erionotae), parasite of Erionota thrax (banana skipper) found established at Hilo, Hawaii Island, during July 1975. First record of parasite from the island. No other information available. (Yoshioka). One pupa of Papilio xuthus (citrus swallowtail) parasitized by a PTEROMALID WASP (Pteromalus luzonensis) recovered at Kahului, Maui, on August 9. First released in area July 12, 1975. (Miyahira).

LIGHT TRAP COLLECTIONS

	Tempera- ture - F	Precep- itation inches	Type of trap	DL - daylight or - incandescent or - mercury vapor or - other	Agrotis (Noctuid) No. of specimens	Estigmene acrea (Noctuid)	Aedes auxillaris (Ampy. coleoptera)	Exoneura diffracta (Diptera head grayworn)	Ptilinidea subterranea (Ampy. coleoptera)	Heliothis virescens (Tobacco budworm)	M. zea (bollworm, corn worm)	Lamprolaima pomonella (Cecid. moth)	Loxostege compositella (Ampy. subworn)	Loxostege rufalis (Ampy. subworn)	Loxostege sticticalis (Ampy. subworn)	Manduca quinque maculata (Toad b. butterfly)	Sanduca nitida (Gardner hawk)	Ostrinia nubilalis (European corn borer)	Peritoma saucia (Pumpkin cutworm)	Phanocarpa unipuncta (Armyworm)	Spodoptera exigua (Cotton armyworm)	Spodoptera frugiperda (Fall armyworm)	Spodoptera ornithogalli (Pest of asparagus)	Trichoplusia ni (Cabbage looper)	Crops
ARIZONA Mesa 8/9-14			BL	7	2	121					46								20		331	23	11		
CALIFORNIA Bellota 8/13	50-85		BL								14								1						
Clements 8/12	56-89		BL				3				8								1		2				
COLORADO Denver 8/11-18			BL	3							190	40													
INDIANA (Districts) Northwest 8/2-15			BL	7	44						14								4	13	19	91			
Southwest 8/2-15			BL	64	11						8								2	2	43	383			
KANSAS Garden City 8/18			BL	12		24					5														
Scandia 8/19			BL								12														
KENTUCKY (Counties) Caldwell 8/19-20			BL	1																					
Fayette 8/20-22			BL	1							1														
MICHIGAN Lenawee 8/13-18			BL	11							14														
Oceana 8/12-18			2BL	103							6														
MINNESOTA Fergus Falls 8/14-20			BL																						
Worthington 8/14-20			BL																						
MISSISSIPPI Stoneville 8/15-21	70-95	0.50	2BL	34			5	22	190																
NEW JERSEY Seabrook 8/13-19			BL	54																					
Vineland 8/13-19			BL	47																					
NORTH DAKOTA Bismarck 8/14, 18			BL																						
Fargo 8/20			BL																						

LIGHT TRAP COLLECTIONS

Temperature (°F)	Station	Type of trap	Precipitation (inches)	Crops	
				1	2
OREGON	Dever 8/14-21 St. Paul 8/14-21	BL			
		BL			
PENNSYLVANIA (Districts)	Central 8/13-21 South East 8/13-21	4BL		34	6
		8BL		24	3
SOUTH DAKOTA	Brookings 8/18-22	BL		267	22
				139	
VIRGINIA	Blacksburg 8/15-21	BL		5	3
				14	13
WISCONSIN	Lancaster 8/12-20 Mazomanie 8/12-20	BL		149	12
		BL		373	1

Weather of the week continued from page 718.

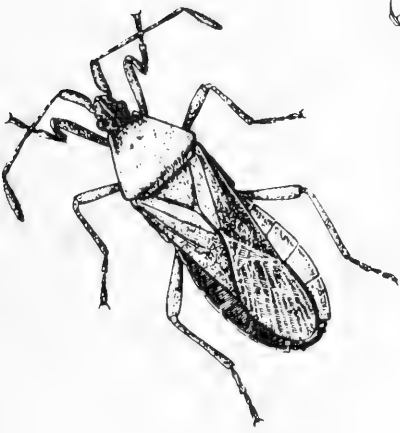
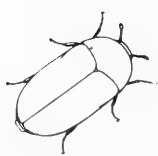
Afternoon showers over most of the Nation on Thursday. Thunder-showers throughout the upper Mississippi Valley and Great Lakes region intensified, focusing mainly on Wisconsin and Michigan. In the morning, storm activity advanced in Nevada but withdrew as the day progressed. Meantime a wide band of sunshine still stretched from the central and southern Plains to the north and central Atlantic coast. Except for isolated spots, rains slackened near the end of the week. Severe weather and heavy rains settled down in the Midwest, thundershowers hushed and grew more scattered. Across the north-central and northeast United States, however, rains continued. Friday evening storms covered much of the eastern half of the Nation, mainly the Great Lakes States, Ohio Valley, and Gulf coast. Other activity dispersed throughout the northern and central Plains and lower half of the Rockies. Substantial rains fell in northern Iowa and northern Illinois. Most areas of the central Plains, however, where cropland ached for moisture, received none. Saturday's showers and thunderstorms spread throughout the southeastern third of the Nation. Rains diminished further in the Midwest but persisted in scattered areas from the upper Mississippi Valley to the Great Lakes. Heavy rains in west-central Wisconsin caused widespread flooding on roads in low areas. Showers and storms accompanied a stationary front in the Pacific Northwest and northern Rockies. Thunder-showers in the Midwest weakened rapidly Sunday morning but returned in the afternoon to the Great Lakes area and upper Mississippi Valley where some severe weather erupted. In Minnesota, storms kicked up a tornado that damaged trailers and injured one person. Unseasonably cool air brought scattered showers to western Montana and northern Idaho. Nearby northern Rockies attracted much attention with the first snow of the season.

TEMPERATURE: The week began on a chilly note as cold air pushing down between the upper Great Lakes and northern Rockies kept some temperatures unseasonably cool. Monday morning turned up readings in the middle 40's and 50's in parts of the Dakotas and Minnesota. The coldest was Roseau, Minnesota--30 degrees. Later in the day a front across the Midwest pushed the mercury into the 90's in the central Plains but held it down, along the Canadian border, in the 50's and 60's. At midweek, a high pressure system cooled the Northeast where morning temperatures stayed in the 40's and 50's and in a few spots--30's. During the day, however, temperatures in many areas grew more seasonable; 90's in most of the Southwest and southern and central Plains, a few 50's in the mountains, 60's along the northern border, and 70's across a front in the Northeast. Soon hot temperatures and high humidity moved across the central part of the Nation and settled over the Plains and Mississippi Valley. Southern Iowa issued a livestock safety alert Wednesday. Sultry conditions blanketed areas from the southern Atlantic coast into the central and southern Plains where temperatures scored in the 90's. On Thursday, cool temperatures dominated the northern parts of the Nation. In the Great Lakes area, temperatures ran in the 60's in parts of Maine and along the Pacific coast--50's. Readings in the 80's and 90's were common elsewhere except in the Desert Southwest and central Plains where the mercury edged towards 100 degrees. Over the weekend, the hot, humid, southern Atlantic coast envied its northern neighbor where temperatures in the 70's and low humidity made it the place to be.

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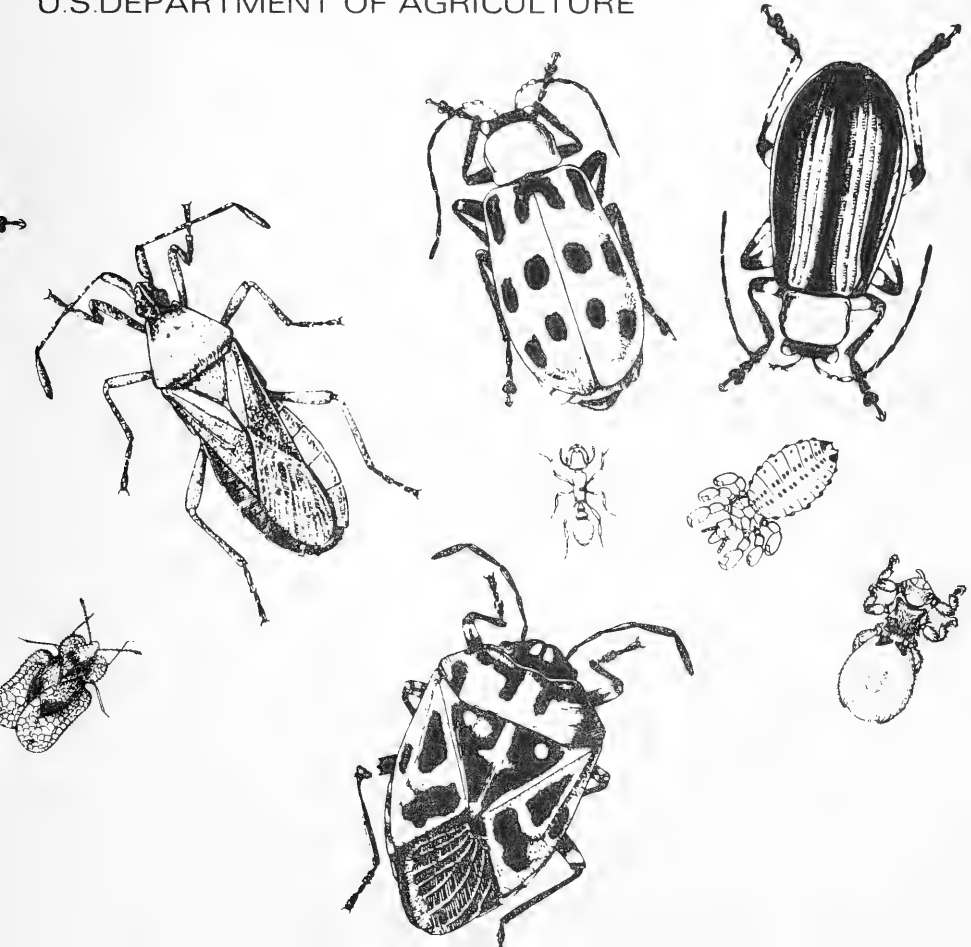
VOL. 25 NO. 36

September 5, 1975

*Gordon
White*

Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

CORN EARWORM heavy on sorghum in parts of Texas and Kansas and economic on soybeans in North Carolina. (p. 735).

EUROPEAN CORN BORER infestations 35 percent and over on corn in Kentucky and South Dakota. (pp. 736-737).

FALL ARMYWORM economic on sorghum and other grasses in parts of Alabama, Florida, South Carolina, North Carolina, and on sweet corn in Wisconsin. (pp. 737-738).

VELVETBEAN CATERPILLAR economic on soybeans in Florida, Alabama, and North Carolina. (p. 739). CABBAGE LOOPER severe on soybeans and vegetables in Virginia. (pp. 739, 742-743). MEXICAN BEAN BEETLE damaged soybeans in Alabama. (p. 740).

BOLL WEEVIL damage in Texas, Oklahoma, and Tennessee. (pp. 740-741).

Detection

● One male ORIENTAL FRUIT FLY detected at National City, California. (p. 747).

● A DELPHACID PLANTHOPPER in California is a new United States record. First collected in 1933. (p. 749).

New State records include a BRACONID WASP in New Mexico and EUROPEAN EARWIG in Indiana (p. 746) and a POMPILID WASP in Hawaii (p. 748).

For new county records, see page 749.

Reports in this issue are for the week ending August 29 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING AUGUST 31

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cooler temperatures and heavy rains descended on the Nation's midsection bringing welcome relief to many dry areas and added problems to some wet areas. Heavy rains, cooler temperatures, and sometimes damaging winds were associated with the passage of two frontal systems during the week. Heavy rains reached New England over the weekend. Except for steady general rains in the Pacific Northwest, clear skies favored areas west of the Rockies.

PRECIPITATION AND TEMPERATURE: A vigorous cold front, pushing cooler air into the heat-stricken northern Plains and Midwest set the stage for a rainy week across the eastern half of the Nation. Dividing the Nation's weather, the system ran from western Great Lakes area to southeast New Mexico. Across the Midwest it generated numerous thundershowers that caused some damage. Meantime, a stationary front along the northern edge of the showers and storms kept New England sunny. Thunderstorms in the southern half of the Plains on Monday produced locally heavy rains that led to flash floods in west-central Missouri and southeast Kansas. Several tornadoes associated with a line of thunderstorms extending from western Wisconsin into southeast Nebraska touched down in Wisconsin and Iowa causing some injuries and damage. In the West, fair skies favored areas from the southern and central Rockies through the Great Basin into California and Oregon. Cloudy skies and rain held Monday's mercury in the 70's and low 80's over much of the Nation's midsection and in the 50's in some mountain spots. The Plains temperatures dropped about 20 degrees from the weekend. Rains finally came to the central Plains, for some crops it was too late. Tuesday morning precipitation

Weather of the week continued on page 752.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

BET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Curly top disease averaged 20-40 percent in 3,100 acres of sugar beets in Antelope Valley, Los Angeles County, but one of best sugar beet crops predicted. Beets surrounded by about 27,000 acres of summer weed hosts with 1-10 hoppers per sweep. Counts very light in sugar beets due to recent controls directed toward Spodoptera exigua (beet armyworm). (Cal. Coop. Rpt.). UTAH - Curly top disease severe in tomatoes and damaged sugar beets in Emery County. Destroyed 90 percent of Washington County tomato plants. (Bond et al.).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Up to 2 per grain sorghum head in west-central counties but light in most fields. Infested corn ears in Texas County and peanuts in Hughes County. Light on sorghum heads in southwest counties. (Okla. Coop. Sur.). TEXAS - Moderate to heavy on sorghum in Rolling Plains. (Boring). KANSAS - Some larval infestations in sorghum heads in southeast district week ending August 15; some treatments applied. Heavy in preboot sorghum in Douglas County, 80 percent of whorls infested. (Bell). MISSOURI - Light to moderate on late sorghum in southwest area. Larvae 3-44 per 100 heads. Larvae in first and second instars and nearly full grown. (Munson). WISCONSIN - Adults 5 or more on 3 consecutive nights at several blacklight trapping sites; nearly all trapping sites yielded some moths. Small larvae in some southern sweet corn, and 0.75-grown larva collected in Columbia County. (Wis. Ins. Sur.).

FLORIDA - Corn earworm on increase in soybeans but still below economic threshold in Jackson County. (Fla. Coop. Sur.). ALABAMA - Corn earworm larvae, 2-5, and Celama sorghiella (sorghum webworm) up to 30, per grain sorghum head; destroyed 75 percent of 100-acre field in Marengo County. (Yates). TENNESSEE - Potential problem in beans if weather continues hot and dry. Cotton and corn unattractive to moths in most areas. (Gordon, Bruer). NORTH CAROLINA - Pupation underway on soybeans in southern half of State. Larvae peaked in Coastal Plain and will have declined below threshold in most fields by September 12. Larvae at threshold level, one per foot of row, in 10 of 25 soybean fields randomly selected in Sampson, Duplin, Johnston, Greene, Pitt, Halifax, and Northampton Counties. Economic numbers in about 50 percent of open canopy fields. Large larvae 15-20 per 6-foot sample common. Some defoliation in peanuts; few fields needed treating to date for control and larval counts declined in most areas. Drought critical in many fields. (Hunt, Robertson).

VIRGINIA - Corn earworm larvae appeared on soybeans in Isle of Wight, Westmoreland, Charles City, James City, and Lancaster Counties. Exceeded threshold in 5 of 16 fields in Isle of Wight County; 3 fields treated. Sprays applied in Greenville and Southampton Counties. (Allen). MARYLAND - Adult catches in blacklight traps less than 1-2 per night except in St. Marys County, 6-20 per night. Larvae light to moderate in field and sweet corn; rarely exceeding 15 percent injury levels. Egg laying in snap beans, limas, and soybeans expected to increase next 10 days. Effects of heavy rain in July evident in lateness of buildup week ending August 22. (U. Md., Ent. Dept.).

GREENBUG (Schizaphis graminum) - TEXAS - Light to heavy on sorghum in Rolling Plains and San Angelo area. Almost nonexistent in Hale County. (Boring et al.). OKLAHOMA - Heavy on sorghum in Harmon County. (Okla. Coop. Sur.). NEBRASKA - Parasitism by Lysiphlebus testaceipes (a braconid wasp) at or near 100 percent statewide. (Raun, Campbell).

PICKLEWORM (Diaphania nitidalis) - SOUTH CAROLINA - Larvae continued extensive damage to garden squash and cucumbers in Oconee, Pickens, and Anderson Counties week ending August 22. (McCaskill).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Moderate, 20-30 per sweep, in several fields of Lima beans in Kent and Sussex Counties. (Burbutis). OHIO - Started decline on alfalfa week ending August 22. Adult averages per sweep by county: Clinton 0.6 on third cutting, Brown 0.3, and Pickaway 0.4. Damage light in fields surveyed. Current averages per sweep of alfalfa by county: Delaware 0.6, Morrow 0.2, Crawford 0.3, Knox 0.4, and Licking 0.5. Very few nymphs. (Lewis). WISCONSIN - Generally light in most fields, from about one per sweep in short regrowth fields to 15 per sweep on alfalfa in preferred early blossom stage. Counts of 8-15 per sweep in mature second-growth alfalfa in Barron, Eau Claire, and La Crosse Counties. Ranged 1-2 per sweep in dry beans and lima beans in Trempealeau and Dunn Counties. Rarely exceeded one per sweep in snap beans and potatoes in central district. (Wis. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Averaged 500 per 10 sweeps of alfalfa in Cimarron County. (Okla. Coop. Sur.). NEVADA - Ranged 70-150 per sweep on 450 acres of seed alfalfa and 250 per sweep on 50 acres of young hay alfalfa in Lower Valley at Lovelock, Pershing County; treatments applied. One other hay field and one seed field averaged 30 and 50 aphids per sweep, respectively; no treatment. Defoliation in progress. Less than 2 per sweep on hay and seed fields in Central Valley and Upper Valley. Occasional specimen on hay alfalfa in Buena Vista Valley, Pershing County. (Barclay et al.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MAINE - Continued heavier than in 1974 on sweet corn week of August 25. (Gall). OHIO - Infested 0-32 percent of field corn in central and north-central counties. Average percent infestation by county: Delaware 7, Marion 12, Knox 2, Crawford 0, and Richland 20. Larvae 1-8 (averaged 1.7) per infested plant for all counties. Mostly late instars, averaged about one inch long. (Lewis). Second instars infested 10 percent of sweet corn ears in 5 acres in Portage County. Ear damage slight. (Custer). KENTUCKY - Percent corn infested (and larvae per 100 plants) by county: Graves 36.0 (27.6), Christian 56.8 (33.6), Hopkins 51.6 (51.4), Todd 58.4 (47.6), Logan 69.6 (50.8), Simpson 46.0 (29.0), Warren 47.2 (17.6). (Barnett et al.).

ILLINOIS - First-generation European corn borer light statewide; averaged 2.2 percent infestation and 1.7 larvae per 100 plants. "Hot spots" in 2 northernmost districts and 2 southernmost districts. Individual counties averaged 9+ larvae per 100 plants. (Ill. Ins. Rpt.). WISCONSIN - Egg laying subsiding in southern areas; egg

masses on 10-15 percent of late field corn and sweet corn. European corn borer eggs on half of plants in some fields in more northerly areas in St. Croix County. First and second instars on virtually all plants and fresh eggs on 15 percent of plants in Trempealeau County field. Most sweet corn treated at least 2 weeks in more advanced areas, but small larvae appeared in ear tips in treated fields. Second-generation larvae in third instar in Marquette, Dane, and Trempealeau Counties. Many female moths bulging with eggs in blacklight traps. (Wis. Ins. Sur.).

SOUTH DAKOTA - European corn borer infested 50-100 percent of stalks in fields checked. (Walgenbach). KANSAS - Second-generation larvae caused 10 percent sorghum head breakage in Edwards County field. Larval averages 2-3 per plant, fed externally behind leaf sheaths. Farthest west for sorghum head breakage in State. Average percentage corn infested by county: Edwards 0-100 (4 fields), Pratt 4, and Hodgeman 20. (Bell).

SOUTHWESTERN CORN BORER (*Diatraea grandiosella*) - OKLAHOMA - Infested corn ears in Texas County. Damaged ears ranged 10-75 percent with this species, *Spodoptera frugiperda* (fall armyworm) and *Heliothis zea* (corn earworm) found. (Okla. Coop. Sur.). KANSAS - Pupae of second generation common in late corn in Stafford County field. Most remaining larvae half to full grown; few newly emerged adults and fresh third-generation eggs. Larvae in Edwards County field, 0.25-inch to full grown, averaged 6.4 per plant; second-generation pupae trace. Infested all plants in both fields. Average percent of dented corn infested by county: Kiowa 24, Edwards 100, Hodgeman 20 and 90 percent (2 fields). (Bell). MISSOURI - Fully grown larvae on 3-26 percent of popcorn plants in southwest area. Girdled less than 2 percent of plants. (Munson).

FALL ARMYWORM (*Spodoptera frugiperda*) - OKLAHOMA - Ranged 1-3 per grain sorghum head checked in Harmon County. Continued to infest whorls of late-maturing sorghum in west-central and southwest areas. Infested corn ears in Texas County. (Okla. Coop. Sur.). ALABAMA - Up to 50 larvae per head of grain sorghum destroyed 100-acre field in Autauga County; 200 other acres with similar infestations treated and saved. Damaged several fields of grain sorghum in Tuscaloosa County. (Kirkpatrick et al.). FLORIDA - Larvae moderately infested buds of 2.5 to 3-foot sweet corn in 50-acre planting at Homestead, Dade County, by August 22. Treatments required. Currently, larvae heavily infested 230 acres of late-planted sorghum near Gretna, Gadsden County. Larvae averaged 2-3 per 6-inch plant. (Fla. Coop. Sur.).

SOUTH CAROLINA - Fall armyworm larvae moderate to very heavy, continued economic damage to sorghum in all except mountainous counties by August 20. Controls difficult. (Griffin). NORTH CAROLINA - Damage to sorghum and turf continued in Robeson, Cleveland, Johnston, and Harnett Counties. About 20 acres of sorghum treated in Johnston County. (Hunt). MARYLAND - Larvae in late-planted silage corn moderate to heavy in Frederick and Carroll County. Counts slightly above normal week ending August 22. (U. Md., Ent. Dept.). NEW JERSEY - Egg masses heavy on some corn in Cape May County. (Ins.-Dis. Newsltr.). WISCONSIN - Infested sweet corn in Outagamie, Brown, Calumet, Manitowoc, Dodge, Dane, and Columbia Counties. Infested up to 50+ percent of plants in some fields and 100 percent of some spots. Most larvae two-thirds grown. Heavy ear damage and up to 3 larvae per ear in some fields. (Wis. Ins. Sur.).

SORGHUM WEBWORM (*Celama sorghiella*) - MISSOURI - Larvae 15 to 200+ per 100 heads of late-planted sorghum in southwest area. (Munson).

CORN ROOTWORMS (*Diabrotica* spp.) - UTAH - *D. virgifera* (western corn rootworm) very heavy in some fields of canning corn in Box Elder County; treatments required. Some injury in Davis County. (Duncan; Stokes). KANSAS - *Diabrotica* spp. lodging severe in many cornfields in Brown and Doniphan Counties. Serious root damage in one field each in Pratt and Hodgeman Counties. (Bell). NORTH DAKOTA - *D. virgifera* adults averaged 2.4 per plant in field of grain corn in Sargent County. Lodged 25 percent of field in Richland County. (Scholl).

MINNESOTA - Annual survey completed. Fields had been in corn in 1974. *Diabrotica* spp. increased in southeast and south-central districts, averaged 53,421 and 40,858 per acre, respectively. Decreased in east-central and southwest districts, averaged 10,874 and 36,680 per acre, respectively. (Minn. Pest Rpt.).

WISCONSIN - Storms lodged many fields due to *Diabrotica* spp. root injury and high winds. Adults still heavy, 8 per plant, in late corn with some green silks. Many *Diabrotica* spp. adults killed by *Ostrinia nubilalis* (European corn borer) treatments, but females already laid most of eggs in southern counties. Population increase in 1976 expected with good egg laying conditions and high winter survival. (Wis. Ins. Sur.).

NORTHERN CORN ROOTWORM (*Diabrotica longicornis*) - OHIO - Adults per 25 corn plants averaged 51 August 19 in Clinton County and 32 in Pickaway County field. Dispersal of adults currently well underway. More rootworm beetles observed in forage (up to 2 per sweep) than in corn. (Lewis). WEST VIRGINIA - *D. longicornis* adults collected August 27, 1975, on ears of corn at Washington, Wood County, and Millwood, Jackson County. Few adults observed; no damage. Collected and determined by J.D. Hacker. These are new county records. (Hacker).

SORGHUM MIDGE (*Contarinia sorghicola*) - TEXAS - Moderate to heavy on sorghum in San Angelo area, lighter in Rolling Plains and Lubbock area. (McWhorter et al.). OKLAHOMA - Averaged 8 adults per head in grain sorghum field in Kiowa County, but light in most fields in Kiowa and Jackson Counties. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

SOUTHERN MASKED CHAFER (*Cyclocephala immaculata*) - ILLINOIS - Damage moderate to severe in lawns and golf courses in central area. (Ill. Ins. Rpt.).

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - Abundant on pasture grasses in Jackson County. (Fla. Coop. Sur.).

A SCIARID FLY (*Bradysia picea*) - ALABAMA - Adults continued to emerge from lawns. Nuisance in 25+ counties and north into Lauderdale County. (McQueen).

FORAGE LEGUMES

GREEN CLOVERWORM (Plathypena scabra) - WISCONSIN - Heavy in some west-central area alfalfa. Counts of 3-4 per sweep in Eau Claire and La Crosse Counties. (Wis. Ins. Sur.).

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - Defoliated white clover near Orofino, Clearwater County. Adults active and moving to perennial legumes. (Fitzsimmons, Fisher).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Heavy and generally present on soybeans in Jackson County August 21. (Linker). Larvae averaged 10-12 per foot of row (4-6 economic threshold) of soybeans in Gadsden, Jackson, and Walton Counties. Many larvae small and third generation approached peak. Nomuraea rileyi (a fungus) common in most fields checked and larval expected to affect population soon. Velvetbean caterpillar leveled off in Jackson County. (Fla. Coop. Sur.). ALABAMA - Larvae heavy; damaged several thousand acres of soybeans in Houston, Marengo, Shelby, and other southern counties. Larvae 25 per 3 feet of row in Marengo County. Excessive feeding damage, controls applied, to 40-acre field in Houston County. (Yates et al.). NORTH CAROLINA - Larvae appeared in soybeans particularly in Washington, Hyde, and Tyrrell Counties. Defoliation critical in many areas because of drought stress. (Hunt, Bradley).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - As high as 20 per foot of row of soybeans in Clark County. (Ill. Ins. Rpt.). IOWA - Larvae ranged 6-19 per row foot in north-central counties. Some treatments where counts of 15 per row foot and soybeans in pod-fill stage. (Iowa Ins. Sur.). WISCONSIN - Up to one per sweep of soybeans in Eau Claire and St. Croix Counties and up to 2 per sweep in southern Trempealeau County field. More than half of larvae under half grown. Many moths appeared in St. Croix County blacklight trap. Most soybeans in area have good pod fill. (Wis. Ins. Sur.).

SOYBEAN LOOPER (Pseudoplusia includens) - FLORIDA - Noneconomic, averaged 3 per foot of row in 2 Gadsden County soybean fields; economic, averaged 6-7 per foot of row in field where kudzu patch on border (field traditionally has more loopers). Insecticides unsatisfactory. (Fla. Coop. Sur.). ALABAMA - Early instars 7 per 30 feet of row in soybean field in Macon County. Leaf feeding light to heavy in many thousands of acres throughout south and central areas. (Gross et al.).

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Moths steadily increased past 14 days in Accomac and Northampton Counties. Severe outbreaks in various crops on entire Eastern Shore. Severe on soybeans. Polyhedrosis virus widespread throughout entire Eastern Shore. (Hofmaster).

BEE T ARMYWORM (Spodoptera exigua) - NORTH CAROLINA - Larvae defoliated soybeans over Coastal Plain. Heaviest in Scotland and Robeson Counties with local spot infestations in Halifax County. Several hundred acres treated in Scotland County. Spots to 20 acres treated in Halifax County. (Bradley).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Larvae 1-2 per foot of row generally present in Gadsden County. Fall armyworm not observed previously on soybeans in area. (Fla. Coop. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Adults and larvae damaged several thousand acres of soybeans in Cherokee, Colbert, and Madison Counties. Controls applied to 2,000+ acres in Cherokee County. Adults and larvae 20-40 per plant. Defoliated 40 percent of 10-acre field in Colbert County. (Hall et al.).

MARYLAND - Larvae on Eastern Shore and southern area ranged 2-15 per linear foot of row week of August 22. Damage light to moderate (2-15 percent defoliation). Adults of first generation and first and second instars predominate. Pediobius foveolatus (a eulophid wasp) parasitism increased in all areas. About 70 percent of fields surveyed had parasite activity. (U. Md., Ent. Dept.). INDIANA - Adults of third, and some fourth, generation moved to more recently planted soybean fields. Present north to U.S. Highway 40 except in extreme western edge of State. (Meyer).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Heaviest on soybeans in south area week of August 22. Ranged 12.0-15.3 per 25 sweeps in Franklin, Lincoln, and Jefferson Davis Counties. Ranged 3.0-8.6 per 25 sweeps in Lawrence, Walthall, and Marion Counties. Very light in Delta counties. Averages by county: Prentiss 0.6, Oktibbeha 8, Carroll 1.75, and Montgomery 2.25. (Robinson).

PEANUTS

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - FLORIDA - Heavy in 7-10 percent of peanuts surveyed in Jackson County August 21. (Linker). ALABAMA - Larvae damaged peanuts in few fields in Houston County. (Stephenson).

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Infested peanut terminals averaged 30 percent in Harmon County. Damage light in Hughes County. (Okla. Coop. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Heavy on peanuts in Bryan County. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Light to heavy in Rolling Plains area. Moderate to heavy in San Angelo area. (Boring, McWhorter). OKLAHOMA - Punctured squares up to 100 percent in untreated cotton in Caddo, Washita, Beckham, and Custer Counties; slightly lighter in many treated fields. Averaged 12 percent in Grady County. Up to 47 percent in most treated fields and 85 percent in isolated untreated fields in Jackson, Harmon, Tillman, Greer, and Kiowa Counties. (Okla. Coop. Sur.).

LOUISIANA - Boll weevil increased in infested fields week ending August 26. Continued increase will damage bolls if not controlled. (Tynes). MISSISSIPPI - Punctured-square counts indicate fair to good control statewide week ending August 22; average percentage by county: Copiah 20 percent in 500 acres, Rankin 8 in 6,000 acres,

Scott 14 in 6 fields, Holmes 3 in 600 acres, Lawrence 15 in one field, and Noxubee 10 in 2,000 acres. (Robinson). ALABAMA - Numbers and damage by boll weevil still high on cotton statewide. (Dean et al.). TENNESSEE - Continued very serious damage throughout western area. Punctured squares ranged from 2 to 50 percent in Lake County to 100 percent in southern tier of counties. Scarcity of squares in southern counties; young bolls punctured. Up to 14 adults in Hardeman County blooms. Migration to less infested fields very heavy; controls difficult. Rank cotton hindered ground controls. (Locke, Patrick). Properly applied controls effective in mid-State area. Counts lighter than in western area. Cotton "cutting out" in western counties. (Cagle).

BOLLWORMS (*Heliothis* spp.) - TEXAS - *H. zea* (bollworm) light to moderate in Rolling Plains, San Angelo, and Lubbock areas. Moderate to heavy in Hale County. (Boring et al.). OKLAHOMA - Squares damaged by *Heliothis* spp. ranged 5-15 percent in untreated cotton and up to 40 percent in treated cotton in Caddo, Washita, Beckham, and Custer Counties; *H. virescens* (tobacco budworm) comprised 70-100 percent of population in treated fields. Damaged squares averaged 22 percent in Grady County. Egg laying increased in Jackson, Harmon, Tillman, Greer, and Kiowa Counties. Eggs ranged 4-32 per 100 terminals, larvae 0-12 per 100 terminals, and damaged squares ranged 0-10 percent. (Okla. Coop. Sur.). LOUISIANA - Egg laying by *H. virescens* and *H. zea* still moderate throughout State week ending August 26. Heavier than earlier in northeast area. (Tynes).

ARKANSAS - Percentage of *H. virescens* in *Heliothis* population increased: 72.5 compared with 28, 21, and 14, respectively, past 3 weeks. (Boyer). MISSISSIPPI - Controls very difficult in some cotton fields week ending August 22, but generally controls good. Average percentage of larvae by county: Copiah 0-8 percent in 500 acres, Scott 4-9 in 6 fields, Rankin 0-8 in 6,000 acres, and Noxubee 0-3 in 2,000 acres. Eggs increased in Noxubee County, 2-34 percent of terminals infested. (Robinson). TENNESSEE - All larval instars of *Heliothis* spp. in most cotton fields in southwest counties. Damage heavy; controls very erratic. Larvae below control levels in northwest counties. Properly applied controls effective in central counties. (Locke et al.).

FALL ARMYWORM (*Spodoptera frugiperda*) - ALABAMA - Economic in squares and bolls in several cotton fields in Russell, Lee, and Autauga Counties; most unusual. (Williams et al.).

COTTON LEAFPERFORATOR (*Bucculatrix thurberiella*) - CALIFORNIA - Moth activity increased on cotton in Imperial County; controls applied. (Cal. Coop. Rpt.).

BANDEDWING WHITEFLY (*Trialeurodes abutilonea*) - ALABAMA - Increased statewide. Economic damage in few fields in Cherokee County. (Dean et al.).

COTTON APHID (*Aphis gossypii*) - OKLAHOMA - Heavy in spots of isolated cotton in southwest counties. (Okla. Coop. Sur.).

MISCELLANEOUS FIELD CROPS

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Increased in light traps in most High Plains and Panhandle counties. Sunflowers damaged at Rolling Plains site. (McIntyre, Boring). OKLAHOMA - Light trap counts by county: Tillman 435 and Greer 3,517. (Okla. Coop. Sur.).

SUNFLOWER BEETLE (Zygogramma exclamationis) - TEXAS - Damaged foliage on 70 percent of sunflowers in Rolling Plains area. (Boring).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OREGON - Damage heavy in field of hops in Grants Pass, Josephine County. (Berry).

POTATOES, TOMATOES, PEPPERS

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Moths steadily increased past 14 days in Accomac and Northampton Counties. Severe outbreaks on various crops on entire Eastern Shore. Severe on peppers, tomatoes, and fall potatoes. Polyhedrosis virus widespread. (Hofmaster).

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - First and second instars entered ripe pepper fruits. (Burbutis). MAINE - Responsible for most hole damage in tomatoes this year. (Gall).

FALL ARMYWORM (Spodoptera frugiperda) - DELAWARE - Egg masses 2-3 per 3 pepper plants. (Burbutis).

GREEN PEACH APHID (Myzus persicae) - NEVADA - Averaged 100+ per sweep on 1,280 acres of potatoes in Eden Valley, Humboldt County. (Rowe). COLORADO - Alate forms moved into potato fields in central San Luis Valley. (Nelson). WISCONSIN - Heavy rains and active spraying lessened severity on potatoes in central district. (Wis. Ins. Sur.).

BEANS AND PEAS

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Moths steadily increased past 14 days in Accomac and Northampton Counties. Severe outbreaks on various crops on entire Eastern Shore. Severe on snap beans and lima beans. Polyhedrosis virus widespread. (Hofmaster).

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - DELAWARE - Larvae infested lima bean fields statewide. (Burbutis).

GREEN CLOVERWORM (Plathypena scabra) - WISCONSIN - Larvae less than 3 per row foot of dry beans in Trempealeau and Dunn Counties; except in one Dunn County field where counts averaged 5 per row foot with maximum of 8 per row foot in parts of field. (Wis. Ins. Sur.).

COLE CROPS

CABBAGE LOOPER (*Trichoplusia ni*) - VIRGINIA - Moths steadily increased past 14 days in Accomac and Northampton Counties. Severe outbreaks on various crops on entire Eastern Shore. Severe on all cole crops. Untreated broccoli at Painter averaged approximately 30 larvae per plant. Polyhedrosis virus widespread throughout entire Eastern Shore. (Hofmaster). MARYLAND - Larvae heavy on cabbage and broccoli on Eastern Shore. Ranged 3-4 larvae per plant in unsprayed fields week ending August 22. (U. Md., Ent. Dept.). WISCONSIN - Mostly large larvae 1-3 per head in fields checked in Racine, Kenosha, Columbia, and Outagamie Counties. Heavy flight next 14-21 days. Moth catches in pheromone traps for week ending August 25 by county: Columbia 9, Outagamie 118 in north and 18 in south, Racine 9. Counts down more than half from previous week; increase expected in 7-14 days. (Wis. Ins. Sur.).

IMPORTED CABBAGEWORM (*Pieris rapae*) - WISCONSIN - Late instars, chrysalids, and adults dominant stages in Columbia County. All larval sizes in most cabbage areas averaged 1-2 per head. (Wis. Ins. Sur.).

CUCURBITS

CABBAGE LOOPER (*Trichoplusia ni*) - VIRGINIA - Moths steadily increased past 14 days in Accomac and Northampton Counties. Severe outbreaks on various crops on entire Eastern Shore. Severe on cucumbers. Polyhedrosis virus widespread throughout entire Eastern Shore. (Hofmaster).

GENERAL VEGETABLES

SWEETPOTATO WEEVIL (*Cylas formicarius elegantulus*) - FLORIDA - Heavily damaged some fields of Cuban sweetpotato at Homestead, Dade County. (Fla. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - NEW MEXICO - Average number per pheromone trap by county: Bernalillo 11.1, Grant 9, Los Alamos 1, Otero 25.3, Rio Arriba 2.2, Sandoval 9.2, San Juan 20.3, Santa Fe 9.5, and Valencia 20. (N.M. Coop. Rpt.). OREGON - Damage to unsprayed apples and pears in Jackson County much more severe than in previous years. Infestations of 90 percent common in unsprayed orchards. (Berry).

APPLE MAGGOT (Rhagoletis pomonella) - MASSACHUSETTS - Increased at all test areas in Amherst and Belchertown, Hampshire County, and Shelburne Falls, Franklin County, week ending August 22. (Drozdowski).

ROSY APPLE APHID (Dysaphis plantaginea) - SOUTH CAROLINA - Collected on apple trees in Kershaw County August 20, 1975. Collected and determined by D.R. Pollet. This is a new county record. (McCaskill).

PEARSLUG (Caliroa cerasi) - NEW MEXICO - Moderate on pears in Valencia and Bernalillo Counties. Heavy on ornamental plum in Valencia County. (N.M. Coop. Rpt.).

PECAN WEEVIL (Curculio caryae) - TEXAS - Light to moderate on pecans in San Angelo area, moderate to heavy in Rolling Plains. (McWhorter, Boring). OKLAHOMA - Moderate to heavy in Jefferson County. Moderate in Comanche County. Heavy adult emergence in Love County; up to 300 per tree. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Heavy on pecans in Sterling County; light in eastern Uvalde area. (McWhorter, Stewart). OKLAHOMA - Heavy on pecan and other trees in northeast, east-central, and southeast areas. (Okla. Coop. Sur.). MISSOURI - Heavy on walnuts in southwest area. Many trees completely defoliated. (Munson).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Emergence counts from traps at Dundee, Washington County, indicated second peak August 25. Some growers applied second spray. (Larson).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Moderate to heavy on pecans in San Angelo area. (McWhorter). OKLAHOMA - Increased slowly, up to 7 per leaflet on pecan trees in Payne County. (Okla. Coop. Sur.).

FOREST AND SHADE TREES

AN ARMORED SCALE (Fiorinia externa) - PENNSYLVANIA - Females and eggs collected on Tsuga caroliniana (Carolina hemlock) seedlings at Wellsville, York County, August 15, 1975, by W. Blosser. Determined by J.F. Stimmel. This is a new county record. (Kim).

NORTHERN PINE WEEVIL (Pissodes approximatus) - OHIO - Heavy damage by overwintering adults of this species and Hylobius pales (pales weevil) in east-central counties. Damage heavy on mature foliage of Scotch pine and light on seedlings week ending August 22. (Balderston).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - General adults and fresh emergence holes in trunk sections of dead elm at Union, Union County, August 27 indicated partial second generation occurs in this part of State. Most of current population in larval stages and will not pupate and emerge until spring 1976. (Penrose, Brown).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEW MEXICO - Activity increased and range expanded; all stages present from southern county line to Alma, Catron County. (N.M. Coop. Rpt.). TEXAS - Moderate to heavy on shade trees in San Angelo area. (McWhorter). SOUTH CAROLINA - Collected on elm August 11, 1975, in Newberry County by H.L. Eason and in Chester County by D.C. Wylie. Determinations by D.K. Pollet. These are new county records. (McCaskill).

BRONZE BIRCH BORER (Agrilus anxius) - OREGON - Adult emergence holes in dead branches of Betula occidentalis (water birch) trees growing along Mountain Creek, 22.2 miles east of Mitchell, Wheeler County, August 15, 1975. Damaged wood observed by Westcott. Determination by R.L. Westcott. This is a new county record. (Westcott, Penrose).

MIMOSA WEBWORM (Homadaula anisocentra) - OKLAHOMA - Heavy on honeylocust in Payne and Tulsa Counties; light to moderate on mimosa in Garvin County. (Okla. Coop. Sur.).

TUPELO LEAFMINER (Antispila nysaefoliella) - OHIO - Larvae heavily damaged blackgum trees in Bay Village, Cleveland, Cuyahoga County, week of August 22. (Wells).

LOCUST TWIG BORER (Ecdytolopha insiticiana) - WEST VIRGINIA - Larval damage light to 5 acres of locust at Keyser, Mineral County, August 15, 1975. Collected by M. Park. Determined by A.R. Miller. This is a new county record. (Miller).

ORANGESTRIPED OAKWORM (Anisota senatoria) - NEW YORK - White oak defoliation heavy in Jefferson County. (Rockwell).

AN ARMORED SCALE (Diaspidiotus liquidambaris) - FLORIDA - Collected on Liquidambar styraciflua (sweetgum) in nursery at Wacissa, Hamilton County, by A.E. Graham August 6, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

ELM LEAF APHID (Tinocallis ulmifolii) - CALIFORNIA - Very heavy, 100-200 per elm leaf, on street trees at Sacramento, Sacramento County. Honeydew covered street, sidewalk, and parked cars. (Cal. Coop. Rpt.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 1,207 cases reported from continental U.S. during August 10-23 as follows: Texas 1,111; New Mexico 39; Arizona 57. Total of 882 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 452 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 397,225,800 as follows: Texas 348,094,800; New Mexico 11,025,000; Arizona 38,106,000. Total of 4,014,000 sterile flies released within Barrier of Mexico and 4,000,000 released south of Barrier. (Vet. Serv.).

FACE FLY (Musca autumnalis) - ARKANSAS - Collected on dairy cattle at Fort Smith, Sebastian County, August 24, 1975, and at Booneville, Logan County, August 27, by W.P. Boyer. Determined by E.P. Rouse. These are new county records. Results of survey indicate no movement into southwest area of State. (Boyer).

HORN FLY (Haematobia irritans) - TEXAS - Moderate to heavy on livestock in San Angelo and Rolling Plains areas. (McWhorter, Boring). OKLAHOMA - Ranged 400-600 per head on cattle in Payne County. Heavy in Garvin and Comanche Counties. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 5 per head on Payne County dairy cattle. (Okla. Coop. Sur.).

MOSQUITOES - ALABAMA - Culex pipiens quinquefasciatus and other species heavy for past 60 days statewide due to excessive rainfall. (McQueen). OHIO - Light trap catches at Worthington, Franklin County, averaged 14.5 adults per trap per night. Aedes trivittatus, A. triseriatus, A. vexans, Culex pipiens, and Anopheles punctipennis predominant. (Ohio Dept. Health). WISCONSIN - Increased due to recent rains. Humans severely annoyed in Chippewa County. Mosquito populations and biting should increase significantly next 14 days. (Wis. Ins. Sur.). MINNESOTA - Trap collections decreased, Aedes vexans and Culex tarsalis predominant. Bite collections decreased with A. vexans and A. stimulans predominant. Light to moderate brood present in breeding sites; treatments to prevent emergence underway. (Minn. Pest Rpt.).

AN ARGASID TICK (Ornithodoros coriaceus) - CALIFORNIA - About 40 resting or sleeping fire fighters bitten at Willow Creek, Mendocino National Forest, Mendocino County. Some fire fighters bitten 2-3 times; many hospitalized. (Cal. Coop. Rpt.).

HOUSEHOLDS AND STRUCTURES

EUROPEAN EARWIG (Forficula auricularia) - INDIANA - Heavy in mobile home park near South Bend, St. Joseph County. Collected by D.L. Matthew August 6, 1975. Determined by A. Provonsa. This is a new State record. Infestation believed established for period of time. (Matthew).

STORED PRODUCTS

GRANARY WEEVIL (Sitophilus granarius) - NORTH CAROLINA - All stages infested corn in flint stage over Coastal Plain. Adults 15-25 per ear in 8 fields in Duplin County. Corn harvest underway; many clean bins infested from field. (Hunt, Federonko).

BENEFICIAL INSECTS

A BRACONID WASP (Apanteles electrae) - NEW MEXICO - Collected from Hemileuca oliviae (range caterpillar) in Lincoln County by W.P. Stephens August 8, 1975. Determined by P.M. Marsh. This is a new State record and host record. (N.M. Coop. Rpt.).

LADY BEETLES (Hippodamia spp.) - MAINE - Larvae of H. tredecim-punctata tibialis (thirteen spotted lady beetle) and H. convergens (convergent lady beetle) very common in most cornfields with previous heavy Rhopalosiphum maidis (corn leaf aphid) populations. R. maidis decreased, light in various parts of corn plant and throughout ear on kernels in some cases. (Gall).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

COMSTOCK MEALYBUG (Pseudococcus comstocki) - CALIFORNIA - Second generation almost completed at Porterville, Tulare County. Average male trap catches decreased from high of 587 to 27 compared with high of 922 in 1974 and 2,900 in 1973. This decrease due to release of 5 different parasites. Total of 221 males taken in 48 of 673 traps with 60 as highest catch for any trap at Lindsay. Commercial grove trapping indicates 21 of 28 previously infested groves still negative; other 7 groves closely associated with infested properties which could account for males. At Poplar, 15 infested properties noted on 9 blocks; entire area of 466 host plants on 1,592 properties on 121 blocks inspected at McFarland, Kern County. Total of 40 properties infested; 25 in city and 15 in buffer area around McFarland; 19 infestations treated and treatments planned for remaining infestations. Light infestations on 37 trees in 2-year-old almond orchard (36 acres) 2 miles south of McFarland, probably from infested backyard mulberry trees. First time commercial almonds found infested. (Cal. Coop. Rpt.).

GRASSHOPPERS - NEVADA - Adults of Camnula pellucida (98 percent) and Melanoplus sanguinipes and M. femurrubrum (2 percent) ranged 2-20 per square yard on 300+ acres of native meadow at Soldier Meadows, Humboldt County. Averaged 10 per square yard on about 200 acres. (Barclay, Bechtel). UTAH - Grasshoppers ranged 15-20 per square yard in Flat Valley and 10-15 in Jap Valley, Sanpete County. Scattered light to moderate in Washington County. Light to moderate scattered field and garden infestations in Davis County. (Stephens et al.). NORTH DAKOTA - During adult cropland survey, marginal averages per square yard by county: Dickey and Ransom 3, Richland 2, and La Moure 5. Field averages per square yard by county: Dickey, Ransom, and Richland 2, and La Moure and Sargent 3. Melanoplus bivittatus, M. sanguinipes, and M. femurrubrum dominant. (Winks, Scholl). MINNESOTA - Adult survey complete, populations decreased from 1974. Some scattered fields with 8 or more per square yard in northwest, west-central, and central districts. (Minn. Pest Rpt.).

GYPSY MOTH (Porthetria dispar) - CALIFORNIA - Trapping in Yosemite National Park continued due to single male moth trapped in pheromone trap in 1974 on valley floor. This season 48 traps in strategic locations. To date, all 290 trap inspections negative. (Cal. Coop. Rpt.).

JAPANESE BEETLE (Popillia japonica) - MAINE - Larvae extremely heavy in golf course at Portland, Cumberland County, week of August 25. Earlier adults moderately damaged foliage of various plants and trees. Materials for treatment lacking or scarce. (Gall).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - One 10-day-old male collected from Steiner trap on orange tree at National City, San Diego County, by B. Wood September 2, 1975. Detected about 11.5 miles south of the epicenter of the 1974 infestation. Determined by T. Seenó; confirmed by M. Wasbauer. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Five additional males collected in gossypure traps in Pahrump Valley, Nye County. (Joy).

WHITEFRINGED BEETLES (Graphognathus spp.) - MISSISSIPPI - Averaged 2.3 per 25 sweeps in Lawrence County and 8.3 per 25 sweeps in Jefferson Davis County week ending August 22. (Smith).

HAWAII INSECT REPORT

New State Record - Four specimens of a POMPILID WASP (Evagetes padrinus padrinus) collected from pit traps in sugarcane field at Ewa, Oahu, by A.K. Ota in March 1975. Determined by H.E. Evans. (Beardsley et al.).

General Vegetables - Larvae of LEEK MOTH (Acrolepia assectella) and BEET ARMYWORM (Spodoptera exigua) moderate to heavy in 2,000 square feet of green onions at Pearl City, Oahu, and in 100 square feet of same crop at Waikapu, Maui. At Pearl City, 80+ percent of plants infested, 100 percent infested at Waikapu. Damage light to moderate with 5-20 percent of leaves damaged. Light in backyard broccoli plantings at Pearl City. (Miyahira, Maui). SOUTHERN GREEN STINK BUG (Nezara viridula) adults and immatures moderately damaged 1,000 square feet of yardlong beans at Waikapu, Maui. At least 25 percent of bean pods damaged. About 75 percent parasitized by Trichopoda spp. (tachinid parasites). (Miyahira). CABBAGE WEBWORM (Hellula rogatalis) moderate to heavy in 0.5 acre of mustard cabbage at Pearl City. Larvae 1-4 in infested heads. At least 25 percent of plants infested. Damage severe, up to 40 percent of heads unmarketable. Light in small plantings of nearby daikon. GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) adults and eggs heavy in backyard eggplant and tomato plantings at Pearl City. Infestation estimated at 20-35 adults per square inch of leaf surface; egg counts much higher. Immatures noted on older leaves in eggplant plots. (Mau).

Fruits and Ornamentals - BANANA SKIPPER (Erionota thrax) light in 0.125 acre of banana at Waikapu, Maui. Only 0.01 percent of trees infested compared with 0.20 percent at same location 3 months earlier. All sampled larvae parasitized by Apanteles erionotae (a braconid wasp) compared with 44.8 percent in July and 33 percent in June. (Miyahira). COFFEE BEAN WEEVIL (Araecerus fasciculatus) adults heavy in Maunaloa (Canavalia cathartica) seed pods at Kaupo, Maui. All mature seed pods infested. (Ah Sam).

DETECTION

New United States Record

A DELPHACID PLANTHOPPER (Nilaparvata wolcottii Muir and Gifford) - CALIFORNIA - Specimens collected from light trap at Micke Grove, San Joaquin County, by M. Croce July 24, 1974. Determined by J. P. Kramer. Previously known from Puerto Rico. Adults had been collected in Sacramento County by H.H. Keifer in 1933 and 1936. (Cal. Coop. Rpt.).

New State Records - A BRACONID WASP (Apanteles electrae) - NEW MEXICO - Lincoln County. (p. 746). EUROPEAN EARWIG (Forficula auricularia) - INDIANA - St. Joseph County. (p. 746). A POMPILID WASP (Evagetes padrinus padrinus) - HAWAII - Oahu Island. (p. 748).

New County Records

BLACK SWALLOWTAIL (Papilio polyxenes asterius) - SOUTH CAROLINA - Collected from yard in Sumter County by M. Culp August 14, 1975. Determined by R.P. Griffin. (McCaskill).

A ZORAPTERAN (Zorotypus hubbardi) - KENTUCKY - Collected in sawdust in Pike County by V. Johnson July 29, 1975. Determined by V. Johnson, confirmed by P.H. Freytag. (Barnett).

ARMORED SCALES - Diaspidiotus liquidambaris - FLORIDA - Hamilton (p. 745). Fiorinia externa - PENNSYLVANIA - York (p. 744). BRONZE BIRCH BORER (Agrilus anxius) OREGON - Wheeler (p. 745). ELM LEAF BEETLE (Pyrrhalta luteola) SOUTH CAROLINA - Newberry, Chester (p. 745). FACE FLY (Musca autumnalis) ARKANSAS - Sebastian, Logan (p. 746). LOCUST TWIG BORER (Ecdytolopha insiticiana) WEST VIRGINIA - Mineral (p. 745). NORTHERN CORN ROOTWORM (Diabrotica longicornis) WEST VIRGINIA - Wood, Jackson (p. 738). ROSY APPLE APHID (Dysaphis plantaginea) SOUTH CAROLINA - Kershaw (p. 744).

CORRECTIONS

CEIR 25(24):488 - "PEAR PSYLLA ... PENNSYLVANIA ..." should read "PEAR PSYLLA ... WASHINGTON ..."

CEIR 25(35):727 - FACE FLY (Musca autumnalis) - INDIANA - "... note should be under HORN FLY (Haematobia irritans) - INDIANA ..." (Meyer).

Weather of the week continued from page 734.

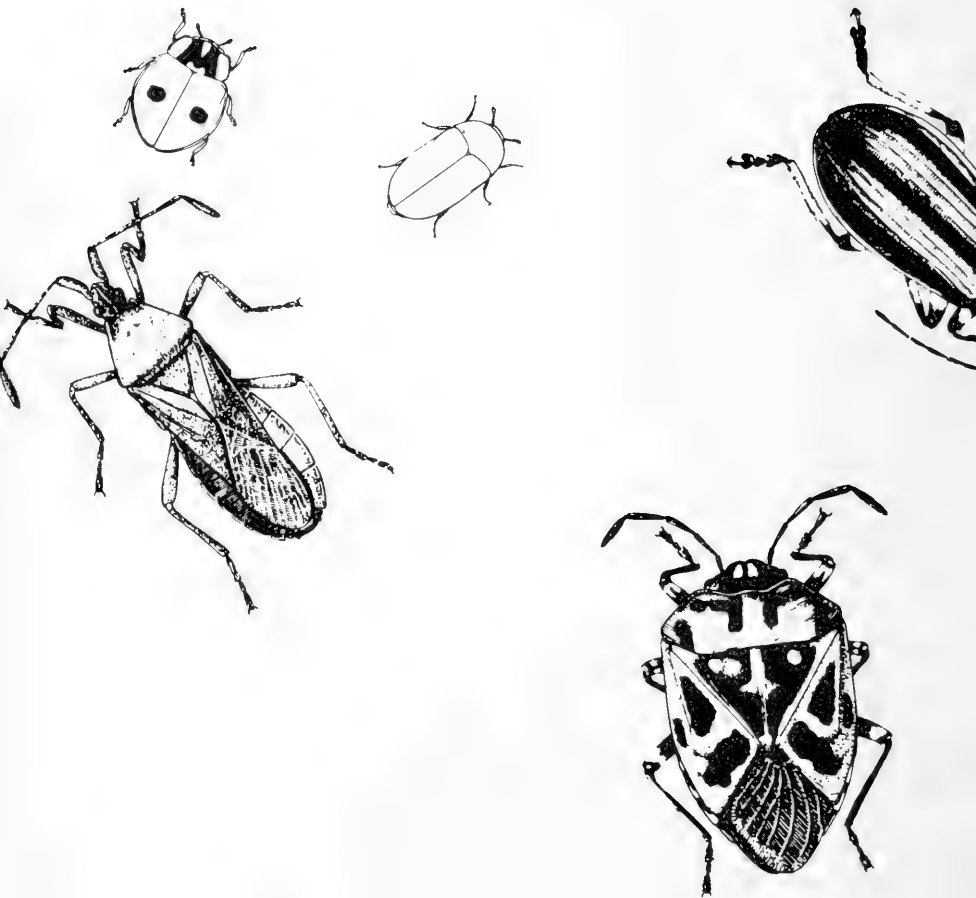
totals in central Missouri, central Illinois, and northwest Indiana scored the highest. In just a few hours 3-6 inches of rain fell near Kansas City. Extremely dry ground, however, kept flooding to a minimum. Later in the day, thunderstorms diminished but moving slowly eastward, a cold front gave rise to some good downpours along its length from the Great Lakes States into northern Texas. Other thundershower activity was scattered across the central Atlantic and gulf coasts.

The eastern Seaboard temperatures shot up rapidly on Tuesday and some records were broken--Richmond, Virginia, 99 degrees. At the same time, readings in the 70's and low 80's prevailed from the Great Lakes west into the northern Rockies. A cold front on Wednesday delivered steady general rains and cooler temperatures that continued throughout the week to the Pacific Northwest. Readings in the 50's and 60's settled along much of Pacific coast. It was even cooler, however, in parts of the north-central States where a high pressure area kept skies mostly clear and dropped early morning temperatures into the 50's and a few 40's. Central Iowa didn't welcome Wednesday's scattered but persistent rains. In less than 10 hours over 6 inches drenched Des Moines for its second wettest August on record. That's a sharp contrast to July, its driest ever with only 0.04 inches of rain. Thursday, showers gathered strength in the Midwest and from Oklahoma through the Upper Great Lakes in the Plains States. Precipitation broadened its coverage as the day progressed taking in areas from southern Texas northward through Arkansas, Missouri, Iowa, and into Lower Michigan. Locally heavy rains hit the western Great Lakes and thunderstorms covered the States bordering the Mississippi River. Friday's weather traced a pattern of thundershowers along the coasts from southern Texas through Florida to South Carolina. Triggered by a stationary front, another rainy area branched northeast from central Missouri and Iowa through the Great Lakes into western New England. Friday evening thunderstorm activity continued into early daylight hours Saturday. In Northeast and central sections, locally heavy thunderstorms dumped 1-2 inches of rain. Elsewhere, scattered thunderstorms lined the gulf coast and spread throughout the lower Mississippi Valley and parts of the south and mid-Atlantic Coast States. Readings in the 50's accompanied rains in northern New England on Saturday afternoon making it the coolest spot in the Nation. Temperatures in the 60's covered most of southern New England, northern Great Lakes and the Pacific Northwest. Around noon on Sunday, thunderstorms increased rapidly over the eastern United States from western New York and eastern Ohio to the south Atlantic and eastern gulf coasts. In south Texas, thunderstorms associated with tropical storm Caroline intensified. Four tornadoes swooped down in northwest Minnesota Sunday evening. One twister whirled a car off the road and caused two deaths.

U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

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AGRICULTURE
AGR 101



VOL. 25 NO. 37

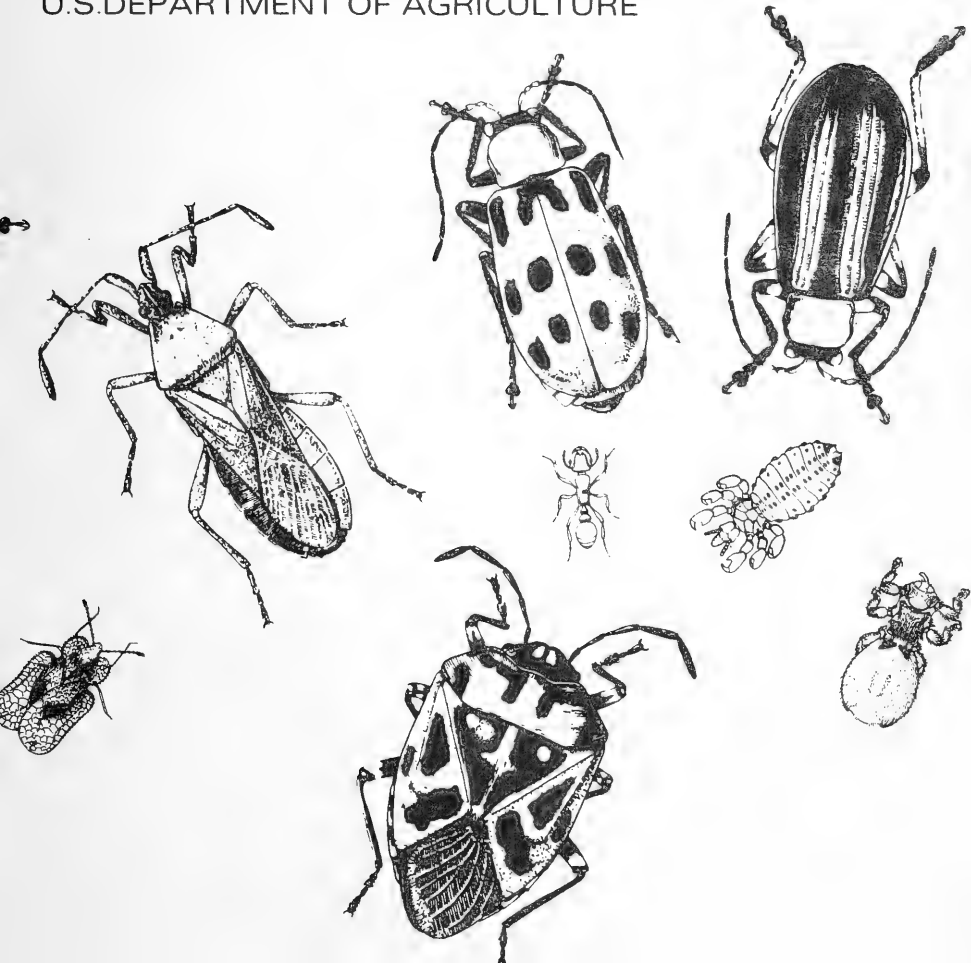
September 12, 1975

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Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

CORN EARWORM economic on corn in Kansas and Nebraska and on soybeans in Alabama and North Carolina. (p. 755).

FALL ARMYWORM heavy on sorghum, corn, and grasses in Florida, Mississippi, Alabama, and North Carolina. (p. 756).

EUROPEAN CORN BORER heavy on corn in Wisconsin and Nebraska. (p. 756).

Treatments required for VELVETBEAN CATERPILLAR on soybeans in Alabama and Florida. (p. 757).

BOLL WEEVIL continued heavy in Texas, Oklahoma, and Alabama. (pp. 757-758).

FALL WEBWORM heavy on pecan and other nut trees in parts of Texas, Oklahoma, Mississippi, Alabama, Missouri, and North Carolina. (p. 760).

Detection

FACE FLY found for the first time in Louisiana. (p. 761).

For new county and parish records, see page 759.

Reports in this issue are for the week ending September 5 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 7

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Although the week's weather opened on a summery note, fall was soon in the air. High pressure systems along the Canadian border pulled cool air into the Northwest and Northeast. Unusually high temperatures in the Midwest returned to near normal levels. Precipitation amounts across the Nation were generally light.

PRECIPITATION AND TEMPERATURE: Most of the Nation celebrated favorable holiday weather on Monday. Sunshine and seasonally high temperatures prevailed from the Ohio and Mississippi Valleys through the Rockies. In the central Plains, skies cleared and temperatures shot up into the 90's and low 100's. The west coast fared under sunny mild conditions. Temperatures in the 70's with a few 60's in the mountains spread from northern parts of the Intermountain Region and Rockies across the northern Plains into the Upper Great Lakes. As usual the mercury in the Desert Southwest climbed above 100 degrees. In other areas showers and thunderstorms dampened festivities. Precipitation flowed a course that took it from the lower Great Lakes into northwest New England and through the Atlantic Coast States and Florida. Scattered activity fell along the gulf coast. Drifting slowly eastward, remnants of hurricane Caroline pushed more heavy rains into southern Texas where some flooding occurred. Scattered thundershowers greeted the extreme Northeast and Southeast on Tuesday. In west-central Minnesota, severe storms churned up a tornado that caused some damage. Isolated thunderstorms hit the Southern Plateau and the lower half of the Rockies. A few showers lingered along the New England coast. Soaring afternoon temperatures in the central Plains and middle Mississippi Valley sharply contrasted occasional frosts in the Colorado Rockies. At 99 degrees, Omaha, Nebraska, broke its record daily high, as did Memphis, Tennessee, with 98 degrees. In the cooler North, however, 60's ringed the Canadian border and stretched into northern sections of Washington, Idaho, and Montana. Meanwhile, warm 90's

Weather of the week continued on page 764.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - MISSISSIPPI - Light infestations began on Bermuda grass lawns in Oktibbeha County week ending August 29. (Robinson). WISCONSIN - Moths increased in blacklight traps, but larvae not expected to be problem due to lateness of flight and decreasing degree-day accumulations prolonging larval development. (Wis. Ins. Sur.).

BEEF LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Counts of one per 100 sweeps in sugar beets planted for spring harvest at Arbuckle, Williams, and Colusa, Colusa County. No curly top. Light on roadside Russian-thistle in same area. Up to 6 per sweep of roadside weed hosts around Livingston and Stevinson, Merced County. Russian-thistle acreage increased at Avenal and Kettleman City, Kings County. Counts very light for time of year except for field north of Kettleman City, with 50-100 hoppers per sweep. Less than one per sweep in all other areas. (Cal. Coop. Rpt.).

CORN EARWORM (*Heliothis zea*) - UTAH - Very light on home-grown and canning sweet corn in Box Elder, Cache, Salt Lake, Davis, and Tooele Counties. (Burningham et al.). TEXAS - Light to moderate in sorghum heads in isolated fields in Martin County. Moderate in Taylor County. (Neeb, McWhorter). OKLAHOMA - Averaged one per head on grain sorghum checked in Caddo, Washita, Beckham, and Custer Counties and ranged 1-2 per head in Tillman and Jackson Counties. Eggs averaged 2 per plant on soybeans in Ottawa County. (Okla. Coop. Sur.). KANSAS - Caused serious losses in commercial sweet corn in Johnson County. Larval counts (first instar to half grown) averaged 7 per ear in one field. (Bell). NEBRASKA - Infested 50 percent of corn ears in fields surveyed in Antelope County. (Witkowski). WISCONSIN - Moth catches in blacklight traps and larvae on sweet corn increased. Controls effective. Many larvae half grown. (Wis. Ins. Sur.).

ALABAMA - Corn earworm larvae economic, 4-6 per 6 feet of row, in several hundred acres of soybeans on several farms in Macon and Bullock Counties. (Henderson et al.). MISSISSIPPI - Infested all ears of late-planted corn grown for silage in Noxubee County week ending August 29. (Robinson). NORTH CAROLINA - Sharp larval decline on soybeans south of Johnston, Wayne, and Lenoir Counties. Remained above threshold in many fields in northern half of Coastal Plain. Larvae 90 percent fifth and sixth instars in 15 Wilson, Edgecombe, Pitt, Martin, and Halifax County fields; many larvae pupated. (Hunt). MARYLAND - Larvae continued to increase in most unsprayed lima beans on Eastern Shore week ending August 29. Larvae on soybeans on Eastern Shore and southern area averaged less than one per 20 feet of row. Heaviest damage in late season processing sweet corn ranged 5-20 percent on Eastern Shore. Currently adults 18-45 per night in Wicomico, Caroline, Kent, Somerset, St. Marys, and Charles Counties. Some pod feeding in soybeans but injury very light to date. (U. Md., Ent. Dept.). VIRGINIA - Averaged 9.3 larvae per 30 row feet in 21 soybean fields (744 acres) in Charles City County. One field at treatment level. Larvae 3.4 per 30 row feet in 55 fields in Westmoreland County. Pupation began in Isle of Wight County. Sprays applied in Northampton and southern Westmoreland Counties. (Allen).

GREENBUG (*Schizaphis graminum*) - TEXAS - Parasitism effective in Hale County. Light in isolated grain sorghum fields in Trans-Pecos area. Heavy in San Angelo area. (Latham et al.). NORTH DAKOTA - Total loss to Sudan grass near Colfax, Richland County. (Schulte, McBride).

POTATO LEAFHOPPER (*Empoasca fabae*) - MARYLAND - Heavy on unsprayed lima beans and snap beans statewide week ending August 29. (U. Md., Ent. Dept.). WISCONSIN - Numerous on beans in Winnebago County. (Wis. Ins. Sur.).

CORN, SORGHUM, SUGARCANE

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - Very heavy, up to 3 larvae per plant, on 99 percent of untreated late-planted sorghum in 7 fields (300 acres) in Levy County. (Fla. Coop. Sur.). MISSISSIPPI - Up to 5 larvae per stalk on late-planted sorghum and corn grown for silage in Noxubee, Lowndes, Hinds, and Neshoba Counties. (Mitchell). ALABAMA - Larvae on all late corn in Tuscaloosa County; completely destroyed 40-acre field. Damaged lawn grasses at several homes; controls applied. (Pitts, Pigott). NORTH CAROLINA - Continued severe damage to localized cornfields across State. Averaged one larva per plant with 25 percent of plants completely stripped in 15-acre cornfield in Scotland County. Damaged sorghum and Bermuda grass particularly in Piedmont and western Coastal Plain counties. (Hunt).

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - KENTUCKY - Percent corn infested by county (and borers per 100 plants): Union 30.4 (18.0), Henderson 18.4 (12.0), Daviess 44.0 (42.4), Webster 49.6 (46.0), McLean 28.7 (11.0), Muhlenberg 30.8 (21.2), Ohio 8.8 (4.8). (Barnett). OHIO - Averaged 17 percent infested corn plants in east-central counties; larvae 20 per 100 plants. (Lewis). WISCONSIN - Heavy on sweet corn. Infested up to 75 percent of ears in treated fields in central and south-central counties; half of larvae on silks and half on ear tips. Larvae in first to fourth instars; majority in second and third. Fresh egg masses on 8 percent of plants near Alma Center, Jackson County. Many female moths in blacklight traps heavy with eggs. (Wis. Ins. Sur.). NEBRASKA - Second brood on corn severe in most areas of northeast district. Larvae 0.5-0.75 inch long. Infested all plants in all fields surveyed in Cedar County. (Witkowski).

WESTERN CORN ROOTWORM (*Diabrotica virgifera*) - UTAH - Adults in Cache County more numerous in northern Cache Valley than in southern portion, affected 400 acres. (Burtenshaw). NEBRASKA - Economic in 2 cornfields in Chase and Perkins Counties; larvae nearly full grown. Infested 80 percent of ears in Antelope County. (Campbell, Witkowski).

SORGHUM MIDGE (*Contarinia sorghicola*) - TEXAS - Light to moderate on sorghum in isolated fields in Glasscock County. Moderate to heavy in San Angelo and Rolling Plains. (Neeb et al.). OKLAHOMA - Light to moderate on grain sorghum in Caddo, Washita, Beckham, and Custer Counties. Light in Jackson, Harmon, Greer, Tillman, and Kiowa Counties; isolated fields with 5-7 per head. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

A SOD WEBWORM (Crambus trisectus) - MARYLAND - Larvae, 2-18 per square foot, heavily damaged 600 acres of commercial sod in Charles, Queen Annes, and Montgomery Counties. (U. Md., Ent. Dept.).

FORAGE LEGUMES

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - Ranged 100-200 per sweep on alfalfa north of Grangeville, Idaho County. Defoliation widespread in uncut alfalfa. (Fisher).

PEA APHID (Acyrtosiphon pisum) - OHIO - Averages per sweep of forage legumes by county: Harrison 4.4, Jefferson 1.0, Carroll 60.0, Columbiana 31.0, Stark 29.0, and Mahoning 3.5. (Lewis).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Leaf loss excessive on 100,000+ acres of soybeans throughout much of southwest area. Pseudoplusia includens (soybean looper) caused 35-50 percent leaf loss. Controls applied. (Henderson et al.). FLORIDA - A. gemmatalis economic, 4-6 larvae per foot of row, on soybeans in western Alachua County; required treatment. Still heavy in most northwestern areas. (Fla. Coop. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - MISSISSIPPI - Heavy in maturing soybeans week ending August 29. Larval averages per foot of row by county: Lauderdale one in 20 acres, Jones 1.6 in 80 acres, Covington 5.2 in 30 acres, Lawrence 4.3 in 40 acres. (Manuel, Smith). MARYLAND - Feeding injury increased slightly over last period. Larvae in most heavily infested fields ranged 3-4 per foot of row. Most fields had 1-8 larvae per 10 feet of row. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Continued damage in several thousand acres of soybeans in Limestone, Madison, Jackson, and Cherokee Counties. (Cain et al.). VIRGINIA - Adults averaged 13.1 per 30 row feet in 55 soybean fields (1,200 acres) in Westmoreland County. Defoliation averaged 4.6 percent. One field needed treatment. Adults averaged 0.14 per 30 row feet in 21 fields (744 acres) in Charles City County. Defoliation averaged about 4.5 percent. Damage noticeable in many fields in Isle of Wight County; economic in 2 of 8 fields. (Allen). MARYLAND - Damage increased in unsprayed soybeans. Damage on Eastern Shore less severe than in 1974 at this time. Parasitism rates of Pediobius foveolatus (a eulophid wasp) rapidly increased in all areas on Eastern Shore and southern area. Increased 30 percent over past period in several fields in pest management programs. (U. Md., Ent. Dept.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Increased on cotton in Rolling Plains. Light to heavy in San Angelo and Trans-Pecos areas. (Boring et al.). OKLAHOMA - Punctured cotton squares up to 95 percent in McClain, Caddo, and Washita Counties and 10-40 percent in most fields in southwest counties. Averaged 20 percent in Grady

County. (Okla. Coop. Sur.). LOUISIANA - Squares damaged by boll weevil continued to rise in many fields. (Tynes). ARKANSAS - Heavier than in several years. Heavier in northern than in southern area as usual. Boll feeding principal threat at this time. (Boyer). MISSISSIPPI - Larvae and adults heavy in most hill cotton week ending August 29. Up to 60 (averaged 15) percent punctured squares in some fields. (Robinson). ALABAMA - "Hatch-outs" and damage continued heavy throughout State. Controls effective with past 10 days of dry, hot weather. (McQueen).

BOLLWORMS (Heliothis spp.) - TEXAS - H. zea (bollworm) did not increase on cotton in Rolling Plains area last period as expected. Continued moderate to heavy in Hale County. Activity slight except in few young fields and in some green spots of fields in south-central area. Moderate in Taylor, Nolan, and Concho Counties. Light to moderate in Trans-Pecos area. H. virescens (tobacco budworm) light to moderate in Trans-Pecos and San Angelo areas. (Neeb et al.). OKLAHOMA - Heliothis spp. eggs 2-38 per 100 cotton terminals, larvae 0-24 per 100 terminals, and damaged squares 4-18 percent in Harmon, Green, Jackson, Tillman, and Kiowa Counties. Larvae up to 60 per 100 terminals in McClain County. Damaged squares averaged 19 percent in Grady County. (Okla. Coop. Sur.). LOUISIANA - Egg laying by H. virescens and H. zea increased sharply week ending August 29. Eggs per 100 terminals by parish: Natchitoches 900, Bossier 200, and Tensas 80. Egg numbers varied from field to field. (Tynes). MISSISSIPPI - H. zea and H. virescens caused abandonment of few fields in Counties in Delta and north Mississippi Hill. Egg counts range from 0-10 percent on old mature cotton up to 100 percent in terminals of green cotton. (Robinson). ALABAMA - Moth flights increased past 7-10 days with H. virescens predominant. Controls difficult past 10 days in many counties. (McQueen).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - MISSISSIPPI - Building up on green cotton; infested 50-60 percent of terminals in some fields in Tunica, Grenada, and Noxubee Counties. (Robinson).

COTTON APHID (Aphis gossypii) - TEXAS - Light to heavy on cotton in Pecos Valley area. (Neeb).

MISCELLANEOUS FIELD CROPS

SUNFLOWER BEETLE (Zygogramma exclamationis) - TEXAS - Light to moderate on sunflowers in Hardeman and Wichita Counties. (Boring).

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Increased in light traps at Lockett, Wilbarger County. (Boring). OKLAHOMA - Light trap counts by county: Greer 2,261 and Tillman 361. (Okla. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

VARIEGATED CUTWORM (Peridroma saucia) - UTAH - Damaged large acreage of potatoes in general area of Enterprise, Washington County, and north into Iron County. (Huber, Roberts).

COLE CROPS

CABBAGE LOOPER (*Trichoplusia ni*) - KANSAS - Heavy in commercial collards field in Johnson County. (Bell). WISCONSIN - Populations consistent and hard to control except where controls regularly applied. Larvae 1-3 per head in southeastern counties. Most larvae more than half grown although cabbage field in Kenosha County contained newly emerged larvae, with up to 5 larvae per head. Larvae fewer than one per head, generally more than half grown, in Columbia and Outagamie Counties. Moth catches in pheromone traps week ending September 1: Outagamie County - 25 (average of 2 trapping sites) and Racine County - 27. (Wis. Ins. Sur.).

HAWAII INSECT REPORT

General Vegetables - TOMATO PINWORM (*Keiferia lycopersicella*) infested less than 5 percent of terminals in 3 acres of tomatoes at Pulehu, Maui; light on fruit. Moderate on foliage in 2-3 acres of relatively young plants; infested at least 30 percent of terminals. Several plants heavily infested; 70-100 percent of leaves bore infested leaflets. (Tsuda, Mau). CARMINE SPIDER MITE (*Tetranychus cinnabarinus*) light, 0-10, per square inch, in 1.5 acres of bell peppers and in one acre of eggplant at Lualualei, Oahu. Damage light to peppers but moderate on eggplant foliage. Light counts on 1,200 square feet of parsley at Waianae, Oahu. Foliar damage severe; leaves unmarketable. (Sanidad). All stages of CHRYSANTHEMUM THRIPS (*Thrips nigropilosus*) heavy in small plantings of lettuce, chicory, and endive at St. Louis Heights, Oahu. Did not infest nearby plantings of composites and crucifers. This thrips not common in Hawaii. (Sakimura).

DETECTION

New State Record - FACE FLY (*Musca autumnalis*) - LOUISIANA - East Carroll Parish. (p. 761).

New County and Parish Records - CAMPHOR SCALE (*Pseudaonidia duplex*) FLORIDA - Levy (p. 761). BRONZE BIRCH BORER (*Agrius anxius*) OREGON - Baker, Deschutes, Union, Wallowa (pp. 760-761). FACE FLY (*Musca autumnalis*) LOUISIANA - West Carroll (p. 761). SMALLER EUROPEAN ELM BARK BEETLE (*Scolytus multistriatus*) NORTH DAKOTA - Burleigh, Morton (p. 760).

CORRECTIONS

CEIR 25(35):728 - JAPANESE BEETLE for GEORGIA and INDIANA, "... Determined by E.L. Todd ..." should read "... Determined by J.M. Kingsolver ..."

DECIDUOUS FRUITS AND NUTS

WOOLLY APPLE APHID (Eriosoma lanigerum) - OKLAHOMA - Damaged apple trees in Caddo County. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Light on pecans in Rolling Plains area; moderate to heavy in San Angelo area. (Boring, McWhorter). OKLAHOMA - Heavy on pecans and other trees in northeast, east-central, and southeast areas week ending August 29. (Okla. Coop. Sur.). MISSISSIPPI - Defoliated 50-60 percent of orchard and yard pecans along Mississippi River in Adams County. (Robinson). ALABAMA - Larvae heavily damaged many pecan, walnut, and shade trees in Tuscaloosa County and other western areas. (Pigott). MISSOURI - Heavy on walnuts in southwest area. Completely defoliated many trees. (Munson). NORTH CAROLINA - Damage increased on pecans across entire State past 3 years. Heaviest as usual in Coastal Plain, Piedmont, and northern mountain areas. Webs 1-10 on 30-45 percent of pecan trees. (Hunt).

PECAN WEEVIL (Curculio caryae) - TEXAS - Controls still applied in Wichita and Young Counties. Light to moderate in San Angelo area. (Boring, McWhorter). OKLAHOMA - Heavy on pecans in Kay, Love, and Comanche Counties. (Okla. Coop. Sur.). MISSISSIPPI - Emerged in Lowndes County week ending August 29. (Neel).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Light numbers on pecans increased in Throckmorton and Young Counties. Light to heavy on trees in Trans-Pecos and San Angelo areas. (Neeb et al.).

SMALL FRUITS

STRAWBERRY ROOT WEEVIL (Otiorhynchus ovatus) - IDAHO - Destroyed plants and berries near Plummer, Benewah County. (Homan).

ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - ALABAMA - Heavy on pine, arborvitae, and cedar in Jackson, De Kalb, and Tallapoosa Counties. (Dulaney et al.).

HAWTHORN LACE BUG (Corythucha cydoniae) - OKLAHOMA - Heavy on pyracantha in Payne and Caddo Counties. (Okla. Coop. Sur.).

FOREST AND SHADE TREES

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NORTH DAKOTA - Adults collected from multilure pheromone sticky traps at Bismarck, Burleigh County, and Mandan, Morton County, by W.J. Brandvik, September 3, 1975. Determined by W.J. Brandvik. These are new county records. (Brandvik).

BRONZE BIRCH BORER (Agrilus anxius) - UTAH - Damage unusually serious this season in Salt Lake, Davis, and Weber Counties. (Burningham, Knowlton). OREGON - Following 4 counties are new. Damaged about half of ornamental birch trees at Enterprise, Wallowa County, by July 15, 1975. Five percent dead. Damage at Wallowa. Flagging on 4 very large 100-year-old trees at Elgin, Union County, by July 16. Collected and determined by R.L. Penrose. Collected

from Betula occidentalis (water birch) 12 miles south of Baker, Baker County, by R.L. Westcott and R.L. Penrose August 14. Determined by R.L. Westcott. Very small population present September 3 one mile east of Sisters, Deschutes County, in apparently isolated stand of B. occidentalis. Observed and determined by R.L. Westcott. (Penrose, Westcott).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Heavy on shade trees in San Angelo area. (McWhorter). OREGON - Damage to elm trees in Bend, Deschutes County, very extensive. (Penrose).

VARIABLE OAKLEAF CATERPILLAR (Heterocampa manteo) - OKLAHOMA - First of season on blackjack oak in Tulsa County and oak in Payne County. (Okla. Coop. Sur.).

WESTERN TENT CATERPILLAR (Malacosoma californicum) - OREGON - Egg masses on commercially grown cutleaf and clump birch and hawthorn nursery stock in Washington and Multnomah Counties heavier than in 1974, particularly in untreated areas. (Sjoblom).

CAMPHOR SCALE (Pseudaonidia duplex) - FLORIDA - Collected on leaves of Cinnamomum camphora (camphortree) in nursery at Williston, Levy County, by F.J. McHenry August 27, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

MAN AND ANIMALS

FACE FLY (Musca autumnalis) - LOUISIANA - Light, averaged less than 5 per face, on 2 herds of cattle 15 miles apart at Lake Providence, East Carroll Parish. Collected by E.C. Burns, C.L. Meek, and D.G. Melancon August 11, 1975. Determined by E.C. Burns and C.L. Meek. This is a new State record. Collected from horse and calf at Oak Grove, West Carroll Parish, by C.L. Meek and R.A. Farlow August 20. Determined by C.L. Meek. This is a new parish record. MISSISSIPPI - Adults averaged 1-2 per face on 50 beef cattle in Oktibbeha County; 15 per face on 100 head in Grenada County. (Robinson). NEBRASKA - Averaged 15 per treated or untreated animal on cattle checked in southwest district. (Campbell).

HORN FLY (Haematobia irritans) - TEXAS - Lighter in south-central area. Light to moderate on cattle in Rolling Plains and Trans-Pecos areas. Moderate to heavy on cattle, sheep, and goats in San Angelo area. (Cole et al.). OKLAHOMA - Averaged 400 per head on cattle in Payne County and 200 per head in Noble County. Heavy in Garvin and Comanche Counties. (Okla. Coop. Sur.). MISSISSIPPI - Adults averaged 100+ on 100 beef cattle in Noxubee, Oktibbeha, Webster, and Grenada Counties. (Robinson). NEBRASKA - Averaged 500+ per head on untreated cattle checked in southwest district. (Campbell).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Declined somewhat, probably due to drying of breeding areas. Averaged 10 per leg on untreated cattle checked in southwest district. (Campbell).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - UTAH - Injurious numbers on range south of Avon, Cache County; for 3 years now in area east of Santaquin and east of Payson Lake, Utah County; south of Leamington, Millard County; north of Fish Lake, Sevier County; and in Jap Valley west of Gunnison, Sanpete County. (Stephens). Being carefully controlled in commercial bean fields in Box Elder County to avoid contamination during canning process. (Duncan). COLORADO - Predominantly Melanoplus bivittatus, 8-40 per square yard, from Kassler to Castle Rock, with heaviest count near Sedalia, Douglas County, on rangeland and some weedy areas. (PPQ).

GYPSY MOTH (Porthetria dispar) - MARYLAND - Male trap surveys recovered 20 positive finds in Washington County. Well established in Cecil and Harford Counties. Many positive finds in Baltimore County. Pimpla turionellae (an ichneumonid wasp) released at 2 sites: 550 parasites in Cecil County and 225 in Washington County. (U. Md., Ent. Dept.). PENNSYLVANIA - Egg masses observed August 29 in Potter County in 3 State parks and in Tioga County. (Gates). ILLINOIS - During July and August, 191 adult males trapped in one square mile area near Palos Park in Cook County. No larvae, egg masses, or females found. (Ill. Ins. Rpt.).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Traps operated all summer in 1974-infested area including National City with 10 traps per square mile. Additional traps deployed. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Light infestations in isolated cotton fields in Trans-Pecos area. (Neeb).

POTATO TUBERWORM (Phthorimaea operculella) - MICHIGAN - Found in survey of potato fields in Monroe County week ending August 23. (Hanna).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Dutch elm disease confirmed only in Sonoma and Napa Counties to date. Tree removal underway in both counties. Second-generation flight in infested area nearly over. Flight in full emergence at Sacramento, Sacramento County. One trap caught 3,700 beetles in area of Sacramento in 3 days. All elms in infested counties being checked. Surveys in many adjacent counties. All reported suspects being checked. (Cal. Coop. Rpt.).

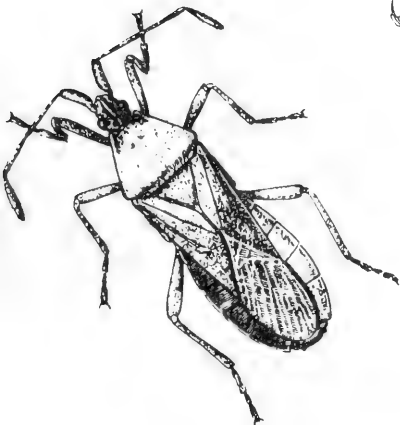
Weather of the week continued from page 754.

extended from Florida and the gulf to the lower Ohio Valley and from Texas into the southern and central Plains. Following the normal seasonal pattern, northern Rocky Mountain States and the Far West claimed most of Wednesday's sunshine and the Plains and southern States shared what remained. Best weather news came from the Midwest where high temperatures in parts of Iowa and Nebraska dropped from the upper 90's to the low 80's and mid 70's. Yesterday's 99 degree reading in Omaha skidded to a pleasant 72 degrees. In the central Plains a slow moving cold front on Wednesday produced some showers and thundershowers in Nebraska, Kansas, and Iowa. Thunderstorms in parts of Ohio and Indiana kicked up severe weather that damaged buildings and trees. The same front that delivered dry air to much of the Plains and the lower Mississippi Valley poured showers and thundershowers across middle Mississippi Valley on Thursday. The line of storms developed from Iowa into northeast Kansas and another from central Kansas into southern Missouri. The northeast quarter of the Nation, however, had a different story to tell. Rains left untouched areas from Tennessee and the upper Ohio Valley east to the Atlantic coast. More cold air made its way into the Northwest bringing the first scattered frost of the season to Montana. In contrast, temperatures in California eased upward amid warm dry air. Early Friday morning, warm humid air and readings in the 70's held from the southern Atlantic coast through the lower Mississippi Valley region. Afternoon temperatures skyrocketed in the West ranging as high as 20 degrees above normal for this time of year. The mercury topped 100 degrees in the interior of California and southwest Oregon. Even normally the cool northern Pacific coast reported temperatures in the 80's. Showers and thunderstorms concentrated mostly on the eastern half of the Nation. The frontal system set off afternoon thunderstorms from Ohio to the middle Mississippi Valley that produced some tornadoes, strong winds, and hail. High pressure centers cleared skies from the northern and central Plains to the Pacific coast and brought cool dry air to the Northwest. Signs of fall turned up over the weekend across a large section of the Nation. Nights were cool and crisp from the upper Great Lakes into the northern and central Plains. Overnight lows in the 40's and 50's ranged from the northern Plains as far south as Arkansas and Oklahoma. In the northern border States the nighttime mercury dipped into the 40's and in some spots the 30's. Dividing the Nation's weather on Saturday, a cold front stretched from New England across eastern Pennsylvania, Tennessee, and central Texas. Clouds spilled showers throughout the East, but mostly sunny mild weather prevailed elsewhere. Sunday, clouds blanketed usually sunny skies in the Southwest and moist air produced showers in Arizona and southern California.

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VOL. 25 NO. 38

September 19, 1975

Cooperative Economic Insect Report

Issued by

PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

CORN EARWORM heavy on soybeans in Oklahoma, economic on grain sorghum in parts of Kansas and Alabama. (p. 767).

SOUTHWESTERN CORN BORER damaged corn in Oklahoma, Alabama, and Kentucky. (pp. 767-768).

FALL ARMYWORM damaged corn and sorghum in North Carolina and Virginia. (p. 768).

VELVETBEAN CATERPILLAR still serious on soybeans in Florida and Alabama. (p. 769).

BOLL WEEVIL heavy in Texas, Oklahoma, Alabama, Tennessee, and South Carolina. (p. 769).

Detection

New State records include PAVEMENT ANT in Utah (p. 772) and a BRACONID WASP in New Mexico (p. 773). First record of GYPSY MOTH males in Arkansas. (p. 773).

For new county records, see page 774.

Reports in this issue are for the week ending September 12 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 14

Reprinted from Weekly Weather and Crop Bulletin Supplied by National Weather Service, NOAA.

HIGHLIGHTS: Cold air moved into north-central United States on Friday leaving record lows and some frost in its path as it headed towards the Atlantic. Unseasonable cool air blanketed the eastern two-thirds of the Nation over the weekend. Weekly temperatures in the Great Lakes region averaged as much as 10 degrees below normal for mid-September. In contrast, above normal temperatures warmed the Pacific Northwest and the West Coast States. At midweek, severe weather and heavy rains erupted in the Midwest and South

PRECIPITATION AND TEMPERATURE: Slow moving frontal systems across the Nation on Monday spelled little change from the weekend weather pattern. A morning weather check showed mostly fair conditions and cool temperatures and limited precipitation around the Nation except in the Southwest where cloudy skies and scattered thundershowers continued. In the afternoon, thundershowers lined the gulf and south Atlantic coasts. Severe weather broke out in parts of Florida, winds gusted to 80 m.p.h. in Ocala and toppled powerlines and trees near Tallahassee. A few thundershowers developed from northern New England into Pennsylvania and across parts of Illinois and Iowa, but mostly clear skies dominated the middle Atlantic States and the northwest quarter of the Nation. Monday's high pressure system over Lake Superior marked the center of a cool air mass that hovered over the north-central United States. High temperatures in the Upper Mississippi Valley and western Great Lakes areas scored only in the 50's and 60's and even stopped at 47 degrees in Marquette, Michigan. Temperatures elsewhere east of the Rockies ranged from the 70's in the north to the 80's and the 90's in the south. Cold morning air on Tuesday broke record lows in the Great Lakes region and delivered light to killing frosts to parts of southern Michigan. By noon, area temperatures moved into the 50's. Southwest Arizona reigned as the warmest spot in the Nation, Yuma--80 degrees.

Weather of the week continued on page 776.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

CORN EARWORM (Heliothis zea) - TEXAS - Moderate on sorghum in San Angelo area. (McWhorter). OKLAHOMA - Heavy in soybean field in Wagoner County. Averaged one per 10 grain sorghum heads in Payne County. (Okla. Coop. Sur.). KANSAS - Economic on heads of grain sorghum in Labette County field; larvae 0-7 (averaged 2) per head on 80 percent of heads. Other averages per sorghum head by county: Montgomery 0.75, Neosho 1.0, Osage 1.5, Stafford 1.1, and Harvey 1.1. (Bell). ALABAMA - Full-grown H. zea larvae, 2-6 per grain sorghum head, destroyed 42-acre field in De Kalb County. Destroyed 50-60 percent of 30-acre grain sorghum field in Macon County. Larvae of this species and H. virescens (tobacco budworm) 2-24 per 6 row feet in late-planted 30-acre soybean field. Destroyed 85 percent of beans on one-third or more of area. Larvae trace in several thousand other acres in county. Light to moderate in several thousand acres in Monroe, Macon, Bullock, and Russell Counties; treatments applied in some fields. (Wood et al.).

TENNESSEE - H. zea caused heavy whorl damage to late corn in one field each in Coffee and Franklin Counties week ending September 5. (Cagle). NORTH CAROLINA - Dropped below economic threshold in 10 soybean fields in Wilson, Johnston, and Edgecombe Counties. Moth activity increased after recent decline. Late-planted soybeans may be affected by this last generation. (Fleming, Hunt). VIRGINIA - Larvae averaged 10.3 per 30 row feet in 815 acres (22 fields) in Charles City County; reached treatment levels in 57-acre field. Larvae averaged 12.4 per 30 row feet in 1,154 acres (55 fields) in Westmoreland County; 98 acres (3 fields) need treatment. Larvae averaged 3.1 per row foot in James City County; no treatments needed. (Allen). WISCONSIN - Flights still moderate to heavy at most sites. Cool temperatures reduced blacklight trap catches some nights. All larval instars in almost every field of sweet corn. Controls seem adequate. (Wis. Ins. Sur.).

GREENBUG (Schizaphis graminum) - TEXAS - Heavy in San Angelo area. Decreased on sorghum in Motley County. (McWhorter, Boring).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Up to 50 per 25 sweeps near Belen, Valencia County, week ending September 5. Currently ranged 15-100 per 25 sweeps of alfalfa in Bernalillo County. (N.M. Coop. Rpt.). KANSAS - Averaged 25 per sweep of 10-inch alfalfa in Cowley County. (Bell).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - ALABAMA - Fully grown larvae in 30 percent of all grain sorghum stalks in 42-acre De Kalb County field. (Wood et al.). NORTH CAROLINA - Lodging heavy in corn, heaviest (30 percent) in southern Coastal Plain counties. (Hunt, Bowers). SOUTH DAKOTA - Second-generation damage heavy in Clay, Union, Lincoln, and Turner Counties. Several fields with up to 30 percent broken stalks. Ear droppage slight to date. (Walgenbach).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - OKLAHOMA - Infested 5-100 (averaged 58) percent of cornstalks in 14 fields in Beaver, Texas, and Cimarron Counties. Girdled (0-19 percent) and lodged stalks (0-7 percent) still fairly light in most fields;

significant increase expected next 14-21 days. (Okla. Coop. Sur.).
KANSAS - About 95 percent of third-generation Diatraea grandiosella eggs parasitized on corn in milk stage in Stafford County; second-generation larvae girdled 4 percent of stalks by September 9. Girdled average of 16 percent of stalks in mature cornfield; lodging about 7 percent. (Bell). ALABAMA - Larvae damaged 80 and 30 percent of corn in 2 separate 35-acre fields in De Kalb County. Damaged many stalks in Calhoun and Marshall Counties. First stalk girdling in State September 9 in Marshall County with summer form of larvae resting in tap roots and stalk down. (Miller et al.). KENTUCKY - Late-planted corn damage significant in Warren County. (Barnett, Driskill).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Subsiding on treated sorghum. Larvae economic in half of fields on 500 acres, but sorghum outgrew damage in Levy County. (Fla. Coop. Sur.). NORTH CAROLINA - Late instars continued severe on corn and sorghum over entire eastern area. Damage severe to 25 acres of late sorghum in Wake County and about 70 acres in Franklin and Halifax Counties. Field infestations (more than one larva per plant) up to 50 percent in 4 of 6 infested fields in Halifax County. (Fleming et al.). VIRGINIA - Corn damage serious in Piedmont area for past month. Damage heavy in Amelia, Campbell, Charlotte, Powhatan, Southampton, and Rockingham Counties. Counts heaviest on corn planted late for silage and on alfalfa. Larvae 8-10 per cornstalk on 40 acres of corn. (Allen).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Adult averages per plant by district: Northwest 1.7, north-central 1.2, northeast 0.2, west-central 2.9, central 0.9, east-central 1.1, southwest 1.5, south-central 0.7, and southeast one. Probably heavier than survey indicated. (Wis. Ins. Sur.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Still found in late-planted sorghum throughout Rolling Plains area. Heavy in San Angelo area. Emergence light in High Plains. (Boring et al.). OKLAHOMA - Light in late-blooming sorghum in Jackson and Tillman Counties. Heavy in scattered late heads in Payne County field. (Okla. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Larvae up to 25, adults 8-25, per 25 sweeps of forage legumes near Belen, Valencia County, week ending September 5. Currently larvae 3-75, adults 4-5, per 25 sweeps of alfalfa near Albuquerque, Bernalillo County. Damage heavy. (N.M. Coop. Rpt.).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Adults emerged in two 25-acre soybean fields at 90 per 6 feet of row in Marshall County. Larvae and other leaf feeders destroyed 75-90 percent of foliage. Several thousand acres treated in northeast counties. Larvae and adults leaf feeding in several thousand acres in Dallas, Escambia, and Monroe Counties. (Wood et al.). TENNESSEE - Moderate on soybeans in Franklin, Lincoln, Coffee, and Bedford Counties week ending September 5. Currently damaged Lake County soybeans. About 1,000 acres damaged in Franklin and Lincoln Counties; 4,000 acres treated. Adults 0-25 per linear foot in

central area. (Miller et al.). VIRGINIA - Mexican bean beetle averaged 21.9 per 30 row feet in 1,154 acres (55 fields) in Westmoreland County. Defoliation averaged 6.7 percent; 65 acres (5.6 percent) treated. Beetles averaged 0.2 per 30 row feet in 815 acres (22 fields) in Charles City County; defoliation about 4.4 percent. Averaged 8.6 per 30 row feet in 90 acres (36 fields). Defoliation 2.9 percent. (Allen).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Still economic, treatments needed in Levy and western Alachua Counties. Stripped a neglected 50-acre field in western Alachua County. Decreased at Quincy, Gadsden County. (Fla. Coop. Sur.). ALABAMA - Third-generation larvae appeared in southern counties. Excessive leaf feeding in several thousand acres in southern and central areas. Larvae and adults in Marshall and De Kalb Counties. Expected to continue as serious pest to late plantings in southern and central areas. (Henderson et al.).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Very heavy on untreated soybeans at experiment station in Quincy, Gadsden County. Ranged 3-6 per foot of row in 3 acres. (Fla. Coop. Sur.). ALABAMA - Nymphs and adults 1-2 per 100 feet of row in several soybean fields in Marshall and Macon Counties. Collected in Marshall County September 9, 1975, by F. Wood. Determined by H.F. McQueen. This is a new county record. (Wood et al.).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Infested soybean field in northeast corner of Bedford County September 3, 1975. Collected by J.L. Cagle. Determined by R.E. Harrison. This is a new county record. (Gordon, Bruer).

PEANUTS

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - TEXAS - Very heavy on dryland peanuts in Comanche County. (Hoelscher).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Moderate to heavy on cotton in San Angelo area. Heavy throughout much of Rolling Plains. (McWhorter, Boring). OKLAHOMA - Punctured squares ranged 5-15 percent, up to 50 percent in some fields, in southwest counties. Counts up to 100 percent in Caddo and Washita Counties. (Okla. Coop. Sur.). LOUISIANA - Heaviest on cotton in several years for some northeast areas week of September 5. (Tynes). ALABAMA - "Hatch-out" still heavy statewide. Many adults entered hibernation as others continued square and boll feeding and egg laying. Excessive feeding and egg laying on bolls 0.50-0.75 grown. (McQueen). TENNESSEE - Adults heavy and boll damage light to moderate in many central area fields. Most cotton in area cut out. Continued serious damage to rank fields. Small boll injury evident in western area. Controls discontinued to prevent damage to opening lower bolls. (Locke). SOUTH CAROLINA - This species and Heliothis spp. (bollworms) heavy in fields with young bolls; treatments applied. (Sparks).

BOLLWORMS (Heliiothis spp.) - ALABAMA - Larvae excessive and heavy, one or more per stalk, in some cotton fields in Elmore, Russell, and other isolated fields in many counties. (Smith et al.). OKLAHOMA - Eggs 2-6 and larvae 0-4 per 100 terminals in southwestern counties. Square damage 5-12 percent; up to 18 percent in few fields. Larvae 20-30 per 100 terminals in Washita and Caddo Counties. (Okla. Coop. Sur.). TEXAS - H. zea (bollworm) infestations decreased in Rolling Plains area. Damage heavier, up to 10 percent square damage in Clay and Wilbarger Counties. (Rummel, Boring). LOUISIANA - H. virescens (tobacco budworm) and H. zea continued egg laying in many cotton fields week of September 5; larvae heavy. Eggs and larvae heaviest in Red River Valley. (Tynes). TENNESSEE - Heliiothis spp. continued to damage all size, except opening, bolls in western area. All larval stages present. Infestations usually confined to rank cotton. (Locke).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Heavy in many cotton fields in Jackson County with 30-40 percent foliage loss common. Some diseased larvae found. (Okla. Coop. Sur.). ALABAMA - Larvae in many cotton fields in Colbert, Cullman, and other northern counties. (Jarrett et al.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - OKLAHOMA - Heavy damage to fall potatoes at Perkins, Payne County. (Okla. Coop. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Average infestations in untreated sweet peppers ranged 40-50 percent in western Sussex County. (Burbutis).

CUCURBITS

SQUASH BUG (Anasa tristis) - OKLAHOMA - All stages heavy on squash and watermelons at Perkins, Payne County. (Okla. Coop. Sur.).

NATIONAL WEATHER SERVICE 30-DAY OUTLOOK MID-SEPTEMBER TO MID-OCTOBER 1975

The National Weather Service's 30-day outlook for mid-September to mid-October is for temperatures to average below seasonal normals over the western half of the Nation except for near normal along the Pacific coast and in the southern Great Plains. Above normal temperatures are indicated from the Ohio Valley and the middle Atlantic coast southward to the gulf coast. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median amount over most of the Great Plains, the Mississippi Valley, and the Great Lakes, as well as the north Pacific coast and eastern portions of the central Plateau. Elsewhere, less than the median value is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

DECIDUOUS FRUITS AND NUTS

PEARSLUG (Caliroa cerasi) - UTAH - Especially severe in Juab County pear and plum orchards. (Jones).

PECAN WEEVIL (Curculio caryae) - TEXAS - Egg laying in pecans continued in parts of Knox and Wichita Counties. Light to moderate throughout San Angelo area. (Boring, McWhorter). OKLAHOMA - Moderate on Comanche County pecans. Very few adults emerged in Love County. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - More than usual dooryard walnuts infested with larvae in husks. Nuts dropped in some cases. (Cal. Coop. Rpt.). OREGON - Increased at Dundee, Yamhill County, due to unusually warm temperatures September 1-14. Some third sprays applied. (Larson).

ORNAMENTALS

EUONYMUS SCALE (Unaspis euonymi) - OHIO - Heavy in northeastern counties on Euonymus fortunei, Pachysandra, and Boston ivy. Some death of vines noted. (Balderston, Purrington).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - NEW MEXICO - Damage heavy at Osha Park in Cibola National Forest week ending September 5. Defoliated spruce and Douglas-fir over about 100 acres in Torrance County. (N.M. Coop. Rpt.).

PINE TORTOISE SCALE (Toumeyella numismaticum) - KANSAS - Heavy infestations damaged Scotch pines in Wyandotte County nursery. (Bell).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Flight activity of second-generation adults increased past 14 days due to warm weather. Flying to attractant traps at La Grande, Union County, and Nyssa and Ontario, Malheur County. Adults noted as follows past 14 days: Portland, Multnomah County, 488 (one trap); La Grande (2 traps) and Union (one trap), Union County, 2,342 and 25, respectively; Baker, Baker County, 303 (2 traps); Ontario, Malheur County, 441 (one trap). (Penrose). MINNESOTA - Second generation emerged in Minneapolis, Hennepin County, and St. Paul, Ramsey County. Dead elm trees and elm logs heavily infested with larvae, pupae, and emerging adults. (Minn. Pest Rpt.).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Heavy in San Angelo area. (McWhorter). UTAH - Least damage in 5 years to elms at Kanab, Kane County. Severe defoliation in some Juab County areas. (Matthews, Jones).

YELLOWNECKED CATERPILLAR (Datana ministra) - OKLAHOMA - Larvae heavy on oaks in some areas of Wagoner, Muskogee, and Payne Counties. (Okla. Coop. Sur.).

A LACE BUG (Corythucha ulmi) - MINNESOTA - Heavy on elms; discoloration extensive. Increased due to recent drought. (Minn. Pest. Rpt.).

MAN AND ANIMALS

SCREWORM (Cochliomyia hominivorax) - Total of 848 cases reported from continental U.S. August 24-30 as follows: Texas 790, New Mexico 21, Arizona 37. Total of 901 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 245 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 193,461,600 as follows: Texas 163,869,600; New Mexico 6,733,800; Arizona 22,858,200. Total of 2,000,000 flies released south of Barrier, none released within Barrier. (Vet. Serv.).

FACE FLY (Musca autumnalis) - OKLAHOMA - Averaged 20 per head on Noble County cattle. (Okla. Coop. Sur.). TENNESSEE - Continued to cause problems in many areas week ending September 5, although populations decreased in August in most areas. Noted on Humphreys County cattle August 20, 1975. Collected and determined by J.B. Bogard. Adults 2-8 per head on Cheatham County cattle September 2. Collected and determined by C.D. Gordon. These are new county records. (Gordon, Bruer).

HORN FLY (Haematobia irritans) - TEXAS - Moderate to heavy in San Angelo area. (McWhorter). OKLAHOMA - Ranged 200-275 per head on Payne County cattle. Moderate to heavy in Comanche County. (Okla. Coop. Sur.).

MOSQUITOES - ALABAMA - Larvae and adults of Culex pipiens quinquefasciatus and others heavy statewide. Eight confirmed cases of St. Louis encephalomyelitis. (Wolf et al.). OHIO - Four cases of St. Louis encephalomyelitis confirmed in State to date; no significant light trap increases of Culex pipiens although more cases of this disease noted since 1962. Aedes vexans emergence heavy due to recent rains. (Ohio Dept. Health). MINNESOTA - Aedes vexans predominant in trap and bite collections. Culex tarsalis predominant in larval collections, but larvae relatively light. Light trap catches increased, total of 3,240 females taken in 15 traps. (Minn. Pest Rpt.).

A BIBIONID FLY (Plecia nearctica) - FLORIDA - Second brood earlier than usual, became common in late August; now generally declining. Heaviest near Jupiter area, Palm Beach County. (Fla. Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - KENTUCKY - Heavier than usual populations caused concern in Warren County. (Barnett, Driskill).

WESTERN BLACK WIDOW SPIDER (Latrodectus hesperus) - NEVADA - Found in increasing numbers in warehouses in southeast Reno, Washoe County. (Nev. Coop. Rpt.).

HOUSEHOLDS AND STRUCTURES

PAVEMENT ANT (Tetramorium caespitum) - UTAH - Collected in home at Salt Lake City, Salt Lake County, by T. Knighton April 5, 1975. Determined by G.C. Wheeler. This is a new State record. (Knowlton).

BENEFICIAL INSECTS

GYPSY MOTH PARASITES - WEST VIRGINIA - These parasites of Porthetria dispar (gypsy moth) released since last report (CEIR 25(31):648) in effort to establish on native hosts. Total released since then by county: Hampshire - Brachymeria intermedia (a chalcid wasp) 18,000, Pimpla sp. (an ichneumonid wasp) 200, Apanteles liparidis (a braconid wasp) 500, Meteorus pulchricornis (a braconid wasp) 200, and Palexorista inconspicua (a tachinid fly) 215; Hardy - B. intermedia 12,500, A. porthetriae 250, and P. inconspicua 195; Pendleton - B. intermedia 10,100. (Coffman).

A BRACONID WASP (Agathis acrobasidis) - NEW MEXICO - Emerged from pecan nutlets infested by Acrobasis nuxivorella (pecan nut case-bearer). Collected in Eddy County by R. Granado and W. Iselin July 17, 1975. Determined by C.W.F. Muesebeck. This is a new State record. (N.M. Coop. Rpt.).

AN EVANIID WASP (Evania appendigaster) - NEW MEXICO - Collected at residence at Alamogordo, Otero County, by W. Bloyce September 1, 1975. Determined by W. Iselin. This is a new county record. This parasite of cockroach eggs widening its distribution. (N.M. Coop. Rpt.).

A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) - OKLAHOMA - Light on puncturevine 9 miles south of Keyes, Cimarron County, September 10, 1975. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - TEXAS - Still problem on rangeland throughout Rolling Plains. (Boring). UTAH - Very numerous in some local areas of Weber County and several range areas in Juab County. Very abundant in some Weber County alfalfa and gardens. Damaged some gardens in Juab County. (Rogers, Jones). KANSAS - Averaged 6-7 per square yard along sorghum field border in Lyon County. Averaged 15 per square yard along soybean field border in Bourbon County; foliar damage heavy. (Bell).

GYPSY MOTH (Porthetria dispar) - ARKANSAS - Two male moths trapped at campground near Morrilton, Conway County, by Loftin (initials unknown) August 21, 1975. First find for State. WISCONSIN - Male moth trapped on oak at Elkhart Lake, Sheboygan County, by R. Jakubek September 2, 1975. First find for county. MICHIGAN - Male moth trapped on farm in Hagar Township, Berrien County, by M. Hanna August 8, 1975. First find for county. All determined by E.L. Todd. (PPQ).

JAPANESE BEETLE (Popillia japonica) - ALABAMA - Female trapped at Union Church, Randolph County, by B.E. Blair August 1, 1975. Adult collected from fig tree at Lockhart, Covington County, by P.P. Johnson August 4. GEORGIA - Female trapped near pasture 4 miles south of Interstate Highway I-20 at intersection of State Highway 83 and State Road S2155 in Morgan County by S.R. Whitworth July 23, 1975. All determined by R.D. Gordon. These are new county records. (PPQ).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Several mounds found; adults collected at roadside in Milam County by B.J. Jones August 5, 1975. This is a new county record. ALABAMA - Twelve adults collected on farm in Marshall County by W.L. Martin August 13, 1975. S. saevissima richteri has been recorded for Marshall County; first determination of S. invicta for county. Determined for both States by D.R. Smith. (PPQ).

HAWAII INSECT REPORT

Fruits and Ornamentals - COCONUT LEAFROLLER (Hedylepta blackburni) heavily damaged nearly all coconut leaves at Kalihi, Oahu. (Teramoto). Four pupae of BANANA SKIPPER (Erionota thrax) collected at Hana, Maui, in mid-August. First report of infestation in eastern Maui. Damage not noticeable in nearby plantings. (Ah Sam, Yoshioka).

Beneficial Insects - Heavy galling by a TEPHRITID FLY (Procecidochares alani) observed at Kolekole, Onomea, and Panaewa, Hawaii Island. Galls collected for fly emergence and redistribution. Significant emergence of Habrocytes sp. (a pteromalid wasp) from field collected galls noted during past few months. (Matayoshi).

DETECTION

New State Records - A BRACONID WASP (Agathis acrobasis) - NEW MEXICO - Eddy County. (p. 773). PAVEMENT ANT (Tetramorium caespitum) - UTAH - Salt Lake County. (p. 772).

New County Records - AN EVANIID WASP (Evania appendigaster) NEW MEXICO - Otero (p. 773). FACE FLY (Musca autumnalis) TENNESSEE - Cheatham, Humphreys (p. 772). JAPANESE BEETLE (Popillia japonica) ALABAMA - Covington, Randolph; GEORGIA - Morgan (p. 773). A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) OKLAHOMA - Cimarron (p. 773). RED IMPORTED FIRE ANT (Solenopsis invicta) TEXAS - Milam (p. 774). SOUTHERN GREEN STINK BUG (Nezara viridula) ALABAMA - Marshall (p. 769). SOYBEAN CYST NEMATODE (Heterodera glycines) TENNESSEE - Bedford (p. 769).

CORRECTIONS

CEIR 25(36):744 - WALNUT CATERPILLAR (Datana integerrima) for MISSOURI should be FALL WEBWORM (Hyphantria cunea)

CEIR 25(36):747 - PINK BOLLWORM (Pectinophora gossypiella) should read PINK BOLLWORM (Pectinophora gossypiella)

LIGHT TRAP COLLECTIONS

	Temperature (F)	Humidity (%)	Wind (mph)	Direction	Time of day	Light	Trap	Spiders	Other	Total	Spiders	Other	Total	Spiders	Other	Total	Spiders	Other	Total	Spiders	Other	Total	
FLORIDA Gainesville 9/5-11							BL	6	24	35	9	1	5	1	5	1	5	1	5	1	5	1	5
KANSAS Tribune 8/28, 9/2, 5, 9/9							BL	6	24	35	2	151	612	1	612	1	612	1	612	1	612	1	612
MISSISSIPPI Stoneville 9/5-11	62-95	2.18					2BL	24	24	35	65	971	225	1	225	1	225	1	225	1	225	1	225
NEW JERSEY Seabrook 9/3-9 Vineand 9/3-9							BL	17	17			20	20	1	20	1	20	1	20	1	20	1	20
OHIO Wooster 9/6-12							BL	6	6		2	15	15	1	15	1	15	1	15	1	15	1	15
PENNSYLVANIA (Districts) Central 9/3-10 South East 9/3-10							6BL 9BL	1	1			5	5	1	5	1	5	1	5	1	5	1	5
VIRGINIA Blacksburg 9/5-11							BL	34	34		27	27	27	1	27	1	27	1	27	1	27	1	27
WISCONSIN Lancaster 9/4-10 Mazomanie 9/4-10							BL	5	5		7	7	7	1	7	1	7	1	7	1	7	1	7

Weather of the week continued from page 766.

Precipitationⁿ remained hidden across most of the Nation. Scattered activity extended from the southern Atlantic coast into the southern Plains and from the west-central Plains into California. Meantime, the northeast quarter and northern areas from the Pacific coast into the Plains fared under clear skies. Moving eastward, a high pressure system carried autumn weather on Wednesday to the upper Ohio Valley and central Appalachians through New England. Freezing morning temperatures gripped the north-central mountains of Pennsylvania where Philipsburg and Bradford at 30 degrees vied for the low for the Nation. Scattered severe weather marred the afternoon weather scene when it erupted in the Midwest and South. With renewed strength, thunderstorms kicked up a tornado in Springfield, Missouri, that destroyed 5 homes, damaged 22 others, and left 5 persons injured. Elsewhere thunderstorms spotted the gulf and south Atlantic coast and middle Mississippi and western Ohio Valleys.

By sunrise Thursday, however, thunderstorms and heavy rains diminished in the Midwest. Signs of fall turned up in the Upper Mississippi Valley and northern Plains. Behind the cold front, morning minimums dipped into the 30's in parts of North Dakota and the first snowfall blanketed the Black Hills of South Dakota. Later on however, cold Canadian air gave rise to heavy thunderstorms, some frost, and a few damaging windstorms as it streamed through the central Plains toward the middle Mississippi Valley. Over the weekend, Florida and south-central Texas were the only areas to escape the unseasonably cold air that spread across the eastern two-thirds of the Nation. West of the Divide, warm air settled over the Pacific Northwest and fair skies and highs in the 80's and 90's favored California. Friday morning's mercury dipped into the 30's and few 20's through the northern Rockies and Upper Great Lakes. Some daily record lows--Omaha, Nebraska, 37 degrees, Sheridan, Wyoming, 37 degrees, and Kansas City, Missouri, 45 degrees. Centered over Nebraska, cold air pushed southward. Clouds moderated temperatures in the central Plains but clear skies let the mercury slip into the freezing range in North Dakota, Minnesota, Wisconsin, and Michigan. Moderate to heavy rains persisted along a cold front from New England through the middle Mississippi Valley and through Texas into New Mexico. On Saturday morning, clear skies continued over the northern tier of States. Result--more record lows in the Upper Mississippi Valley and Great Lakes region. Precipitation diminished considerably. Some rains, though, fell over much of Oklahoma into parts of Texas and from northeast Michigan through the Lower Great Lakes into northern New England. Morning temperatures on Sunday slipped even lower in the Northeast but remained above normal for mid-September over the West Coast States. Cold air chilled a number of spots to record low levels as it headed eastward, Detroit, Michigan--37 degrees, Toledo, Ohio--31 degrees, and Atlantic City, New Jersey--37 degrees. Then the warming trend pushed afternoon highs into the 60's in the Upper Great Lakes region and from the mid 70's to the mid 80's in Minnesota and the northern Plains. In the central United States, warm air flowing northward across cool air produced occasional rain and drizzle from southwest Texas into northern Missouri and western Illinois.

U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

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AGRICULTURE
AGR 101



VOL. 25 NO. 39

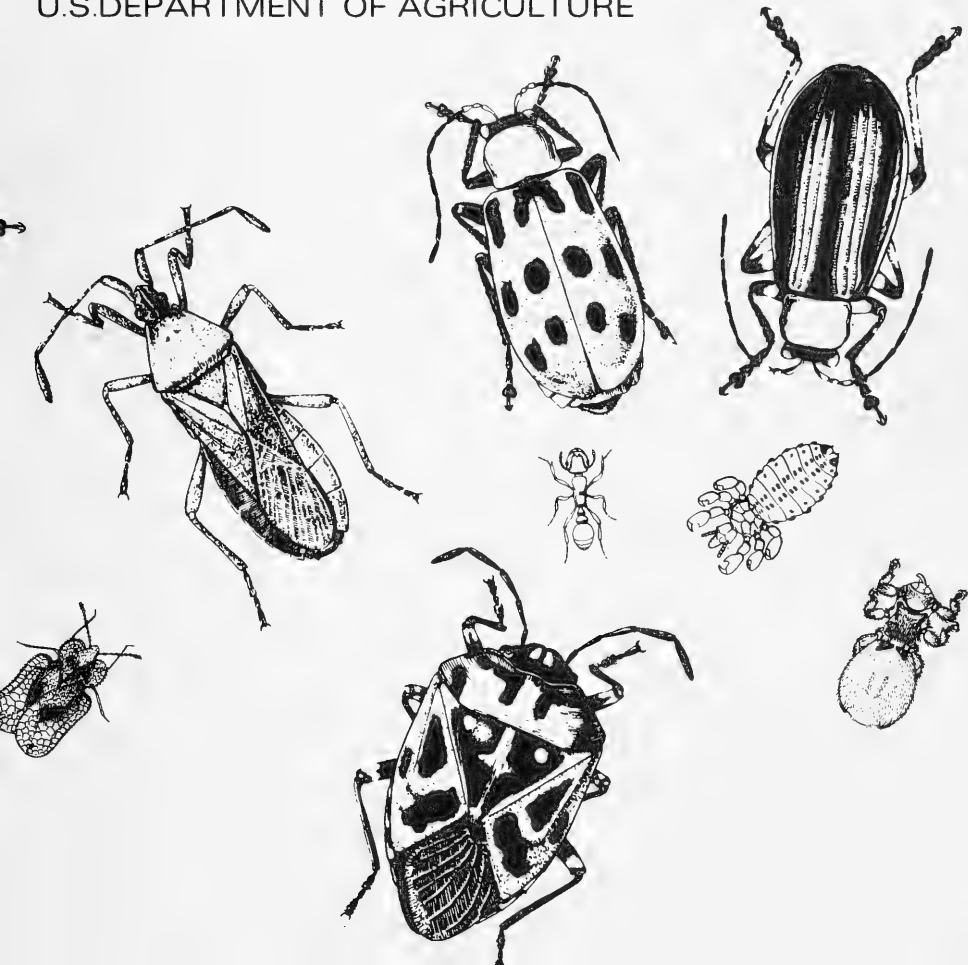
September 26, 1975

Spilman

Cooperative Economic Insect Report

Issued by

PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

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Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

CORN EARWORM damage in parts of Oklahoma, Kansas, Ohio, and North Carolina. (p. 779).

FALL ARMYWORM damage heavy to corn and sorghum in North Carolina and Tennessee. (p. 779).

VELVETBEAN CATERPILLAR a major pest of soybeans and peanuts in Alabama and of soybeans in Mississippi. Larvae of other NOCTUID MOTHS also defoliated soybeans in these and other States. (pp. 780-781).

BOLL WEEVIL continued heavy in Rolling Plains of Texas and in Alabama. Percentage of punctured squares increased in Oklahoma and Mississippi. (p. 782).

BOLLWORM and TOBACCO BUDWORM increased in Trans-Pecos area of Texas; latter species predominant in Arkansas and Alabama. (p. 782).

First SCREWWORM cases in Oklahoma for season. (p. 784).

Detection

YELLOWFEVER MOSQUITO found in Arkansas for first time in 10 years. (p. 784).

For new county records, see page 785.

Reports in this issue are for the week ending September 19 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 21

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Much of the credit for the week's weather goes to a new cold air mass that delivered cool temperatures and light rains to most of the Nation. Unseasonably warm dry weather, though, gripped the Pacific Northwest and readings in the 80's ran along the gulf and Atlantic coasts. Associated with the front ahead of colder air, showers and thundershowers were scattered throughout the Great Plains and Mississippi and Ohio Valleys. Locally heavy rains drenched parts of the Southwest and south-central Plains.

PRECIPITATION AND TEMPERATURE: Before the past weekend's cold air mass moved out to the sea on Monday, it dropped a few more record lows from the southern Atlantic States north into New England: Albany, New York--33 degrees, Warwick, Rhode Island--38 degrees, Raleigh, North Carolina--45 degrees, and Richmond, Virginia--44 degrees. Daytime temperatures in the 60's held on across most of the Nation, slipping into the 50's where it was cloudy but warming into the 70's and 80's under sunny skies. Desert Southwest claimed only 90's. Notable precipitation turned up as a line of thunderstorms from central Texas into Arkansas. Scattered thundershowers occurred along the gulf coast from Louisiana through Florida and up the Atlantic coast to North Carolina. Except for the Pacific Northwest, clear skies opened over the western half of the country and reached into the northern Plains and Upper Great Lakes region. Tuesday, tropical storm Eloise came to life in the south Atlantic. Its heavy rains created flood problems in the Virgin Islands and Puerto Rico where more than 10 inches fell in only 12 hours. On the continent, locally heavy rains in the southwest took the form of scattered thunderstorms through the mountains and deserts of southern Nevada and southwest Arizona. Mild temperatures spread across the Nation except in the Desert Southwest where a few readings topped 105 degrees. Wednesday's morning storm activity quieted in the Southwest but picked up in parts of South Dakota and Louisiana. Lightning that accompanied heavy thunderstorms in South Dakota sparked four grass fires.

Weather of the week continued on page 788.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

CORN EARWORM (Heliothis zea) - TEXAS - Light to moderate on alfalfa in Trans-Pecos area. Moderate feeding in sunflower seed heads in Pecos and Reeves Counties. (Neeb). OKLAHOMA - Ranged 0-5 per row foot on soybeans in Muskogee, Haskell, Sequoyah, and Le Flore Counties. Heavier in Wagoner County; totally destroyed areas of some fields. Averaged less than one per row foot on Marshall County peanuts. (Okla. Coop. Sur.). KANSAS - Larvae averaged 3 per grain sorghum head in 95 percent of heads in Bourbon County field; up to 7 larvae in individual heads. Larvae one per head in second field. (Bell). OHIO - Moderate in late-maturing field of corn in Clark County. Damaged half of ears. Most larvae full grown. Generally more damaging to sweet than field corn. (Lewis). NORTH CAROLINA - Larval damage noted on 25 acres of dug sweetpotatoes in Nash County September 8-12. Larvae heavy on foliage with little damage. Larvae continued to damage harvested sweetpotatoes in field, field crates, and packing houses. (Sorenson). VIRGINIA - Larvae averaged 3.4 per 30' row feet of soybeans in 815 acres (22 fields) in Charles City County. Averaged 5 per 30 row feet in 810 acres (34 fields) in Northumberland and Lancaster Counties. No treatments needed. (Allen).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Breakage above and below the ear in Antelope and Pierce Counties week ending September 12 averaged 10 percent in late-maturing fields; up to 40 percent of plants broken in scattered areas within fields. (Koinzan). Current larvae (24 percent in second or third instars) averaged 10.3 per plant on all corn. About 36 percent of plants broken above the ear and 2 percent below the ear. No ears on ground at this time. (Witkowski). SOUTH DAKOTA - Stalks broken above the ear ranged 19-30 percent in Lincoln, Turner, Clay, and Union Counties. Larvae 3.60-6.24 per plant. (Walgenbach). OHIO - Average of 35 larvae per 100 plants on 37.5 percent of corn plants. (Lewis). NORTH CAROLINA - Severe statewide, especially in drought-stricken areas. Lodging 80 percent at Hoke, Scotland County. (Hunt).

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Heavy damage continued to corn and sorghum in localized northern Coastal Plain and Piedmont fields. Damaged all plants in 5 southern Coastal Plain and 7 northern Coastal Plain fields. Pupation rapid. Counts decreased below injury levels in many fields. Feeding in stalks of drought-stunted corn in northern Wake County. (Miller et al.). TENNESSEE - Heavy damage to late-planted corn in Grundy County. (Chance).

SORGHUM WEBWORM (Celama sorghiella) - MISSISSIPPI - Larvae averaged 11.5 per grain sorghum head on up to 90 percent of heads of 30 acres grown for silage in Noxubee County. (Robinson). KANSAS - Larvae averaged 6 per sorghum head in Bourbon County field on 25 percent of heads; up to 23 larvae in individual heads. (Bell).

WESTERN BEAN CUTWORM (*Loxagrotis albicosta*) - KANSAS - Larvae taken in corn at Ingalls, Gray County, by R.E. Purdy August 20, 1975. Determined by D.E. Mock. Larvae collected from cornfield near Johnson, Stanton County, September 8. Collected and determined by M.L. Shuman. These are new county records. Fully grown larvae trace in some corn in Scott, Wichita, and Wallace Counties. (Bell).

CORN ROOTWORMS (*Diabrotica* spp.) - ILLINOIS - *D. longicornis* (northern corn rootworm) and *D. virgifera* (western corn rootworm) adult survey of corn in July and August indicated populations this year in northwest, northeast, west, central, and east districts heavier than past 5-year average. Averages of 2+ per plant in Bureau, Stephenson, and Woodford Counties and over one per plant in 7 other counties. Western corn rootworm comprised 43 percent of population. Only central district averaged more westerns (55 percent) than northern (45 percent). (Ill. Ins. Rpt.). MINNESOTA - Still feeding on corn silk. Averaged 2 *D. longicornis* and 3 *D. virgifera* adults per sweet corn ear in Scott County field. Adults also fed on wild sunflowers and on alfalfa, 30-40 per 100 sweeps, in central district. (Minn. Pest Rpt.). SOUTH DAKOTA - *D. longicornis* adults heavy on small grain stubble, alfalfa, and corn. Much heavier than observed in previous years. (Walgenbach).

TURF, PASTURES, RANGELAND

A NOCTUID MOTH (*Mocis latipes*) - FLORIDA - Mostly this species of *Mocis* heavy in some fields of Coastal Bermuda grass. One 25-acre field required treatment, larvae 10 per square foot, near Williston, Levy County. (Fla. Coop. Sur.).

RANGELAND CATERPILLAR (*Hemileuca oliviae*) - COLORADO - Spinning up, averaged 5 cocoons per square yard on 2,000 acres at Branson, Los Animas County. (PPQ).

FORAGE LEGUMES

ALFALFA CATERPILLAR (*Colias eurytheme*) - CALIFORNIA - Returned in significant populations, especially in southern half of valley after 2 summers of light infestations on alfalfa. Many fields treated to reduce larval counts and decrease foliar damage. (Cal. Coop. Rpt.). COLORADO - Ranged 20-30 per 100 sweeps of alfalfa in Mesa County week of August 12. (Bulla).

SOYBEANS

VELVETBEAN CATERPILLAR (*Anticarsia gemmatalis*) - ALABAMA - Heaviest ever on 1,300,000+ acres of soybeans statewide. Egg laying heavy. Leaf and pod feeding expected to be heavy in southern and central areas. First occurrence of heavy damage likely to isolated plantings in northern area. Economic damage and widespread control by September 12 in Autauga, Wilcox, Dallas, Russell, Mobile, Shelby, Marengo, Tuscaloosa, Hale, Greene, Monroe, and Clay Counties. (McQueen). MISSISSIPPI - Remained dominant lepidopterous defoliator on soybeans across State. Soybeans planted in late June and early July hardest hit by week of September 12. (Robinson).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Up to 4 per row foot in Wagoner, Muskogee, Haskell, Sequoyah, and Le Flore Counties. Decreased in past 14 days. (Okla. Coop. Sur.).

MISSISSIPPI - Very heavy, 10 per row foot, in 50-acre soybean field in Walthall County week of September 12. Averaged 5.0 per row foot in Lincoln County. (Smith).

SOYBEAN LOOPER (Pseudoplusia includens) - ALABAMA - Larvae of this and other species damaged several thousand soybean acres in isolated fields statewide. Virus and fungus diseases prevented economic infestations in many fields. (McQueen).

NOCTUID MOTHS - MARYLAND - Estigmene acrea (saltmarsh caterpillar) and Epargyreus clarus (silverspotted skipper) larvae heavy on soybeans this season. Ranged 2-10 per linear foot of row in 30 percent of acreage on Eastern Shore week ending September 12. About 400 acres required controls. Defoliation ranged 10-40 percent. Damage levels in southern area ranged 1-10 percent. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Damaged many soybean fields in Mobile, Fayette, and Marshall Counties. (Vickery et al.). VIRGINIA - Noneconomic. Averages per 30 row feet by county: Northumberland and Lancaster 12.8 in 810 acres (34 fields), defoliation 5.9 percent; Charles City 0.3 in 815 acres (22 fields), average defoliation 4.4 percent. (Allen).

BEAN LEAF BEETLE (Cerotoma trifurcata) - OKLAHOMA - Up to 8 per row foot on soybeans in Wagoner, Muskogee, Haskell, Sequoyah, and Le Flore Counties. Defoliation averaged about one percent. Light in Garvin County. (Okla. Coop. Sur.).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - One per foot of row in 50-acre soybean field in Levy County; required treatment. This species and Euschistus servus (brown stink bug) in ratio of 7:3 in economic numbers in 9 of 45 fields in Jackson County. (Fla. Coop. Sur.). ALABAMA - This species and E. servus economic in several thousand acres in Marengo County. Treatments applied. (Miller).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Girdled up to 15 percent of stalks in Haskell County soybeans. (Okla. Coop. Sur.). MISSISSIPPI - Adults and nymphs increased, heaviest in southern area. Averaged per 25 sweeps by county: Franklin 16.6 in 35 acres, Covington 15.3 in 30 acres, Coahoma 11.5 in 25 acres, and Sunflower 11 in 200 acres. (Robinson).

PEANUTS

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - ALABAMA - Larvae of this and other species on 200,000 acres of peanuts in southeast area. Threatened late-planted fields. Treatment applied to few thousand acres in Barbour, Covington, Coffee, Geneva, and Houston Counties. (Bond et al.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Up to 87 percent of plants and 20 larvae per plant on untreated peanuts in Marshall County. Third-generation pupation underway. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Continued heavy in scattered cotton fields throughout Rolling Plains area. Moderate in San Angelo area. Light in Trans-Pecos area, moderate to heavy in some isolated fields. Migrated into uninfested fields. (Boring, et al.). OKLAHOMA - Punctured squares 15-25 percent in most, 50 percent in some, isolated fields in Jackson, Tillman, Harmon, Greer, Kiowa, and Grady Counties. (Okla. Coop. Sur.). MISSISSIPPI - Adults punctured 50-100 percent of squares in green cotton week of September 12. Important where heavy enough to attack small bolls that may be harvested. (Robinson). ALABAMA - Emergence, feeding, and egg laying still heavy and damaging statewide except on "matured cut-out" cotton. Recent rains brought on second growth with renewed squaring, blooms, and bolls with weevils heavy in fields. Punctured half of bolls 50-75 percent grown in Lee and Montgomery Counties. Boll rot excessive in many areas. (McQueen).

BOLLWORMS (Heliothis spp.) - TEXAS - Heliothis zea (bollworm) damage continued to decrease on cotton in Rolling Plains area. Activity increased in Trans-Pecos area. Moderate in San Angelo area. Heavy in green spots in south-central area. H. virescens (tobacco budworm) activity increased in isolated fields in Trans-Pecos area. (Neeb et al.). OKLAHOMA - Heliothis spp. 0-7 per 100 terminals in most, up to 25 per 100 terminals in some, fields. Larvae 0-4 per 100 terminals in most, up to 15 per 100 terminals in some, southwest county fields. Damaged squares averaged 23 percent in Grady County. (Okla. Coop. Sur.). ARKANSAS - Percent H. virescens by county: Desha 81 (September 5-11), Drew 82 (September 5), Jefferson 99-100 (September 8-9). H. zea comprised remainder. Plot near Marvell, Phillips County, had one H. zea and 32 H. virescens. Tobacco budworm heavy due in part to insecticide selection. (Boyer).

MISSISSIPPI - Cotton rapidly "cutting out" week of September 12. Heliothis eggs and larvae continued to infest greener cotton. Eggs on 0-100 percent of terminals. Larvae on 1-15 percent of squares and bolls. (Robinson). ALABAMA - H. virescens and H. zea flights heavy in State past 10-15 days. Egg laying and larvae serious in thousands of acres by September 12 in Fayette, Colbert, Marshall, Limestone, Morgan, Shelby, Etowah, Marengo, Tuscaloosa, Greene, Elmore, Lee, Russell, and Barbour Counties. H. virescens counts twice that of H. zea in Lee County. (McQueen).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - NEW MEXICO - Moth averages per pheromone trap 10.5 in Bernalillo County, ranged 0.4-3.3 per trap in Los Alamos, Otero, Rio Arriba, Sandoval, San Juan, Santa Fe, and Valencia Counties. (N.M. Coop. Rpt.). WASHINGTON - Pheromone trap catch at Pullman week ending September 13 ranged 0-18 (mean 3.5) for 6 traps. (Jackson).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - NEW MEXICO - Several active colonies on apple trees at Bloomfield, San Juan County. (N.M. Coop. Rpt.).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - OHIO - On ornamental plum, uncommon in this State. Recorded only from Prunus and Syringa. (Roach).

A SCOLYTID BEETLE (Xylosandrus germanus) - INDIANA - Infested 30-40 percent of 7,000 thirty-inch black walnut trees (Juglans nigra) on plantation in Fountain County. Collected by L. Schuder June 26, 1975. Determined by D.M. Anderson. This is a new county record. Previously collected in Jefferson and Dubois Counties. (Meyer).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Continued problem on pecans in parts of Rolling Plains area. Light to heavy in San Angelo area. Webs heavy in Trans-Pecos area. (McWhorter et al.).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Infested black walnuts at Harrisville, Weber County. (Knolwton). OREGON - Emergence in walnut orchards in Dundee area of Yamhill County decreased markedly since first week of September. First husk damage by larvae September 14, about same date as in 1974. (Larson).

BLACK PECAN APHID (Tinocallis caryaefoliae) - ALABAMA - This species and Monellia spp. (yellow pecan aphids) very heavy. Damaged thousands of pecan trees in Lee, Montgomery, Autauga, and Covington Counties. (Linder et al.). TEXAS - Continued to infest pecans in Rolling Plains area. Heavy in San Angelo area. Light in Trans-Pecos area. (Boring et al.).

ORNAMENTALS

A PRODOXID MOTH (Tegeticula yuccasella) - SOUTH CAROLINA - Collected from yucca in Lexington County by A. Screen August 12, 1975. Determined by D.K. Pollet. This is a new county record. (McCaskill).

AZALEA CATERPILLAR (Datana major) - SOUTH CAROLINA - Collected from azalea in Hampton County by H. S. Moore September 8, 1975. Determined by R. Griffin. This is a new county record. (McCaskill).

FOREST AND SHADE TREES

A GALL MIDGE (Taxodiomyia cupressiananassa) - INDIANA - Collected from baldcypress (Taxodium distichum) at Brazil, Clay County, by A. Altekruze September 15, 1975. Determined by J.O. Sillings. This is a new county record. (Meyer).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - WEST VIRGINIA - Larvae defoliated about 30 percent of 100 red pines and 20-50 Virginia pines in Nicholas County. (Coffman).

PINE NEEDLE SCALE (Chionaspis pinifoliae) - UTAH - Severely infested some pines at Randolph, Rich County; needle drop heavy. (Wamsley).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Attractant trap data by county August 12 to September 28: Malheur (Ontario) 1,133, (Nyssa) 18,046; Crook (Prineville) 2,814; Deschutes (Redmond) 503, Jefferson 755. Single traps at each location. (Penrose).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 872 cases reported from continental U.S. during August 31 to September 6 as follows: Texas 820, Oklahoma 5 (first incidence), New Mexico 14, Arizona 33. Total of 243 cases confirmed in portion of Barrier Zone in Republic of Mexico. None reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 200,421,000 as follows: Texas 171,360,000; New Mexico 6,676,200; Arizona 22,384,800. Total of 2,415,267,000 sterile flies released within Barrier of Mexico and 20,000,000 released south of Barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - FLORIDA - Averaged 590 per beef animal in herd at Gainesville, Alachua County. (Fla. Coop. Sur.). MISSISSIPPI - Adults averaged 200+ on 50 head of Noxubee County beef cattle. (Robinson). KENTUCKY - Adults averaged 75.5 on cows and 47 on calves in Bourbon County. (Barnett, Moneyham). OKLAHOMA - Averaged 350 per head on Payne County cattle and ranged 200-300 per head in Jackson and Tillman Counties. Moderate in Comanche County. (Okla. Coop. Sur.). TEXAS - Heavy on cattle in Trans-Pecos area. Moderate in San Angelo area. (Neeb, McWhorter).

FACE FLY (Musca autumnalis) - ARKANSAS - Collected on cattle from farm near Osceola, Mississippi County, August 27, 1975, by T. Stevenson. Determined by E.P. Rouse. This is a new county record. (Boyer). KENTUCKY - Adults averaged 8.1 on cows and 10.1 on calves in Bourbon County. (Barnett, Moneyham).

MOSQUITOES - KENTUCKY - Problem in Pulaski County. (Barnett, Hurst). ARKANSAS - Aedes aegypti (yellowfever mosquito) adults and larvae collected near Norman, Montgomery County, by M. Love August 28. Determined by M. Meisch. First report of this species in State since 1965. (Boyer). TEXAS - Heavy in almost every south-central county. (Cole).

WESTERN BLACK WIDOW SPIDER (Latrodectus hesperus) - TEXAS - Numerous in homes, garages, and other buildings in Canyon and Owyhee Counties. (Baird).

HOUSEHOLDS AND STRUCTURES

CASEMAKING CLOTHES MOTH (Tinea pellionella) - SOUTH CAROLINA - Collected at residence in York County by C.H. Fant September 8, 1975. Determined by J.B. Kissam. This is a new county record. (McCaskill).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - NEW MEXICO - Up to 30 per square yard damaged scattered range areas of McKinley and San Juan Counties. Melanoplus occidentalis predominant. (N.M. Coop. Rpt.). OKLAHOMA - Adult surveys in August showed 1,075,000 acres of rangeland economically infested (8 or more per square yard) in the Panhandle, northwest, west-central, east-central, southwest, south-central, and southeast areas. Dominant species Ageneotettix deorum, Drepanopterna femoratum, Amphitornus coloradus, Boopedon nubilum, Mermiria maculipennis, Melanoplus occidentalis, M. bivittatus, M. packardii, Phlibostroma quadrimaculatum, and Hesperotettix speciosus. (Okla. Coop. Sur.).

MORMON CRICKET (Anabrus simplex) - COLORADO - Egg laying active on 5,000 acres, eggs up to 50 per square foot, on Dinosaur National Monument, Moffat County, week of September 12. (PPQ). MONTANA - Reported in several high mountainous areas including Gallatin River in Gallatin County, Boulder River in Sweetgrass County, Jefferson, Lewis and Clark, Powell, Missoula, and Powder River Counties week of September 12. (Pratt).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Second male adult trapped September 11, 1975, in same general area first fly trapped at National City, San Diego County. To date, no other flies trapped and no larval infestations found. (Cal. Coop. Rpt.).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - Larvae taken from grapevines at Palo Cedro, Shasta County, September 10, 1975, by J. Weber and R. Gripp. Determined by T. Seeno. This is a new county record. (Cal. Coop. Rpt.).

DETECTION

New County Records - AZALEA CATERPILLAR (Datana major) SOUTH CAROLINA - Hampton (p. 783). CASEMAKING CLOTHES MOTH (Tinea pellionella) SOUTH CAROLINA - York (p. 784). FACE FLY (Musca autumnalis) ARKANSAS - Mississippi (p. 784). A GALL MIDGE (Taxodiomyia cupressiananassa) INDIANA - Clay (p. 783). A PRODOXID MOTH (Tegeticula yuccasella) SOUTH CAROLINA - Lexington (p. 783). A SCOLYTID BEETLE (Xylosandrus germanus) INDIANA - Fountain (p. 783). WESTERN BEAN CUTWORM (Loxagrotis albicosta) KANSAS - Gray, Stanton (p. 780). WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) CALIFORNIA - Shasta (p. 785).

HAWAII INSECT REPORT

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) damage heavy at Waimanalo, Oahu, in 0.5 acre of cucumbers and one acre of snap beans. Hundred or more leafminers on most infested cucumber leaves and 15+ mines on each bean leaf. Adults light. (Mau).

Fruits and Ornamentals - ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) immatures light, 1-25 per leaflet, on few rose plants at Alewa Heights, Oahu. Farthest west (about 5 miles) from original site of discovery. Detection surveys in late July indicated spread as far as Pauoa Valley. (Onzuka et al.).

Miscellaneous Pests - Large numbers of a MILLIPED (Trigoniulus lumbricinus) in backyards at Kailua Kona, Hawaii Island, caused much annoyance to residents and hotel guests. (Yoshioka).

Beneficial Insects - A GALL FLY (Procecidochares alani) firmly established in roadside pamakani stands at Round Top and Tantalus, Oahu. Galls detected at all roadside areas surveyed; many galls found even at 1,500-foot elevation. Heavy galling continued at Nuuanu; Eurytoma tephritidis (a eurytomid wasp) found parasitizing the gall fly. Many parasites flying among galls. Parasite identified by G. Funasaki. (Mau). SOUTH AFRICAN EMEX WEEVIL (Apion antiquum) adults and larvae readily detected on small number of Emex spinosa at Waimea, Hawaii Island. Only few Emex plants in survey area. (Yoshioka).

Weather of the week continued from page 778.

The nighttime mercury edged upward from the 50's into the 60's across the central Plains and Great Lakes into the Middle Atlantic States. Though northern New England warmed also, a few 40's dubbed it the Nation's cool spot. A new cool air mass moving through the Pacific Northwest and northern Rockies foretold a cooling trend for portions of the Plains States. It deposited rains in the mountains and some snow at higher elevations. Showers and thunderstorms were scattered over most of the Mississippi and Lower Ohio Valleys and southward over the southeast quarter of the U.S. Meantime, fair skies favored most of New England and the central and southern Plains into the Rockies. As Thursday morning's cold air mass continued its eastward push into the Mississippi Valley, temperatures slipped into the 20's and 30's in the northern Mountain States. Some locally significant showers broke out ahead of and along the front in the northern and central Plains. Throughout much of the day, showers and thundershowers persisted in the north-central and eastern portions of the Nation, but rainfall amounts were fairly light.

Precipitation picked up on Friday. In the south-central Plains, torrential rains soaked northeast Oklahoma, southeast Missouri, and northwest Arkansas. Northeast of Tulsa, Oklahoma, 8.56 inches fell in only 5 hours. In the afternoon, sunny western skies let temperatures soar and even pushed the mercury in Seattle, Washington, to a record 81 degrees. In contrast, the rest of the Nation enjoyed mild or cool temperatures. In the wake of a cold front, evening showers and thundershowers sprang up from Texas to the Ohio Valley. Showers were scattered along the Upper Great Lakes and along both Atlantic and gulf coasts. In the central Atlantic, a new tropical storm, Faye, posed little immediate threat. Except for coastal areas, fair weather prevailed on Saturday from the Pacific into the western portions of the Great Plains and across Kansas and Oklahoma into southern Missouri and Arkansas. Associated with the cold front, a band of showers and thundershowers developed from the Lower Mississippi Valley into the Appalachians. During the day, showers and thundershowers diminished along the front from New York into southern Louisiana but gained momentum in southern and central Texas, Florida, southern Georgia, and southeast South Carolina. In the Gulf of Mexico, tropical storm Eloise continued to move slowly westward amid conditions favorable for strengthening. Trapped by a high pressure system, unseasonably warm weather still held firm in the Pacific Northwest on Sunday. The rest of the Nation except for the Desert Southwest and Atlantic coast reported cooler than normal daytime readings. In northern Minnesota and Upper Michigan, the mercury halted in the 40's. Afternoon shower activity increased over much of the Atlantic and gulf coasts into the southern Plains, and gray skies drizzled rains in parts of the Upper Great Lakes region and in northwest Texas.

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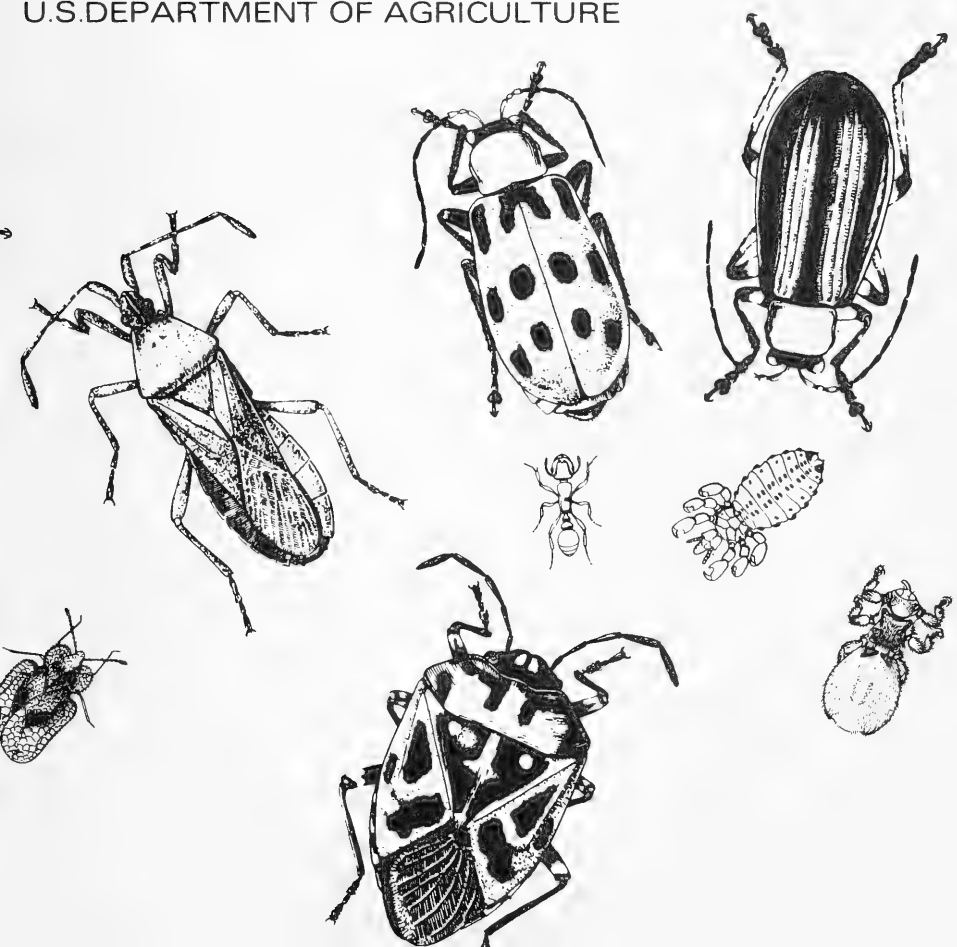


VOL. 25 NO. 40

October 3, 1975

Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG caused concern to wheat growers in parts of Texas and Washington. (p. 791).

FALL ARMYWORM damaged grasses in Florida, Alabama, Missouri, and North Carolina. (p. 792).

VELVETBEAN CATERPILLAR defoliated soybeans in Mississippi and Alabama. (p. 792).

BOLL WEEVIL serious on cotton in Texas, Oklahoma, and Alabama. BOLLWORMS difficult to control in Alabama. (p. 793).

WALNUT HUSK FLY infested nearly all walnuts in some areas of New Hampshire. (p. 794).

MAPLE LEAFCUTTER severe on sugar maple in parts of Pennsylvania and New Hampshire. (p. 795).

Detection

● MEDITERRANEAN FRUIT FLY detected in California for first time. (p. 796).

New State records include an ARMORED SCALE in Pennsylvania (p. 794) and a MEALYBUG in Arizona (p. 795).

For new county records, see page 796.

Special Reports

A Report of Surveys for the Distribution of the Face Fly in Mississippi from May 1969 through June 1975. (pp. 799-802).

Distribution of Rice Stink Bug (map). (p. 798).

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

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NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

OCTOBER 1975

The National Weather Service's 30-day outlook for October is for temperatures to average below seasonal normals in the Gulf and south Atlantic Coast States. Above normal averages are indicated for northern and central portions of the Great Plains and also for most of the area west of the Continental Divide. In unspecified areas near normal temperatures are in prospect. Precipitation is expected to exceed the median value over the eastern quarter of the Nation as well as central and southern portions of both the Pacific coast and the Plateau region. Elsewhere, less than the median amount is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - MISSISSIPPI - Larvae infested winter wheat statewide. Averaged 5 per square foot in 50 acres in Yalobusha County. Averaged 0.75 per square foot in 30 acres in Oktibbeha County. (Robinson).

BEET LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Helicopter mapping completed. Thistle mapped on 71,000 acres compared with 47,000 acres in June in Santa Barbara, Kern, Kings, Fresno, and San Luis Obispo Counties. Great increase in acreage due primarily to thistles being larger now and easier to observe. (Cal. Coop. Rpt.).

CORN EARWORM (*Heliothis zea*) - VIRGINIA - Adults on soybeans per 30 row feet by county: Charles City 1.8 in 230 acres; Northumberland and Lancaster 3.1 in 810 acres; James City 1.8 in 862 acres; Westmoreland 2.5 in 1,154 acres, 50 acres needed treatment. (Allen). SOUTH CAROLINA - Damage by this and other species still heavy in some soybean fields statewide. (Griffin). ALABAMA - Larvae damaged pods on several hundred acres of soybeans in Shelby, Hale, Monroe, and Lowndes Counties. (McQueen). OKLAHOMA - Moderate in sorghum heads in Alfalfa County. Light in soybeans in eastern counties. (Okla. Coop. Sur.). MINNESOTA - Infested 92 percent of ears with some stalks with 3-4 larvae per ear on untreated sweet corn in Scott County field. (Minn. Pest Rpt.).

GREENBUG (*Schizaphis graminum*) - ARKANSAS - Taken on sorghum in dry area in Cross County August 18, 1975. Infestations scattered with 100 or more aphids per leaf on some plants. Collected and determined by W.P. Boyer. This is a new county record. (Boyer). TEXAS - Light on grain sorghum in Trans-Pecos and Rolling Plains areas. Caused some concern to wheat producers in Panhandle area. (Neeb et al.). WASHINGTON - Very light in Benton and Franklin Counties, widely scattered in wheat. Most wheat in single leaf stage. Damaged 4-tiller stage wheat between Davenport and Wilbur, Lincoln County. Up to 50 per leaf infested 3-4 leaves; treatments applied. (Gerlitz et al.).

POTATO LEAFHOPPER (*Empoasca fabae*) - TEXAS - Damage prevalent in many Comanche County peanut fields with late-maturing varieties. (Curtis).

CORN, SORGHUM, SUGARCANE

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - This species and *Heliothis zea* (corn earworm) made controls necessary on sorghum heads when 50 percent of 35-acre field had headed out near Chiefland, Levy County. (Fla. Coop. Sur.). SOUTH CAROLINA - *S. frugiperda* continued extensive damage in localized areas statewide. Most larvae in last instars. Pupation underway in most areas. (McCaskill).

WESTERN CORN ROOTWORM (*Diabrotica virgifera*) - MICHIGAN - Adults taken on corn near Jeddo, St. Clair County, August 15, 1975. Collected by S. Pynnonen. Determined by R.F. Ruppel. This is a new county record. (Pynnonen). UTAH - Adults numerous on field corn at Garland, Box Elder County, September 16. Much damage to silks and greatly reduced number of kernels in most ears examined. (Parrish, Lindsay).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NORTH DAKOTA - One adult taken in Griggs County alfalfa field August 20, 1975. Collected and determined by G.S. Scholl. This is a new county record. (Scholl).

SORGHUM MIDGE (Contarinia sorghicola) - OKLAHOMA - Heavy damage in field at Bixby, Tulsa County. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Damaged Jackson County pastures. (Fla. Coop. Sur.). ALABAMA - Infested several Blount County grass fields; treatments applied. Damaged 15 acres of new growth Coastal Bermuda grass in Dale County. (McCall, Faw). MISSOURI - Moderate to heavy in Maries and Moniteau Counties. Completely defoliated some high spots. (Munson). NORTH CAROLINA - Further damage to Scotland County Bermuda hayfields. Larvae 5 per square foot of surface on 300 acres. Controls ineffective. (Hunt, Kimbrough).

A NOCTUID MOTH (Mocis latipes) - FLORIDA - Mostly this species of Mocis spp. sporadic in Bermuda grass pastures in Levy and western Alachua Counties; some damage economic. (Fla. Coop. Sur.).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Weather conduced proliferation of Nomuraea rileyi (a fungus) in larvae on Jackson County soybeans; nearly all late instars infected. Larvae averaged 3-4 per foot of row on a late variety in western Alachua County; fungus killed most of larger larvae. (Fla. Coop. Sur.). MISSISSIPPI - All larval instars statewide. Up to 30 percent defoliation of soybeans planted late or following wheat in Noxubee and other counties. (Robinson). NORTH CAROLINA - Defoliation 10+ percent in 2 of 1,112 soybean fields surveyed in 16 Coastal Plain counties. One Robeson County field had 80+ larvae per 6 feet of row. Small populations in all fields. (Hunt, Bradley). ALABAMA - Second and third-generation larvae above economic levels on foliage in several thousand acres of mid and late-season soybeans in Lowndes, Shelby, Tuscaloosa, Hale, Wilcox, Montgomery, Monroe, Houston, Dale, Barbour, and Pike Counties. (McQueen).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ARKANSAS - Up to 20-30 adults and nymphs per 3 row feet on soybean plots next to snap beans near Fayetteville, Washington County. Decreased with distance from snap beans. (Boyer). NORTH CAROLINA - Defoliation 15 percent in 9 of 1,112 soybean fields surveyed in 16 Coastal Plain counties. Declined in all infested fields. Heaviest in Edgecombe and Robeson Counties. (Sprinkle, Hunt). VIRGINIA - Adults per 30 row feet by county: Northumberland and Lancaster 13.5 in 810 acres, defoliation 5.7 percent; Charles City 1.6 in 230 acres, defoliation 4.8 percent; James City 13.5 in 862 acres, defoliation 4.3 percent, 33 acres needed treatment; Westmoreland 16.6 in 1,154 acres, defoliation 9.8 percent, 15 acres needed treatment. (Allen).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - MISSISSIPPI - Heavy populations developed on soybeans in Delta counties. Counts per 25 sweeps by county: Sunflower 10.5 in 200 acres, Bolivar 11.75 in 50 acres, Washington 16 in 60 acres, Panola 15 in 50 acres. (Robinson). TENNESSEE - Damaged soybeans in Haywood County. (Patrick).

PEANUTS

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Completely defoliated 10-15 acres in 2 Edgecombe County fields September 17. Florunner variety preferred over other varieties. (Fleming).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Heavy in some dryland peanut fields in Comanche County. (Curtis).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Light on cotton in Glasscock and Reagan Counties in Trans-Pecos area. Moderate to heavy in San Angelo area. Heavy throughout Rolling Plains. (Neeb et al.). OKLAHOMA - Punctured squares averaged about 100 percent in remaining squares and adults numerous in west-central counties. Moderate in Comanche County. (Okla. Coop. Sur.). ALABAMA - Still serious on cotton bolls in thousands of acres. Damaging infestations reported along with Heliothis spp. (bollworms) in Shelby, Cherokee, Greene, Tuscaloosa, Monroe, Barbour, and Colbert Counties. (McQueen).

BOLLWORMS (Heliothis spp.) - TEXAS - H. zea (bollworm) light on cotton in Trans-Pecos and Rolling Plains areas. H. virescens (tobacco budworm) light in Trans-Pecos area. (Neeb, Boring). NEW MEXICO - H. zea damage to squares and young bolls averaged about one percent near Roswell, Chaves County. (N.M. Coop. Rpt.). OKLAHOMA - Heliothis spp. moderate in several west-central counties. (Okla. Coop. Sur.). ARKANSAS - Larvae in Jefferson County, 9 H. virescens to one H. zea September 18. (Boyer). ALABAMA - Difficult to control on thousands of acres in Shelby, Cherokee, Etowah, Greene, Tuscaloosa, Monroe, Barbour, Colbert, Lauderdale, and Lawrence Counties. Boll rot excessive. (McQueen).

COLE CROPS

CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) - SOUTH CAROLINA - All larval instars continued extensive foliar loss on untreated broccoli and other vegetables in gardens in northwest area. Heavier and more damaging than normal. (McCaskill).

DECIDUOUS FRUITS AND NUTS

APPLE MAGGOT (Rhagoletis pomonella) - MASSACHUSETTS - Partial second brood at Northboro. Counts tripled September 5-18 compared with August 22 to September 4 in Essex, Middlesex, and Worcester Counties. (Webster).

PECAN WEEVIL (Curculio caryae) - TEXAS - Continued problem in Rolling Plains area. Control measures still applied. (Boring).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Heavy in pecan shucks in several east-central counties. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Light to heavy on pecans in Rolling Plains, Trans-Pecos, and San Angelo areas. (Boring et al.).

WALNUT HUSK FLY (Rhagoletis completa) - NEW HAMPSHIRE - Emerged from walnuts in Strafford County. Infestations approached 100 percent in some areas. (Mason).

BLACK PECAN APHID (Tinocallis caryaefoliae) - ALABAMA - This species and Monellia spp. (yellow pecan aphids) still heavy in southern and central areas. Damage by these pests along with rust mites, sooty mold, and scab caused loss of yield and quality on thousands of pecan trees. (Linder et al.).

ORNAMENTALS

AN ARMORED SCALE (Tsugaspidiotus pseudomeyeri) - PENNSYLVANIA - Adult females very light on nursery-grown Thuja occidentalis (American arborvitae) at Point Pleasant, Bucks County. Collected by J. Longenecker August 28, 1975. Determined by S. Nakahara. This is a new State record. (Stimmel).

EUONYMUS SCALE (Unaspis euonymi) - FLORIDA - Adults moderate on stems and leaves of Euonymus sp. plants examined at residence in Jasper, Hamilton County, by C.H. Webb September 16, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

AZALEA CATERPILLAR (Datana major) - ALABAMA - Second generation of young larvae defoliated azaleas at residence in Dothan, Houston County. Usually only one generation per year in State. Larvae defoliated azalea plants at Perry County residence. (Stephenson).

FOREST AND SHADE TREES

AN ARMORED SCALE (Acutaspis morrisonorum) - PENNSYLVANIA - Collected on hemlock at Indiana, Indiana County, by L. Garrett September 19, 1975. Determined by J. Stimmel. This is a new county record. (Garrett, Stimmel).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Taken in elm trees at Markleeville, Alpine County, on August 29, 1975, by F.G. Andrews and K.S. Corwin. Determined by F. Andrews. This is a new county record. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - NEW HAMPSHIRE - Moderate to heavy in these counties: Rockingham - webs on 70 trees per mile with defoliation 50-100 percent on 10 percent of trees near Newfields; Strafford - webs on 181 trees per mile with 50-100 percent defoliation on 20 percent of trees near South Lee, and webs on 50 trees per mile with 50-100 percent defoliation on 40 percent of trees near Dover. No larvae. (Burger).

MAPLE LEAFCUTTER (Paraclemensia acerifoliella) - NEW HAMPSHIRE - Severely browned and defoliated pure sugar maple stands in Sullivan and Cheshire Counties. (Mason, Hutchins). PENNSYLVANIA - Larvae on 200 acres of sugar maple in Lackawanna State Park, Benton, Lackawanna County. Destroyed 20-100 percent of leaf surface. (Colbert, Bur. For.).

A MEALYBUG (Anisococcus quercus) - ARIZONA - Collected from Quercus emoryi (Emory oak) at John Hand Lake, Chiricahua Mountain, Pinal County, by T.P. Sluss, October 10, 1970. Determined by D.R. Miller. This is a new State record. (PPQ).

AN APHID (Therioaphis tiliae) - NEVADA - Aphids 65+ per leaf on linden at Reno, Washoe County; honeydew covered leaves and branches. (Bechtel, Hampton).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 915 cases reported from continental U.S. September 7-13 as follows: Texas 852, New Mexico 32, Arizona 30, Oklahoma 1. Total of 475 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 305 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 178,720,950 as follows: Texas 148,225,350; New Mexico 7,273,800; Arizona 22,768,200; Oklahoma 453,600. Total of 180,000 flies released south of Barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 300 per head on cattle in Payne County. Heavy in Garvin County. Light to moderate in Comanche County. (Okla. Coop. Sur.). TEXAS - Light to moderate on Trans-Pecos area cattle. Moderate on San Angelo area livestock. (Neeb, McWhorter). MISSISSIPPI - Adults about 75 per beef animal in Oktibbeha County. (Robinson).

FACE FLY (Musca autumnalis) - OKLAHOMA - Ranged 10-20 per head in many herds of cattle in Payne, Kay, and Noble Counties. (Okla. Coop. Sur.). MISSISSIPPI - Adults averaged 4 per face on Oktibbeha County beef cattle. (Robinson).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 10 per head on Payne County dairy cattle. (Okla. Coop. Sur.).

MOSQUITOES - NEW HAMPSHIRE - Anopheles punctipennis found positive for western equine encephalomyelitis virus. Collected in mid-August from Rockingham County. Isolation by Center for Disease Control, Fort Collins, Colorado. (Mason). ARKANSAS - One case of California encephalomyelitis at Warren, Bradley County. Six cases of St. Louis encephalomyelitis from Blytheville, Mississippi County, to West Memphis, Crittenden County. (Boyer). CALIFORNIA - Annoyance in cities increased with rice harvest. Many complaints at Sacramento, Sacramento County. (Cal. Coop. Rpt.).

AMERICAN DOG TICK (Dermacentor variabilis) - NORTH CAROLINA - Total of 103 cases of Rocky Mountain spotted fever reported through August, a reduction by 14 for same period in 1973 but heavier than in 1974. (MacCormack).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - OREGON - Mainly Oedaleonotus enigma and Melanoplus sanguinipes adults economic on 12,680 acres of eastern rangeland. Estimated 7,680 acres infested in Wallowa County and 5,000 acres in Malheur. Two thousand cropland acres infested in Malheur County. (Goeden). NEW MEXICO - Grasshoppers 4-6 per square yard along U.S. Highway 285, 10 miles south of Roswell, Chaves County. Up to 30 per square yard common. Boopedon nubilus main species. (N.M. Coop. Rpt.). OKLAHOMA - Grasshoppers heavy, damaged young wheat in several west-central counties. (Okla. Coop. Sur.).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - One egg mass found in Jay Township, Elk County, September 17; 16 egg masses found in Benezette Township, Elk County, September 18. (Shiner, Puchacz).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - One newly emerged male in McPhail trap in citrus trees at Culver City, Los Angeles County. Collected by R. Atkins September 25, 1975. Determined by D. McRae and G. Buxton; confirmed by M. Wasbauer. First time this fly has been trapped in State. Trap site one mile north of Marina del Rey and 9 miles from Los Angeles Airport. Two additional flies detected September 30 in a trap 2 blocks from first find. McPhail and Steiner traps set; spray program began October 1. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Light on cotton in isolated Trans-Pecos area fields. (Neeb). ARKANSAS - Trapped this season in Mississippi, Craighead, Lonoke, Conway, Pulaski, Yell, and Miller Counties. Heaviest near Keiser, Mississippi County. (Boyer).

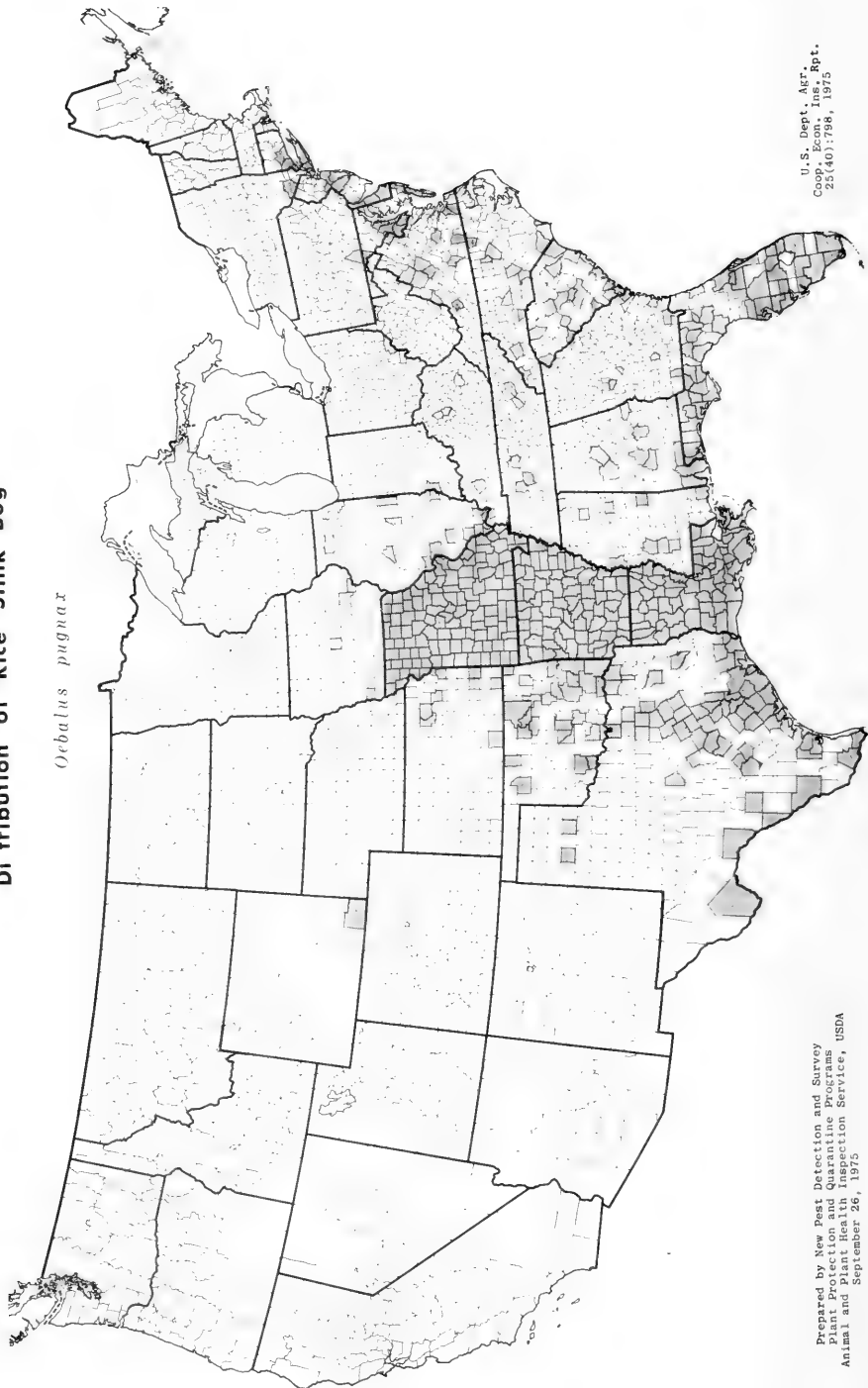
DETECTION

New State Records - AN ARMORED SCALE (Tsugaspidiotus pseudo-meyeri) - PENNSYLVANIA - Bucks County. (p. 794). A MEALYBUG (Anisococcus quercus) - ARIZONA - Pinal County. (p. 795).

New County Records - AN ARMORED SCALE (Acutaspis morrisonorum) PENNSYLVANIA - Indiana (p. 794). EUONYMUS SCALE (Unaspis euonymi) FLORIDA - Hamilton (p. 794). GREENBUG (Schizaphis graminum) ARKANSAS - Cross (p. 791). SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) CALIFORNIA - Alpine (p. 794). SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) NORTH DAKOTA - Griggs (p. 792). WESTERN CORN ROOTWORM (D. virgifera) MICHIGAN - St. Clair (p. 791).

Distribution of Rice Stink Bug

Oebalus pugnax



Prepared by New Pest Detection and Survey
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service, USDA
September 26, 1975

U. S. Dept. of Agr.
Coop. Pest Control
25(40):798, 1975

A Report of Surveys for the Distribution of the Face
Fly in Mississippi from May 1969 Through June 1975

James V. Robinson 1/ and Robert L. Combs, Jr. 2/

Each summer since the face fly, *Musca autumnalis* De Geer, was discovered in Monroe County in May 1969, surveys have been conducted to monitor the abundance and distribution of this pest within the State. These surveys have shown that the fly has extended its range to 46 of the 82 counties and is present in all of the counties in the northern half of the State. The surveys also indicated that each year the infestations during July and August average 20-30 flies per face on cattle in the center of the infested area but average less than 5 flies per face on cattle along the boundary of the area.

During the summer of 1969, the face fly was found infesting cattle in Clay, Chickasaw, Lee, Itawamba, Monroe, and Oktibbeha Counties (Fig. 1). That summer, the heaviest infestations occurred on cattle in the west-central area of Monroe County. Surveys conducted in the summers of 1970 and 1971 indicated that the distribution changed little with the exception that the southern boundary of the infested area did not include Oktibbeha County (Fig. 2).

In 1972 (Fig. 3), the fly began to spread and by September it had moved into Pontotoc County for the first time. The surveys conducted in 1973 (Fig. 4) indicated that the known area of distribution was continuing to increase as it did the previous year. In June, the fly was collected in Calhoun County for a new county record and was also collected in Oktibbeha County in August for the first time since 1969.

During 1973, the heaviest infestation on cattle, up to 100 per face, occurred in the northeast corner of Chickasaw County. It was found that by comparing survey records of 1969 with those of 1973, that the center of heaviest infestation was moving northward and it appeared that the face fly was increasing its range and was expected to continue this pattern in 1974. The 1974 survey (Fig. 5) indicated this to be true and by the end of the summer the face fly was collected from 18 new counties.

It was believed that the fly could successfully overwinter in these new areas of infestation and a survey was planned for May of 1975 to determine the presence of overwintering flies infesting cattle in these counties. This survey was conducted and face flies were found infesting cattle in all of the new counties included in the 1974 survey.

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The distribution survey was then planned for the second week in June. As a result of this survey, face flies were collected and identified from 20 new counties and a new distribution map was constructed (Fig. 6). This figure shows that the fly is currently infesting cattle in 46 counties in the northern half of the State from the Mississippi River to the Tennessee and Alabama borders.

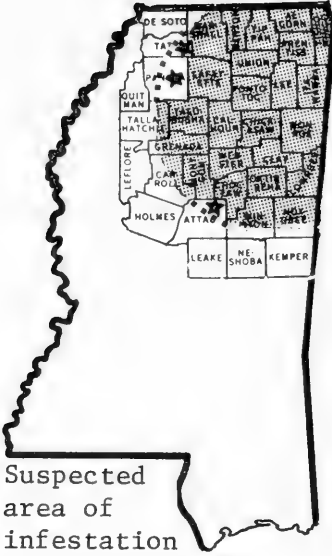
Since 1969, this pest has advanced rather rapidly across the State to the west. However, its advancement to the south, which began in 1973, has been steady but somewhat slower. According to records, this southern extension in Mississippi is the farthest south that the fly is known to occur in the United States.

Based on previous patterns of dispersal in Mississippi, it is believed that the face fly will continue to spread southward and possibly extend its range to the Gulf of Mexico. For example, in 1973 face flies were collected in Oktibbeha County for the first time since 1969. On herds checked that summer, infestations averaged less than one per face. However, in 1974, 5-10 face flies were found infesting Oktibbeha County cattle and were collected as far south as Winston and Noxubee Counties where they averaged 3-5 per face during July and August.

In June 1975, these same herds in Winston and Noxubee Counties were found to have an average of 10-15 per face and the southern edge of the distribution was located farther south in Kemper, Neshoba, Leake, Madison, Yazoo, Sharkey, and Issaquena Counties where face flies averaged 1-5 per face.

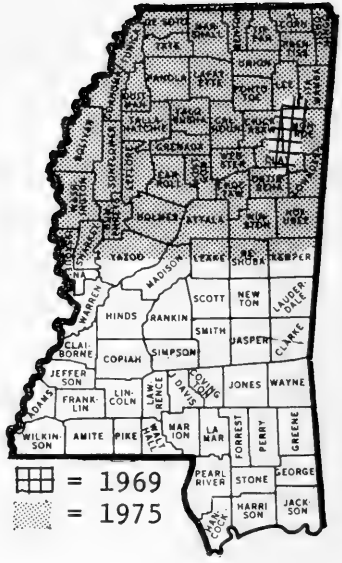
If this southern movement continues, it is likely that Kemper, Neshoba, Leake, and Madison Counties will have infestations of 15-20 per face by the summer of 1976. If this occurs the fly will probably spread to cattle in Lauderdale, Newton, Scott, Rankin, Hinds, and Warren Counties.



5



Suspected
★ area of
infestation

6



 = 1969
 = 1975

Figures 5-6, Known distribution of face fly in Mississippi: 5, in 1974; 6, in June 1969 and June 1975.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(40):799-802, 1975

WEATHER OF THE WEEK ENDING SEPTEMBER 28

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Hurricane Eloise made headlines across the Nation when heavy rains in the path of the storm deluged the eastern part of the Nation during the week.

PRECIPITATION AND TEMPERATURE: Precipitation followed a course from the Lower Mississippi Valley through the mid-Atlantic States and into New England. Temperatures were as low as 15 degrees below normal over the central United States amid a large cool air mass, but soared up to 10 degrees above normal in the extreme Southwest where a number of record highs were tied or broken. The beginning of the week was mostly a wait and see weather story. But it didn't take long to find out what was going to happen. Upgraded to hurricane status, a better organized Eloise picked up speed in moving towards the northern gulf coast and at 1 p.m. Monday was poised 210 miles south of New Orleans with maximum winds at 85 m.p.h. Thunderstorms rumbled in a large area southeast of a line from the east Texas coast to New England. Some produced locally heavy rains and all grew stronger as the hurricane got closer. Except for the lower Mississippi Valley, early afternoon skies were fair west of the Mississippi and packed with clouds east of the river. It wasn't surprising on Monday when temperatures again topped 100 degrees in the Desert Southwest. The upper Great Lakes region and northern Minnesota were only half as hot with readings in the 50's. In the Plains and in New England the mercury hovered in the 60's and 70's.

Tuesday, just one week since Eloise first appeared in the Atlantic, the eye of the hurricane moved inland at 9 a.m. and was centered southwest of Dothan, Alabama. The storm had lost much of its punch. Heavy rains falling along and to the north of the storm track now posed the greatest threat. Flash flood watches were posted in the area from the mountains of southeast New York through most of Virginia and parts of South Carolina, Tennessee, Kentucky, Ohio, and Pennsylvania. Showers pounded the east coast and Ohio and the southern Mississippi Valley. Meantime, areas west of the Mississippi fared under sunny skies except the Pacific Northwest where clouds gathered. Temperatures in southern California warmed well above the seasonal normals and even soared to a record 103 degrees in San Diego. A large mass of cool air pushed Wednesday morning's mercury down into the 30's and 40's across the central part of the Nation. Central Nebraska temperatures even skidded into the mid 20's, warmer readings were confined to the southern Atlantic coast, California, and the Desert Southwest. Associated with the cold front, showers and storms spread from the lower Mississippi into the Ohio Valley and throughout the Atlantic Coast States.

The midweek rainfall pattern changed rapidly as the tropical storm advanced steadily northward. Most of the shower activity occurred along and east of the Appalachians and from New England. A smaller area of light rains dampened the middle Missouri Valley. Circled by strong winds, heavy rains got an early start Thursday and moved into the Middle Atlantic States and southern New England.

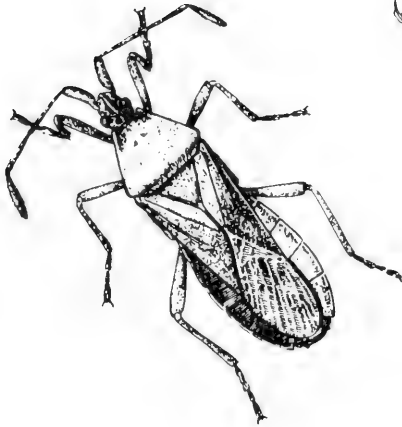
Meanwhile, frost in the central Plains crept into portions of Kansas and probably ended the growing season in parts of Iowa. Record lows extended from Kansas to central Texas and as far east as southern Alabama. Clouds held temperatures in the 50's in the Pacific Northwest. Later in the day, the northern Plains thawed under sunny skies but most of the Midwest remained cool, 50's and 60's in the Great Lakes, and 60's and 70's in the Mississippi Valley. Temperatures ranged to 10 degrees below normal in the southern Plains. Friday morning rainfall tapered off over a large area from the Carolinas into southern New England, but flash floods still plagued the Northeast. The heaviest afternoon rains focused on an area from northeast Virginia to southeast New York. Major rivers in parts of Virginia, Pennsylvania, Connecticut, and New York swelled above the flood stage. Looking at flood damage, Pennsylvania and New York State seemed the hardest hit, 5-6 feet of water covered highways, several bridges collapsed, and rock and mudslides caused problems.

Also on Friday, rainshowers dotted the northern Plains near a cold front. Otherwise, sunshine west of the Mississippi to the Pacific coast brought temperatures near normal levels for late September over much of the area. Rains returned in full force to New England Saturday morning as a stationary front responsible for prolonged rains along the Atlantic seaboard moved eastward. As the day progressed, precipitation diminished to light afternoon showers in parts of New England, New York, and Pennsylvania and the big rains were over. The Northeast began its long drying out period as sunny skies brightened much of the area. Streams and rivers in New York, northern Virginia, and Maryland had crested and were falling. Owing to the storm, September in New York was ending three times as wet as usual. New shower activity turned up over the weekend as a cold front moving eastward across the Nation's midsection touched off light rains from southern Minnesota into west-central Missouri. In general, rainfall was noticeable by its absence. On Sunday afternoon, showers and thunderstorms were scattered from the upper half of the Mississippi Valley into the eastern Plains. Clouds and rain kept temperatures low for this time of the year in the middle Missouri Valley where Kansas and Missouri reported readings in the mid to upper 50's.

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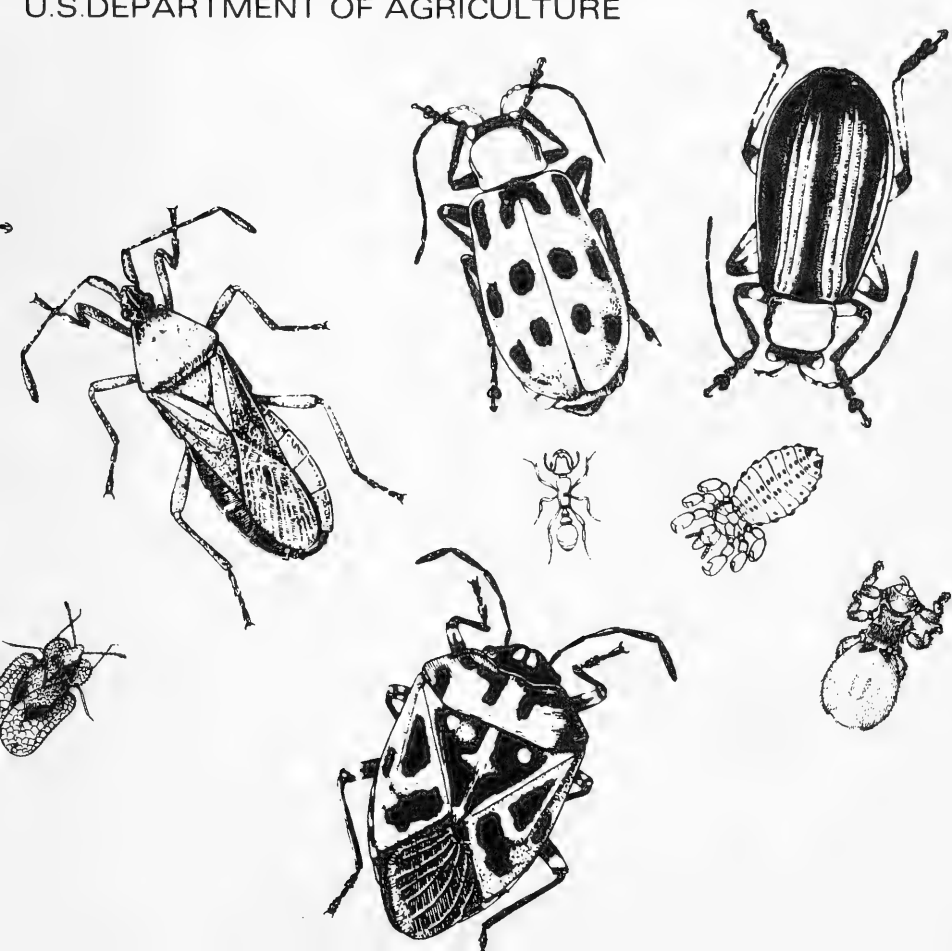


VOL. 25 NO. 41

October 10, 1975

Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

CABBAGE LOOPER very heavy on cole crops in parts of Texas. (p. 809).

HICKORY SHUCKWORM and PECAN WEEVIL heavy on pecans in parts of Texas; former species heavy in parts of Oklahoma. (p. 809).

RED FLOUR BEETLE infested peanuts in Texas. (p. 811).

Detection

● Larvae of MEDITERRANEAN FRUIT FLY found in California. (p. 812).

New State records include a PYRALID MOTH in Michigan (p. 810), and 2 WEEVILS (p. 811), and 3 ANTS (p. 813) in Utah.

For new county records, see page 813-814.

Reports in this issue are for the week ending October 3 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING OCTOBER 5

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

PRECIPITATION AND TEMPERATURE: The sunshine that greeted most of the Nation on Monday was especially welcome in the East following heavy rains and flooding in that area. A few morning showers sprinkled across the upper Mississippi Valley to the western Great Lakes. At dawn, seasonably cool temperatures dominated much of the country. Readings in the 50's reigned from the Canadian border southward to the Atlantic and Gulf Coast States. In parts of the central Plains, the mercury even skidded into the 20's. Mild weather favored the southern Atlantic Coast States, southern California, and the Desert Southwest. As the afternoon air grew warmer, temperatures edged upward into the 70's from Augusta, Maine, to Los Angeles, California, 60's in the Dakotas, and 80's in the Southeast and Florida. During the day, isolated shower activity occurred in the Carolinas, Georgia, and throughout Florida. Evening rains developed in the central United States mostly in Kansas, Oklahoma, and Texas Panhandle. A cold outbreak lowered the nighttime temperatures on Monday into the 20's and 30's from the Plateau into the northern Plains. Laramie, Wyoming, even measured an inch of snow. On Tuesday morning, colder air moved swiftly southward shoving the mercury to below normal levels throughout the central United States. Notable precipitation on Tuesday took the form of thundershowers from the central Plains to the middle Mississippi Valley, the heaviest rains poured over eastern Kansas and western Missouri. Meantime, sunny skies went uninterrupted in portions of New England and the western United States.

Weather of the week continued on page 816.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MISSISSIPPI - Averaged 0.2 per square foot in 100 acres of winter wheat in Noxubee County. (Robinson). MISSOURI - This species and Spodoptera frugiperda (fall armyworm) moderate to heavy in fescue in south-central, central, southwest, and west-central areas. Completely defoliated fescue field in southwest area. P. unipuncta light to moderate on alfalfa in central and southwest areas. Larvae 3-17 per 10 sweeps in southwest area. (Munson).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Averaged one per 10 heads on late grain sorghum in Harper, Ellis, and Major Counties. (Okla. Coop. Sur.). GEORGIA - Infested commercially grown greenhouse chrysanthemums in Tift County week ending September 27. (Poole, Barry). MARYLAND - Larval damage to late-planted soybeans well above normal. Losses expected to be slightly heavier than last season. Damaged 10-40 percent of pods in most heavily infested fields on Eastern Shore; loss in most fields within 4-percent range. (U. Md., Ent. Dept.).

GREENBUG (Schizaphis graminum) - WASHINGTON - This species and Rhopalosiphum padi (an aphid) widespread on winter wheat in Klickitat County. Infestations variable. Treatments required in some fields. (Forster, Antonelli).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NORTH DAKOTA - Counts of 100-800 per 100 sweeps on alfalfa in Benson, Eddy, Ramsey, and Towner Counties. Collected and determined by C.G. Scholl. Counts of 100 per 100 sweeps on alfalfa in Adams, Billings, Grant, Golden Valley, Hettinger, Mercer, Oliver, Slope, and Stark Counties. Collected and determined by W.J. Brandvik. All collected September 8-11, 1975. Collected on alfalfa in Pembina and Traill Counties September 15, and in Cavalier, Walsh, Grand Forks, and Nelson Counties September 16. Collected and determined by C.G. Scholl. Taken from alfalfa in Burke County September 29 and in Renville and Bottineau Counties October 2. Ranged 10-140 (averaged 50) per 100 sweeps. Collected and determined by C.G. Scholl. All are new county records. (Brandvik, Scholl).

CORN, SORGHUM, SUGARCANE

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - ALABAMA - Larvae 3 per 15 feet of row in corn stubble near Wedowee, Randolph County. Collected by L.D. Baker September 22, 1975. Determined by H.F. McQueen. This is a new county record. (McQueen). KENTUCKY - Larva taken from taproot of corn plant in Clinton County, October 1, 1975. Collected and determined by D. Barnett. Confirmed by W.W. Gregory. This is a new county record. (Barnett).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEW HAMPSHIRE - Infested all fallen stalks in small field of field corn west of Durham, Strafford County. Larvae 3-7 (averaged 4) in stalks, whorls, and silk at top of ears, 70 percent fully grown. (Burger).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - NORTH DAKOTA - Single adult collected on corn and determined by C.G. Scholl in Stutsman and Foster Counties September 8, 1975. These are new county records. (Scholl).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NORTH DAKOTA - Single adult collected on corn and determined by C.G. Scholl in Stutsman County September 8, 1975. This is a new county record. (Scholl).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Damaged small grain cover crops across Coastal Plain. Counts heavy on rye in Wilson County, about 95 percent of 5 acres infested. (Jernigan).

FORAGE LEGUMES

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NORTH DAKOTA - Adults on alfalfa September 8-11, 1975, in Sioux, Grant, Slope, Stark, Billings, Dunn, and Mercer Counties. Collected and determined by W.J. Brandvik. Collected on alfalfa in Traill County September 15. Collected and determined by C.G. Scholl. One adult on forage legumes in Burleigh County September 26. Collected and determined by W.J. Brandvik. All are new county records. (Brandvik, Scholl).

SOYBEANS

BEAN LEAF BEETLE (Cerotoma trifurcata) - ARKANSAS - Feeding on foliage and pods in scattered soybean fields in Mississippi County. Feeding on surface of pods, not seeds. In some cases, 50 percent or more of foliage eaten. Some fields with heavier feeding treated. (Stevenson). OKLAHOMA - Ranged 1-2 per row foot in scattered soybean fields in Wagoner County. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Larvae averaged 106 per 3 feet of row in large Marengo County soybean field. Fungal disease killing larvae in this field and several Montgomery County fields. (Yates, Henderson). GEORGIA - Light to heavy statewide week ending September 27. (Suber). NORTH CAROLINA Defoliation heavy in some soybean fields; defoliation 40 percent in Johnston County field. Defoliation not more than 15 percent in 12 counties and 966 fields. Little damage expected. (Sprinkle, Hunt).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NORTH CAROLINA - Defoliation 15+ percent in 11 of 12 northern Coastal Plain counties and 966 soybean fields. Counts decreased in all infested fields sampled. Heaviest in Currituck County, 60 acres in 4 consecutive fields averaged 35-percent defoliation. Defoliation 15 percent or more in 11 fields surveyed. (Sprinkle, Hunt).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Moderate on cotton in San Angelo area. (McWhorter). LOUISIANA - Percent damaged squares by parish: Bossier 5, Caddo 8, Concordia 2, Franklin 2, Madison 1.4, Natchitoches 1.5, and Rapides 1.6. (Graves). GEORGIA - Light on cotton in most areas week ending September 27. Punctured squares 0-34 percent in several southern counties. (Womack).

BOLLWORMS (Heliothis spp.) - GEORGIA - Egg laying on cotton still light in most areas week ending September 27; some foliar feeding where no controls applied. (Womack). LOUISIANA - Percent H. virescens (tobacco budworm) on cotton by parish (remainder H. zea (bollworm) specimens): Bossier 94, Caddo 90, Concordia 100, Madison 96, Natchitoches 91, Tensas 96. Percent Heliothis spp. damaged squares by parish: Bossier 6, Caddo 5, Concordia 2.5, Franklin 2, Madison 1.4, Natchitoches 2.5, Rapides 2. (Graves). TEXAS - H. zea very light on cotton in Glasscock, Martin, Midland, Upton, and Howard Counties. Light to moderate in Pecos and Reeves Counties. (Neeb).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Very heavy on broccoli, cauliflower, and cabbage in Medina County. (Stewart).

GENERAL VEGETABLES

A LEAFMINER FLY (Liriomyza sativae) - FLORIDA - Generally light on celery at Belle Glade, Palm Beach County. Averaged 1+ per petiole on 75 percent of petioles in commercial field of 100 acres, about 5-6 weeks from harvest. (Fla. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

PEACHTREE BORER (Sanninoidea exitiosa) - TEXAS - Very heavy in Limestone, Lampasas, and Hill Counties. (Hoelscher).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Larvae damaged 5-10 percent of apples in 20 acres of orchard near Salisbury, Wicomico County. Entire crop contaminated by larvae. (U. Md., Ent. Dept.).

PEAR PSYLLA (Psylla pyricola) - UTAH - Adults very numerous on pear foliage at Providence, Cache County. (Davis).

HICKORY SHUCKWORM (Laspeyresia caryana) - TEXAS - Very heavy on pecans in Gulf Coast counties. Light to moderate in Ward, Ector, and Midland Counties. Light in San Angelo area. (Cole et al.). OKLAHOMA - Heavy on pecans in Pontotoc County. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Continued active on pecans at Uvalde with another generation about half grown. Small larvae on trees throughout Harris and Hays Counties. Light in San Angelo area. (Stewart et al.).

PECAN WEEVIL (Curculio caryae) - TEXAS - Heavy on late-maturing pecans in Hood, Erath, Hamilton, Eastland, and Comanche Counties. Light in San Angelo area. (Hoelscher, McWhorter).

CITRUS

ARMORED SCALES (Lepidosaphes spp.) - FLORIDA - L. beckii (purple scale) and L. gloverii (Glover scale) collected on 4 Citrus sp. trees at nursery in Live Oak, Suwannee County, by C.H. Webb and A.E. Graham September 23, 1975. Determined by G.W. Dekle. These are new county records. (Fla. Coop. Sur.).

SMALL FRUITS

A PYRALID MOTH (Macrotheca unipuncta) - MICHIGAN - One adult reared from larvae collected on domestic Vitus sp. at Scottsdale, Berrien County, by R. Haynor June 28, 1975. Adult determined by D.C. Ferguson. This is a new State record. Adults and larvae found; larvae under loose bark associated with Pseudococcus maritimus (grape mealybug). (Liebherr).

ORNAMENTALS

AN ARMORED SCALE (Aonidiella taxus) - FLORIDA - Adults light on leaves on 5 percent of 20 Podocarpus sp. plants collected by C.H. Webb and A.E. Graham at nursery in Live Oak, Suwannee County, September 23, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

AN ARMORED SCALE (Hemiberlesia lataniae) - FLORIDA - Collected on Ardisia sp. by C.H. Wenn and G.W. Dekle at nursery in Live Oak, Suwannee County, September 25, 1975. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - KENTUCKY - Adults collected from pines in Martin County by R. Omer and B. Phillips August 20, 1975. Determined by M. Matuszewski; confirmed by D. Barnett. This is a new county record. (Barnett).

PINE NEEDLE SCALE (Chionaspis pinifoliae) - COLORADO - Heavy on ponderosa pine in Fort Collins and Estes Park areas, Larimer County. (Bruss).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Adults decreased in multilure traps second and third week of September. Second-generation flight near completion. Catches September 11-24 by county: Union 57 at Union, 738 at LaGrande; Malheur 5,358 at Nyssa; Crook 268 at Prineville; Deschutes 135 at Redmond; Jefferson 660 at Madras. (Penrose).

A NOTODONTID MOTH (Symmerista canicosta) - RHODE ISLAND - Defoliated about 100 acres of mostly oaks in western area. (Gardner).

MAN AND ANIMALS

SCREWORM (Cochliomyia hominivorax) - Total of 786 cases reported from continental U.S. during September 14-20 as follows: Texas 734, New Mexico 22, Arizona 30. Total of 1,121 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 409 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 183,975,000 as follows: Texas 153,924,000; Oklahoma 540,000; New Mexico 9,106,200; Arizona 20,404,800. None released in Republic of Mexico. (Vet. Serv.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 150 per head on cattle in Payne County. (Okla. Coop. Sur.). TEXAS - Heavy in Hays County. Moderate to heavy on cattle in Pecos, Crockett, Terrell, and Brewster Counties. Moderate in San Angelo area. (McWhorter et al.). MISSISSIPPI - Adults 0-25 per herd of beef

cattle in Lamar County, 25-50 per head on 3 Monroe County herds. (Robinson).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Ranged 0-15 per face on 3 herds of beef cattle in Monroe and Chickasaw Counties. (Robinson).

MOSQUITOES - NEVADA - Culex tarsalis and Culiseta inornata larvae heavy in Lemmon Valley area, Washoe County. (Minedew, Kamm).
NEW HAMPSHIRE - Aedes vexans landing rate 0.2 females per minute September 27. Still emerging from local breeding sites and biting at dusk at Dover, Strafford County. (Burger).

HOUSEHOLDS AND STRUCTURES

PAVEMENT ANT (Tetramorium caespitum) - UTAH - Collected in residence at Salt Lake City, Salt Lake County, April 12, 1975, by J.T. Knighton. Determined by G.C. Wheeler. This is a new county record. (Hanson, Knowlton).

MISCELLANEOUS WILD PLANTS

WEEVILS (Tychius spp.) - UTAH - T. soltau taken on Astragalus cibericus in Logan Canyon, Cache County, June 29, 1970. Two T. prolixus adults emerged from Astragalus utahensis (Utah loco) seed pods at Logan, Cache County, August 5, 1970. Collected by T.W. Green. Determined by R.E. Warner. These are new State records. (Knowlton).

STORED PRODUCTS

RED FLOUR BEETLE (Tribolium castaneum) - TEXAS - Infested 2 million pounds of stored peanuts in Comanche County. Controls applied. (Hoelscher).

BENEFICIAL INSECTS

A PUNCTUREVINE SEED WEEVIL (Microlelarinus lareynii) - OKLAHOMA - Moderate on puncturevine at Alva, Woods County, October 1, 1975. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

A CHALCID WASP (Brachymeria ovata) - NEW MEXICO - Large series recovered from Hemileuca oliviae (range caterpillar) pupae collected in northern Lincoln County. (N.M. Coop. Rpt.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GYPSY MOTH (Porthetria dispar) - FLORIDA - Male moth trapped in trailer camp east of Milton, Santa Rosa County, by E.N. Bishop September 9, 1975. (PPQ). WISCONSIN - Male moth trapped at Manitowoc, Manitowoc County, by R. Jakubek October 1, 1975. Both determined by E.L. Todd. Both first finds for county. (PPQ).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Light on cotton in Pecos, Reeves, El Paso, Glasscock, Martin, and Midland Counties. (Neeb).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Adults taken from pheromone traps on elms at Sonora, Tuolumne County, August 25, 1975. Collected by G. Rydell and R. Bingham. Determined by F. Andrews. This is a new county record. (Cal. Coop. Rpt.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - Additional 2 flies detected September 30 (See CEIR 25(40):796) now reported as newly emerged male and female in McPhail trap 2 blocks from original site at Venice (See CORRECTIONS, p. 814), Los Angeles County. Second and third instar larvae, one each, found in peach at same location 2 blocks from original site by E. Davidson October 7. Determined by D. McCrae; confirmed by M. Wasbauer. Numerous tephritid larvae found in peach on adjacent premises same date. Additional flies detected at original site-- 2 males in McPhail trap October 2 and one male in Steiner trap October 3. Total identified finds in State to October 7: 6 newly emerged adults and 2 larvae. (PPQ).

HAWAII INSECT REPORT

General Vegetables - DIAMONDBACK MOTH (Plutella xylostella) larvae and pupae heavy in 6,000+ square feet of watercress at Pauwela, Maui. Defoliation heavy, 85 percent, on harvesting-age plants; moderate, 25 percent, in at least 1,000 square feet; and light in about 5,000 square feet of watercress. (Miyahira). TOMATO PINWORM (Keiferia lycopersicella) infestations variable in eggplants and tomatoes on Kauai. Counts and damage heavy in 0.25 and 0.50 acre of tomato at Wailua. At least 50 percent of leaves had infested leaflets. Larvae damaged about 35-50 percent of fruits. Infestations and damage light in small eggplant plantings at Wailua, Anahola, Hanapepe, Hanalei, and Kaunakani. LEAFMINER FLIES (Liriomyza spp.) light on eggplants and tomatoes throughout Kauai. Adults and larvae moderate in about 0.75 acre of cucumber at Wailua. At least 10-15 percent of older leaves heavily damaged, 70 percent of leaf surface mined. Adults 4-8 per leaf. Counts light, 3-4 mines per leaf, in 0.25 acre of snap beans at Hanapepe. Heavy leaf loss due to previous severe mining. (Melendez et al.).

Fruits and Ornamentals - Moderate CARMINE SPIDER MITE (Tetranychus cinnabarinus) infestations, 10-20 per square inch, in 5-10 acres of papaya at Moloaa, Kauai. Light, 1-10 per square inch, in adjoining fields where Stethorus siphonulus (a lady beetle) observed. (Melendez, Mau). Heavy BANANA SKIPPER (Erionota thrax) infestation at Hoolehua, Molokai, during September. Defoliated 50 percent of 80-100 banana trees. Eggs and larvae heavy. Light throughout other areas of island. Apanteles erionotae (a braconid wasp), again recovered from east Molokai and Kaunakakai. (Ah Sam).

DETECTION

New State Records

ANTS - UTAH - Lasius flavus taken from Rhus ovata (sugar sumac) debris 3 miles south of Bonanza, Uintah County, May 13, 1975. L. neoniger taken from beneath stone and dry horse manure 3 miles south of Bonanza, Uintah County, May 29, 1975. Collected by G.F. Knowlton and G.E. Bohart. Determined by G.C. Wheeler and J. Wheeler. Stenamma occidentale taken from cottonwood debris and mossy debris beneath Chrysothamnus (rabbit brush) in Leeds Canyon, Washington County, July 19, 1970. Collected by G.F. Knowlton. Determined by R.R. Snelling. (Knowlton).

WEEVILS (Tychius spp.) - UTAH - T. soltau and T. prolixus in Cache County. (p. 811).

A PYRALID MOTH (Macrotheca unipuncta) - MICHIGAN - Berrien County. (p. 810).

New County Records

AN ANT (Stenamma occidentale) - UTAH - Taken from maple debris in Green Canyon, Cache County, September 10, 1973, and at Paradise, Cache County, April 16, 1974. Collected by G.F. Knowlton. Determined by G.C. Wheeler. Collected from among cottonwood debris and mossy debris beneath Chrysothamnus (rabbit brush) 3 miles south of Bonanza, Uintah County, May 13, 1975. Collected by G.E. Bohart and G.F. Knowlton. Determined by G.C. Wheeler and J. Wheeler. (Knowlton).

ARMORED SCALES - Aonidiella taxus, Hemiberlesia lataniae - FLORIDA Suwannee (p. 810).

GLOVER SCALE (Lepidosaphes gloverii) FLORIDA - Suwannee (p. 809).

PAVEMENT ANT (Tetramorium caespitum) UTAH - Salt Lake (p. 811).

A PUNCTUREVINE SEED WEEVIL (Microlarinus lareynii) OKLAHOMA - Woods (p. 811).

PURPLE SCALE (L. beckii) FLORIDA - Suwannee (p. 809).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) CALIFORNIA - Tuolumne (p. 812).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) NORTH DAKOTA - Stutsman, Sioux, Grant, Slope, Stark, Billings, Dunn, Mercer, Traill, Burleigh (p. 808).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) KENTUCKY - Martin (p. 810).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) ALABAMA - Randolph; KENTUCKY - Clinton (p. 807).

SPOTTED ALFALFA APHID (Therioaphis maculata) NORTH DAKOTA - Benson, Eddy, Ramsey, Towner, Adams, Billings, Grant, Golden Valley, Hettinger, Mercer, Oliver, Slope, Stark, Pembina, Traill, Cavalier, Walsh, Grand Forks, Nelson, Burke, Renville, Bottineau (p. 807).

WESTERN CORN ROOTWORM (Diabrotica virgifera) NORTH DAKOTA - Stutsman, Foster. (p. 807).

CORRECTIONS

CEIR 22(33):535, 544, and 550, 1972 - A SAWFLY (Caliroa lineata) for WEST VIRGINIA should be A SAWFLY (Caliroa sp.) Delete new State record. (W. Va. Ins. Sur.).

CEIR 24(33):657, 1974 - A SAWFLY (Caliroa lineata) should be Caliroa quercuscoccineae for Summers County and Caliroa sp. for Raleigh and Monroe Counties. (W. Va. Ins. Sur.).

CEIR 25(30):623, 1975 - A SAWFLY (Caliroa lineata) should be Caliroa quercuscoccineae. (W. Va. Ins. Sur.).

CEIR 25(31):647 - A SAWFLY (Caliroa lineata) should be Caliroa quercuscoccineae for Summers County and Caliroa sp. for Mercer, McDowell, and Greenbrier Counties. (W. Va. Ins. Sur.).

CEIR 25(36):733, 746, 749 - "A BRACONID WASP ... new State record ..." should read "A BRACONID WASP ... new county record ..." (N.M. Coop. Rpt.).

CEIR 25(38):774 - HAWAII INSECT REPORT - "... Habrocytes ..." should read "... Habrocytus ..."

CEIR 25(40):796 - GRASSHOPPERS - " ... Boopedon nubilus ..." should read "... Boopedon nubilum ..."

CEIR 25(40):796 - MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - ... Culver City, ... should be ... Venice, ...

Weather of the week continued from page 806.

At the end of the day on Tuesday, September officially went on the books as a record dry month for Washington and Oregon. During September, only a trace of rain appeared in Seattle, Washington, where the normal monthly rainfall measures 1.99 inches. Astoria, Oregon, fared only slightly better with 0.04 inches compared to a normal 2.83 inches. Wednesday dawned cool and breezy throughout the central United States where clear skies kept temperatures at below normal levels. Morning lows plunged below freezing as far south as southwest Kansas. Readings in the 20's ranged from the central Rockies to northern Minnesota. In the afternoon, temperatures continued well below the seasonal normals, 50's and 60's in the Plains and 40's in the northern Great Lakes region. Exceptions to this cooling trend were the Pacific Northwest and parts of the Northern Plateau northwest, and parts of the Northern Plateau reported temperatures in the 80's. The Desert Southwest was still locked in summer with readings in the 90's. Fog and low clouds along the Pacific coast marred an otherwise sunny Wednesday in the western half of the Nation. In the East, scattered showers sprang up along a cold front in the Great Lakes region and lower Mississippi Valley.

In the Atlantic, hurricane Gladys turned northward and was no longer a threat to the mainland. A large high pressure center over Missouri kept Thursday's weather clear and cool across most of the Nation. Clouds persisted along the Pacific coast and a slow moving cold front scattered light rains from the Ohio Valley and northern New York along the Appalachians into Mississippi. Morning temperatures on Thursday erased previous record lows across the Nation's midsection, Lincoln, Nebraska--30 degrees, Springfield, Missouri--35 degrees, and Lubbock, Texas--40 degrees. Parts of the Great Lakes region and high areas in the central Rockies shivered with readings in the 20's. Clearing skies and polar air moving in from the West set the stage for a widespread area of frost or freeze warnings which were posted from southwest Missouri across the Ohio Valley and up the Appalachians to Vermont. Clear skies and cool air again highlighted the national weather picture on Friday. A sprawling high pressure system from the Atlantic coast to the Rockies resulted in more record lows, Pittsburg, Pennsylvania--31 degrees, Springfield, Missouri--33 degrees, and Little Rock, Arkansas--41 degrees. During the day, sunshine brightened most of the Nation though the frontal systems from the Pacific targeted clouds and showers from the northern and central Pacific coast to the northern Rockies. Cloudy skies with some showers were also noted along the southern Atlantic coast. Rainfall in the Pacific Northwest ended the dry spell that put September precipitation at a record low level in Washington and Oregon. Over the weekend, limited precipitation turned up on opposite corners of the Nation. In the Northwest, showers and gusts of wind over 60 m.p.h. swept through Montana and the Dakotas. In the Southeast, thunderstorms dotted coastal areas from Louisiana through Florida and up the Atlantic coast. Afternoon temperatures covered a wide range from the 40's in the northern New England States to the low 100's in the Desert Southwest. Hot air streaming north and east across the Plains States pushed temperatures into the upper 80's and 90's on Saturday. However in Texas, Sunday morning's low of 44 degrees put San Antonio at a record low temperature for the third day in a row.



U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

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Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

LESSER CORNSTALK BORER damage extensive to peanuts in parts of Texas. (p. 820).

BOLL WEEVIL damage continued high in parts of Texas and Oklahoma. (p. 820).

More MEDITERRANEAN FRUIT FLY larvae found in California. (p. 822).

Detection

New State Records include a PIT SCALE in ALABAMA and an ARGASID TICK in Oregon. (p. 821).

For new county records, see page 822.

Reports in this issue are for the week ending October 10 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING OCTOBER 12

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: As warm air and sunshine settled over the Nation's midsection, temperatures in parts of the Plains States shot up to record high levels under clear skies. Precipitation spread across the eastern third of the United States and made headlines in the Pacific Northwest when the first major storm of the season hit the northern Rockies.

TEMPERATURE AND PRECIPITATION: The weather activity got off to a slow start, but picked up as the week progressed. Monday opened to sunny skies and pleasant temperatures across much of the Nation. The weekend precipitation withdrew from the Southeast, except for a few spots in Florida, Alabama, and northern Mississippi, where light showers lingered. In the afternoon, showers and occasional thundershowers advanced slowly eastward through the northern Rockies and parts of Nevada. Isolated activity occurred in central California into southern Oregon. In the East, a group of showers moved lazily through the New England States. A survey of daytime temperatures showed record high levels along the lee of the Rockies from Colorado (Denver 87) to Wyoming (Casper 84) and east into Nebraska (Scottsbluff 91). Readings ranged from the 40's in the Upper Great Lakes and northern Rockies to the 100's in the Desert Southwest. The first major storm of the season swept eastward through the Intermountain regions on Tuesday trailing high winds, snow, and thunderstorms. Winds gusted to 65 m.p.h. in parts of California, Arizona, and Utah. Meantime, a frontal system gave rise to a large area of rain as it edged northward in the Southeast. Midday showers and thundershowers were recorded from southern Kentucky to the gulf coast and southeastward over Georgia and Florida. Tuesday night, cold air behind a low pressure center over Wyoming blanketed a large part of the western United States. The first widespread snow of the season capped the northern Rockies. A surge of cold air tailing the storm held Wednesday morning temperatures ahead of the front, though warmed into the 60's aided by clear skies in the central and southern portions of the country. Readings in the 70's and 80's still hinted at summer in

Weather of the week continued on page 824.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Most advanced in higher elevations of Carriso Plains and Cuyama Valley, San Luis Obispo County. Treatments planned to begin in this area, move to Bakersfield, Kern County, and progress north to Coalinga, Fresno County. Nymphs 60 percent of populations in Coalinga area. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - TENNESSEE - Damaged 25 acres of Morgan County soybeans, no treatments applied. (Jansch).

ARKANSAS - Larvae 8-10 per 100 sweeps of Washington County alfalfa. (Boyer).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Very light in scattered wheatfields in southwest counties. (Okla. Coop. Sur.). NEW MEXICO - Ranged 20-30 per linear foot on Chaves County barley. (N.M. Coop. Rpt.). OREGON - Light in irrigated wheatfields near Hermiston, Umatilla County. Alates with 4-6 nymphs noted on 3 to 4-leaf stage in dryland fields; 100+ per dead leaf. (Goeden).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Moderate; increasing on alfalfa in Caddo and Washita Counties. (Okla. Coop. Sur.). NORTH DAKOTA - Ranged 30-120 (averaged 70) per 100 sweeps in Rolette County alfalfa October 7, 1975. Collected and determined by C.G. Scholl. This is a new county record. (Scholl).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH CAROLINA - Lodging very heavy, more than 50 percent in some cornfields across State, especially in Hoke and Scotland County areas. Lodging about 5 percent in 25 fields in Alamance, Durham, and Granville Counties. Lodging will increase as stalk rot apparent in all fields checked. (Hunt).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Light to moderate in scattered fields of young wheat in southwest counties and heavy (2-3 per linear foot) in isolated spots. (Okla. Coop. Sur.). NORTH CAROLINA - Larvae continued to damage rye and other winter forage and cover crops. Six damage reports received from eastern Piedmont and Coastal Plain. Heavily infested 40 acres of Montgomery County rye. (Reese et al.).

TURF, PASTURES, RANGELAND

SOUTHERN CHINCH BUG (Blissus insularis) - CALIFORNIA - Infested St. Augustine grass at Redwood City, San Mateo County; range increasing. (Cal. Coop. Rpt.).

FORAGE LEGUMES

FALL ARMYWORM (Spodoptera frugiperda) - MISSOURI - Light to moderate on 2 fall seeded east-central alfalfa fields. Small larvae 0-8 per 10 sweeps. Two acres defoliated in one field. (Munson).

WHITE PEACH SCALE (*Pseudaulacaspis pentagona*) - ALABAMA - Collected on *Lespedeza cuneata* (*sericea*) at Leesburg, Cherokee County, September 28, 1975, by C.H. Ray. Determined by M.L. Williams. This is a new county record. (McQueen).

SOYBEANS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - TENNESSEE - Damaged 1,000 acres of Bedford County soybeans; no treatments applied. (Fox).

BEAN LEAF BEETLE (*Cerotoma trifurcata*) - OKLAHOMA - Up to 10 per row foot of soybeans in Muskogee County and up to 2 per row foot in Wagoner County. (Okla. Coop. Sur.).

THREECORNERED ALFALFA HOPPER (*Spissistilus festinus*) - MISSISSIPPI - Adult averages per 25 sweeps of soybeans by county: Coahoma 6 in 100 acres, Jones 13 in 80 acres, Clarke 18.6 in 40 acres, Sunflower 11.75 in 200+ acres. (Robinson).

PEANUTS

LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) - TEXAS - Still heavy; pod damage extensive to 15 percent of late-planted dryland peanut fields in Comanche County. (Curtis).

REDNECKED PEANUTWORM (*Stegasta bosqueella*) - TEXAS - Moderate populations feeding in terminals of peanuts in Motley and Hall Counties. (Boring).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - TEXAS - Heavy in many Rolling Plains counties and in Nolan and Concho Counties. Light in Trans-Pecos area. Fall control program underway in Glasscock, Reagan, Upton, and Midland Counties. (Boring et al.). OKLAHOMA - Green boll damage up to 80 percent in untreated cotton in southwest counties; square and boll damage up to 100 percent in Washita and Caddo Counties. (Okla. Coop. Sur.).

SUGAR BEETS

ZEBRA CATERPILLAR (*Ceramica picta*) - IDAHO - Extensively damaged 12-acre sugar beet field at Parma, Canyon County. About 90 percent of plants damaged, 50 percent of total leaf surface consumed in entire field week of October 1. (Waters, Saunders).

BERTHA ARMYWORM (*Mamestra configurata*) - IDAHO - Full-grown larvae heavy in sugar beets week of September 30. Damage serious to some areas of field at Parma, Canyon County. (Saunders).

DECIDUOUS FRUITS AND NUTS

WALNUT CATERPILLAR (*Datana integerrima*) - OKLAHOMA - Damage to pecans significant in some Payne County areas. (Okla. Coop. Sur.).

HICKORY SHUCKWORM (*Laspeyresia caryana*) - OKLAHOMA - Heavy on pecans in Pontotoc County; light in Garvin County. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Heavy on English walnuts at Bountiful, Davis County. (Burningham).

FOREST AND SHADE TREES

BALSAM TWIG APHID (Mindarus abietinus) - NEW HAMPSHIRE - Observed in twisted needles of balsam fir trees in Strafford County Christmas tree plantation. Overwintering eggs averaged 5 per bud. (Mason).

A PIT SCALE (Cerococcus koebelei) - ALABAMA - Taken on Acer rubrum (red maple) in Clay County April 20, 1975. Collected and determined by M.L. Williams. This is a new State record. (McQueen).

AN ARMORED SCALE (Diaspidiotus liquidambaris) - ALABAMA - Collected on Liquidambar styraciflua (sweetgum) at Leesburg, Cherokee County, September 28, 1975, by C.H. Ray. Determined by M.L. Williams. This is a new county record. (McQueen).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 986 cases reported from continental U.S. during September 21-27 as follows: Oklahoma 1, Texas 920, New Mexico 25, Arizona 40. Total of 426 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 289 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 158,745,200 as follows: Oklahoma 518,400; Texas 128,913,800, New Mexico 7,689,600; Arizona 21,623,000. Total of 6,900,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HORN FLY (Haematobia irritans) - TEXAS - Light to moderate in Concho and Nolan Counties and the Rio Grande Valley area. Ranged 300-400 per head in Panhandle areas. (McWhorter et al.). OKLAHOMA - Averaged 200 per head on Payne County cattle. Moderate to heavy in Garvin County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - KENTUCKY - Adults taken in pasture near cattle in Hardin County October 7, 1975. Collected and determined by D. Barnett; confirmed by F. Knapp. This is a new county record. (Barnett). NEW HAMPSHIRE - One per face on horses, 10 per face on beef cattle, near Durham, Strafford County. (Burger).

STABLE FLY (Stomoxys calcitrans) - NEW HAMPSHIRE - One per animal on herd of beef cattle near Durham, Strafford County, and 132 males per 50 meters of fence near herd. (Burger).

AN ARGASID TICK (Ornithodoros coriaceus) - OREGON - Six nymphs taken from carbon dioxide trap about 8 miles south of Pinehurst, Jackson County, September 3, 1975. This is a new State record. Two nymphs taken from carbon dioxide traps in or near deer and cattle bedding areas in nearby areas of Klamath County, about 20 miles southeast of Pinehurst, September 9, 1975. This is a new county record. Both collections and determinations by R.A. Gresbrink. (Gresbrink).

BLACK WIDOW SPIDER (Latrodectus mactans) - SOUTH CAROLINA - Taken from building in Berkeley County September 29, 1975, by J.E. Yonce. Determined by J.B. Kissam. This is a new county record. (McCaskill).

WESTERN BLACK WIDOW SPIDER (Latrodectus hesperus) - NEW MEXICO - Heavy at Las Cruces, Dona Ana County; many males noted. (N.M. Coop. Rpt.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - OKLAHOMA - Counts and damage heavy in margins of wheat in Roger Mills County. (Okla. Coop. Sur.). NORTH DAKOTA - Melanoplus sanguinipes, dominant species, 3-4 per square yard in Stark County winter wheat 15-20 feet inwards from field border, damage noted. Winter wheat in seedling stage. (Brandvik).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Light in El Paso, Pecos, Reeves, Glasscock, and Martin Counties. (Neeb).

RED IMPORTED FIRE ANT (Solenopsis invicta) - FLORIDA - About 40 workers collected from mound in nursery at Stuart, Martin County, by J.W. Thomas October 3, 1975. Determined by D.R. Smith. This is a new county record. (PPQ).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - Total finds to October 14 in State at Venice, Los Angeles County: 6 males and one female. Larvae found at 6 addresses. Area is residential and industrial, distant from commercial fruit production. (PPQ).

DETECTION

New State Records

AN ARGASID TICK (Ornithodoros coriaceus) - OREGON - Jackson County. (p. 821).

A PIT SCALE (Cerococcus koebelei) - ALABAMA - Clay County. (p. 821).

New County Records

AN ARGASID TICK (Ornithodoros coriaceus) OREGON - Klamath. (p. 821).

AN ARMORED SCALE (Diaspidiotus liquidambaris) ALABAMA - Cherokee (p. 821).

BLACK WIDOW SPIDER (Latrodectus mactans) SOUTH CAROLINA - Berkeley (p. 822).

FACE FLY (Musca autumnalis) KENTUCKY - Hardin (p. 821).

RED IMPORTED FIRE ANT (Solenopsis invicta) FLORIDA - Martin (p. 822).

SPOTTED ALFALFA APHID (Therioaphis maculata) NORTH DAKOTA - Rolette (p. 819).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) ALABAMA - Cherokee (p. 820).

HAWAII INSECT REPORT

General Vegetables - CABBAGE WEBWORM (*Hellula rogatalis*) infestations light with damage in 0.25 acre of mustard cabbage at Pearl City, Oahu. Less than 5 percent of plants infested. Heavy in backyard garden at Hanapepe, Kauai. At least 50 percent of cabbage infested and damaged. BROAD MITE (*Polyphagotarsonemus latus*) infestation and damage heavy in backyard bell pepper planting at Kalaheo, Kauai. All terminals severely damaged. All stages of mites present. Infestations and damage light on some eggplant plants at Koko Head, Oahu. DIAMONDBACK MOTH (*Plutella xylostella*) damage and infestations heavy (20+ larvae per plant) in 0.50 acre of untreated mustard cabbage at Waianae, Oahu. Larvae light (2-3 per plant) in 1.5 acres of same crop nearby. LEAFMINER FLIES (*Liriomyza* spp.) light to moderate on Oahu. Light in 0.25 acre each of eggplant, squash, and mustard cabbage. Heavy in 0.20 acre of green onions at Koko Head. At least 25 percent of leaves of nearly all plants infested. GREENHOUSE WHITEFLY (*Trialeurodes vaporariorum*) heavy in backyard planting of *Momordica charantia* (bittermelon) at Pearl City, Oahu. Young stages covered undersides of nearly all mature leaves. (Mau).

LIGHT TRAP COLLECTIONS

CALIFORNIA - Bellota, 10/2, temp. 56-83 F., BL, ARMYWORM (*Pseudaletia unipuncta*) 60, BEET ARMYWORM (*Spodoptera exigua*) 930, BLACK CUTWORM (*Agrotis ipsilon*) 3, BOLLWORM (*Heliothis zea*) 1, CABBAGE LOOPER (*Trichoplusia ni*) 6, VARIEGATED CUTWORM (*Peridroma saucia*) 4. Clements, 9/29, temp. 55-89 F., BL, armyworm 41, beet armyworm 255, black cutworm 1, GRANULATE CUTWORM (*Feltia subterranea*) 16, variegated cutworm 1. FLORIDA - Gainesville, 10/3-7, BL, armyworm 21, beet armyworm 7, black cutworm 4, bollworm 4, FALL ARMYWORM (*S. frugiperda*) 19, granulate cutworm 9, TOBACCO BUDWORM (*H. virescens*) 4, variegated cutworm 2, YELLOWSTRIPED ARMYWORM (*S. ornithogalli*) 4. KENTUCKY (County) - Fayette, 10/22-23, BL, armyworm 1, yellowstriped armyworm 1. MISSISSIPPI - Stoneville, 10/3-9, temp. 39-82 F., precip. trace, 2BL, armyworm 1, beet armyworm 334, black cutworm 11, bollworm 2,763, cabbage looper 437, fall armyworm 166, granulate cutworm 13, tobacco budworm 470, variegated cutworm 2, yellowstriped armyworm 50. NORTH CAROLINA - Halifax, 10/3, 6, 8, BL, bollworm 291. Scotland Neck, 10/3, 6, 8, BL, bollworm 168. PENNSYLVANIA (Districts) - North West, 9/28-10/7, BL, armyworm 2, bollworm 5, EUROPEAN CORN BORER (*Ostrinia nubilalis*) 1, variegated cutworm 1. South East, 9/28-10/7, armyworm 2, yellowstriped armyworm 1. WISCONSIN - Hancock, 10/1-8, BL, armyworm 4, black cutworm 3, bollworm 2, variegated cutworm 4.

Weather of the week continued from page 818.

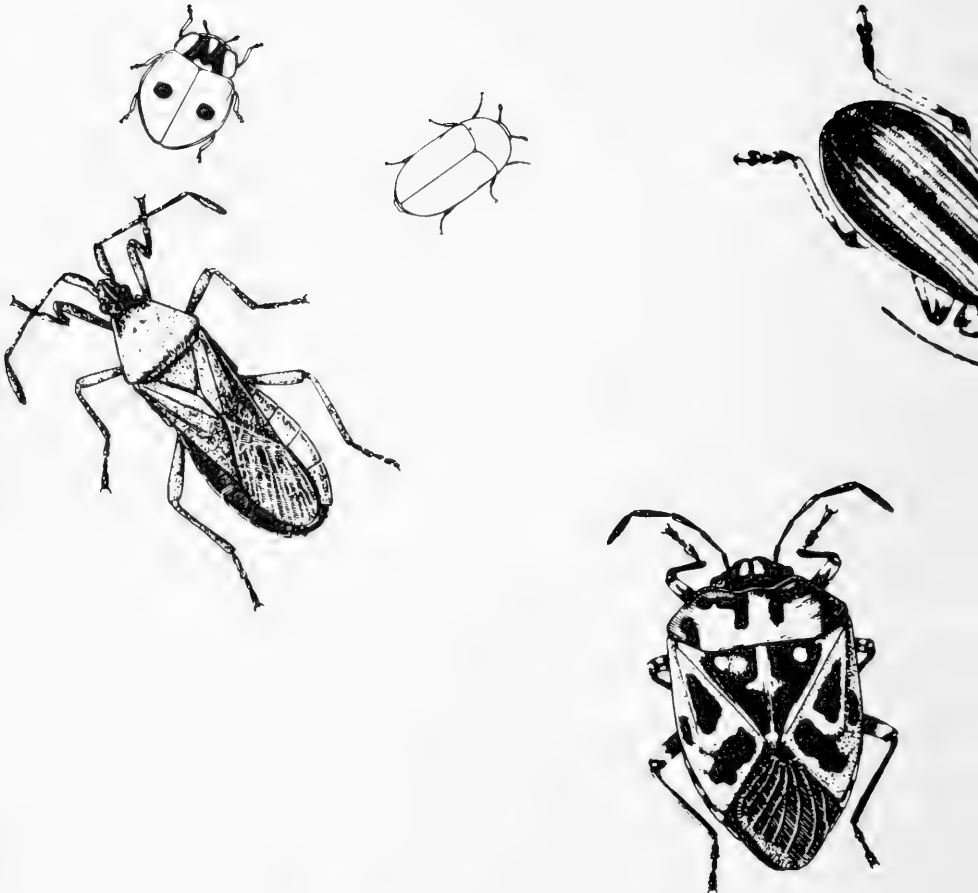
the extreme Southeast. In Pennsylvania, New York, and New England the mercury halted in the 30's. In the West, high winds whipped cold air through the eastern slopes of the central Rockies into the High Plains. Though winds diminished at the end of the day, winter weather was in the northern Rockies to stay. As more cold air slid into the High Plains, some temperatures dropped as much as 30 degrees in a day's time. At 3 p.m. Wednesday, Casper, Wyoming, read 42 degrees, a big drop from 77 degrees at the same time Tuesday. Wet weather hung over much of the Nation Thursday as precipitation in a variety of forms spread from the northern Plains to the Atlantic. Snow descended on parts of North Dakota where Minot collected up to 2 inches before sunrise. Rains covered a large area from the upper Great Lakes into the Ohio Valley and the middle Atlantic coast.

Temperatures in the 50's and 60's dominated much of the Nation though the northern portions of the Plains and the Rockies remained in the 30's and 40's. The gulf coast areas basked in sunshine and warm air. Other afternoon readings put 90's over parts of Texas and Florida, 80's in lower Ohio Valley and 70's in southern Michigan. A new cold front on Thursday delivered rain and strong winds to the Pacific Northwest and the northern half of California where gusts in the Shasta Valley topped 65 m.p.h. Meanwhile, most of the Nation's sunshine favored areas from Arizona and New Mexico across Texas and the lower half of the Mississippi Valley into the southeast Atlantic Coast States. Except for a warming trend in the Plains States, the pattern of weather changed little as the weekend approached. Warm air and sunshine in the Nation's midsection on Friday pushed the thermometer into the 90's from Texas and Louisiana into the southern portions of Oklahoma and Arkansas. Shreveport, Louisiana, scored a record 93 degrees. In the Pacific northwest, cloudy, wet weather persisted from central California north into Washington State. As warm air spread north and east through the central Plains on Saturday, early afternoon temperatures soared into the 90's as far north as Kansas and into the 80's in Tennessee. Garden City, Kansas, came out on top in the Nation with a high of 97 degrees. Cooler readings in the low 40's and 50's put the Rockies, the northern Plains, and northern Maine at the low end of the list. Sunday brought more record highs to the Midwest. Wichita, Kansas--91, Omaha, Nebraska--93, and Sioux City, Iowa--92. All broke previous records set in 1899. In the northern Rockies however, it was another cool day. The 40's prevailed in Idaho, Nevada, Utah, and Montana. Cutbank, Montana, sank into the 30's. The 50's settled over the Pacific Northwest.

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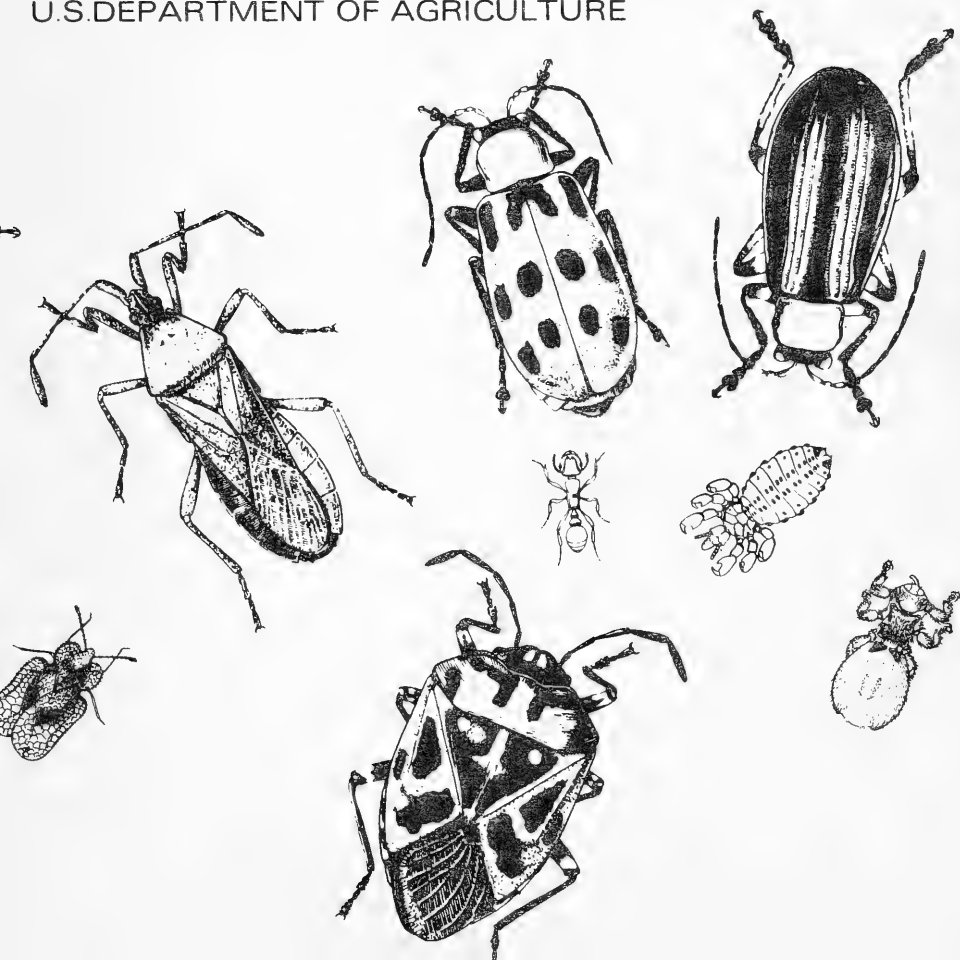


~~Special~~
~~Issue~~

Cooperative Economic Insect Report

Issued by

PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

GREENBUG numbers severe on small grains in parts of Texas, Oklahoma, Kansas, Nebraska, and Arkansas. (pp. 867-868).

SPOTTED ALFALFA APHID yellowed alfalfa in Oklahoma and Kansas. (p. 868).

BEET ARMYWORM damaged alfalfa, sugar beets, and lettuce in California. (pp. 870, 871).

SAN JOSE SCALE heavy on apples in Maryland and New Hampshire. (p. 871).

HORN FLY heavy in Florida, Oklahoma, and Texas. (pp. 874-875).

MEDITERRANEAN FRUIT FLY collected 2.5 miles northwest of Santa Monica. Total of 18,537,000 sterile flies and pupae released to November 22.

Detection

● A MEALYBUG is a new United States record in New Jersey. (p. 875).

New State records include a MEALYBUG in Texas (p. 869). HICKORY PLANT BUG, a SOFT SCALE, HOLLY SCALE (p. 871), and a SAWFLY (p. 873) in Alabama; an ICHNEUMON WASP in New Mexico (p. 875), and 2 WEEVILS in Maryland (pp. 875, 879).

For new county and island records see pages 879-881.

Special Reports

The Establishment of Coccinella septempunctata L. in the Continental United States. (pp. 883-884).

Romanian References on the European Corn Borer Ostrinia (Pyrausta) nubilalis (Hübner). (pp. 885-890).

Distribution of Cereal Stem Moth (map). (p. 891).

Distribution of Birch Leafminer (map). (p. 892).

Reports in this issue are for the weeks ending October 31 through November 14 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING NOVEMBER 16

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

TEMPERATURE AND PRECIPITATION: Monday marked an entire week of summer-like weather across much of the eastern third of the Nation. The mercury shot to record highs in Buffalo, New York--69 degrees, Norfolk, Virginia--80 degrees, and Macon, Georgia--81 degrees. Meantime, winter staked a bigger claim in the West where a surge of cold moist air dumped heavy snow on the Sierra Nevada Mountains of California and the Cascades of Oregon and Washington. Snow also spread into Idaho, Montana, and Utah. In the Nation's midsection, high winds gave the Upper Great Lakes area a beating. Gusts in Marquette, Michigan, topped 60 m.p.h. Sunny cooler conditions settled over the Plains and the Mississippi Valley. Temperatures in the 30's in the northern Plains and 50's in the middle Mississippi Valley ranged 20 degrees cooler than the weekend readings. Evening precipitation included showers and thunderstorms along the Atlantic and eastern gulf coasts. Rain and snow were scattered from the Pacific Northwest into the northern and central Rockies. A chilly sunrise greeted the Northeast on Tuesday. Scattered frost cloaked areas from the Ohio Valley into West Virginia. Fair skies opened up throughout most of the southern half of the Mississippi Valley and the southern tier of States from Texas through California. A midday low pressure center in South Dakota stirred up strong winds over the eastern portions of Colorado and Wyoming and the western areas of Kansas, Nebraska, and South Dakota where wind gusts to 50 m.p.h. were common. Afternoon precipitation on

Weather of the continued on page 882.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MISSISSIPPI - Larvae of this species and Spodoptera frugiperda (fall armyworm) infested winter wheat in Oktibbeha and Noxubee Counties week ending October 31. (Robinson).

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Controls completed October 28. Total of 47,772 acres treated in Cuyama Valley, San Luis Obispo, Kern, Kings, Fresno, and Los Angeles Counties. Average kill of 93.9 percent in areas checked (Cuyama Valley, Carriso Plains, Bakersfield, and Taft). (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Scattered light infestations, up to 6 per linear foot, on wheat in Grady, Grant, Osage, Craig, Nowata, Rogers, and Mayes Counties week ending November 14. (Okla. Coop. Sur.). KANSAS - None to trace on wheat in northeast, east-central, north-central, and central districts week ending October 31. (Bell). VIRGINIA - Light on some small grain in Henrico County week ending November 14. (Allen).

GREENBUG (Schizaphis graminum) - TEXAS - Increased on small grain in Rolling Plains area 14 days prior to November 7. (Patrick et al.). Up to 200 per foot of row from spots in scattered small grain fields in Knox County week ending November 14; ranged 1-100 per foot of row in many fields. (Boring et al.). OKLAHOMA - Up to 1,000 per linear foot on Custer County wheat week ending October 31. Moderate in Beckham County. Some wheatfields treated in northern Texas County. Heavy on Washita County wheat week ending November 7. Ranged 15-25 per linear foot in Canadian County. Heavy, 500-650 per linear foot, in some wheatfields in northwest Grant County and in northeast Alfalfa County week ending November 14. Few fields killed. Up to 110 per linear foot in 1 to 2-leaf wheat. Ranged 15-175 per linear foot in other areas of Grant, Kay, and Osage Counties. Light to heavy in Grady County, up to 250 per linear foot, and light to moderate in Caddo County. (Okla. Coop. Sur.).

KANSAS - Some heavy greenbug infestations on wheat apparently restricted to 5-square-mile area in northwest Grant County, extending into northeast Stanton County week ending October 31; treatments applied. Ranged 300-1,000 per drill row foot on 2 to 4-inch wheat. Threatening in scattered wheatfields in Dickinson, Saline, Clay, and Jefferson Counties. Economic, 100 or more per drill row foot, on wheat 6 inches or shorter in Logan, Saline, Dickinson, and Linn Counties week ending November 7. Subeconomic but threatening infestations often found in east-central and sometimes southeast districts. Cooler weather week ending November 14 slowed increases on wheat, but threatening and economic infestations somewhat more common. No mortality due to recent subfreezing temperatures. Significant increase in wheatfield in Saline County. Averaged 160 per drill row foot November 6, increased to 450 by November 13 on 5-inch wheat; many smaller plants severely damaged. Lysiphlebus testaceipes (a braconid wasp) and lady beetles checked increase in wheatfield in Dickinson County, smaller plants heavily damaged but most recovered. No parasitism in other fields surveyed. (Bell).

NEBRASKA - Schizaphis graminum economic, 50 or more per linear foot of drill row, near Osceola, Polk County, October 30. (Sigler, Kantor). Ranged 5-500 (averaged 173) per linear foot of row in 3 Adams County fields week ending November 7. Parasitism by Lysiphlebus testaceipes ranged 2-40 (averaged 27) percent. Stand loss 25 percent in field with 500 greenbugs. Greenbugs ranged 1-300 (averaged 78) per linear foot of row in 4 Webster County fields. Parasitism trace to 10 percent. Two Kearney County fields averaged 25 greenbugs per linear foot of row; parasitism averaged 10 percent. Wheat damaged* in Polk and Hamilton Counties. (Cranfill, Kantor).

ARKANSAS - Greenbug comprised more than 95 percent of aphid species on small grains week ending November 14. Ranged from trace to 100-150 per row foot of drill. Most aphids winged on small grain. Damage noneconomic. (Boyer). MISSISSIPPI - This species and Macrosiphum avenae (English grain aphid) predominant on small grains in Monroe, Clay, Oktibbeha, and Noxubee Counties week ending November 7. Most infestations light and spotty. (Robinson). KENTUCKY - Collected from wheat October 28, 1975, near Elkton, Todd County, and near Princeton, Caldwell County. Collected and determined by H. Raney. These are new county records. This species, Rhopalosiphum maidis (corn leaf aphid), and R. padi on small grains in Logan, Caldwell, Todd, Fayette, and Scott Counties week ending November 7. R. padi heavy at one location in Fayette County. (Barnett, Raney).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Ranged 1-3 per square foot of new alfalfa near Carlsbad, Eddy County, week ending November 14. (N.M. Coop. Rpt.). OKLAHOMA - Light on young Wagoner County alfalfa week ending October 31. Damaged newly planted Payne County alfalfa week ending November 7. Heavy and damaged fall-seeded alfalfa in Grady and Caddo Counties week ending November 14. (Okla. Coop. Sur.). KANSAS - Averaged 59 per sweep on 9-inch Riley County alfalfa and 25 per sweep on 8-inch Brown County alfalfa week ending October 31. Heavy, caused much yellowing of lower leaves and some leaf shed, on 3-inch seedling alfalfa in Marion County week ending November 14. (Bell).

CORN, SORGHUM, SUGARCANE

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - ALABAMA - Girdled and lodged 2-5 percent of cornstalks in 20-acre field near Arab, Marshall County, week ending November 7. Larvae in winter color form. Similar on most corn in southwestern Marshall County. (Stephenson et al.). MISSOURI - Heavy in 2 small late cornfields in southwest area week ending November 8. Infested 51 and 76 percent of plants; girdling averaged 18 and 41 percent. (Munson).

EUROPEAN CORN BORER (Ostrinia nubilalis) - FLORIDA - Adult male collected in blacklight trap at Berrydale, Santa Rosa County, September 15, 1975, by J.H. Carter. Determined by F.W. Mead. This is a new county record. (Fla. Coop. Sur.). ALABAMA - Damage light to sweet sorghum in Blount County field. Many larvae tunneled mature cornstalks in 30-acre Morgan County field week ending October 31. (Lloyd, Houston).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - KENTUCKY - Larvae, 10 per square foot, heavily damaged 50 acres of wheat in Christian County week ending October 31. (Barnett, Raney).

WHEAT STEM SAWFLY (Cephus cinctus) - NORTH DAKOTA - Average percentage of cut stems ranged 0.01-1.64 per field in 100 hard red spring wheat stubble fields in 7 counties surveyed week ending November 7. (Brandvik, Schöll).

AN APHID (Rhopalosiphum padi) - OKLAHOMA - Ranged 600-700 per linear foot on wheat checked in Grady County week ending November 14. (Okla. Coop. Sur.). KANSAS - Averages up to 1,000 per drill row foot on 4-inch Sherman County wheat and 200 in 5-inch Ellsworth County wheat week ending November 7; no damage apparent. (Bell).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - NEBRASKA - Averaged 100 or more per linear foot of row of seedling wheat in 2 Kearney County fields week ending November 7. (Cranfill, Kantor).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Ranged 100-500 per linear foot of wheat in Grady County week ending November 14. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

A MEALYBUG (Brevinnia rehi) - TEXAS - Collected on Panicum sp. at McAllen, Hidalgo County, by D.R. Riley July 10, 1974. Determined by S. Nakahara. This is a new State record. (Nakahara).

SALTMARSH CATERPILLAR (Estigmene acrea) - NEW MEXICO - Migrations heavy on range throughout east-central area week ending October 31. Migration continued moderate in Roosevelt, Curry, and Quay County week ending November 7. (N.M. Coop. Rpt.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - OKLAHOMA - Adults heavy, 10-12 per sweep, on alfalfa in Stephens County week ending November 14. (Okla. Coop. Sur.). KANSAS - Adult averages ranged trace to 50 per 100 sweeps in 8 to 11-inch Atchison County alfalfa week ending October 31. (Bell). MISSOURI - Adults 2-14 per 10 sweeps in southwest area alfalfa week ending October 31. (Munson). Eggs averaged 42.5 per square foot in northeast area alfalfa field week ending November 8. (Huggans). Adults light to moderate, up to 18 per 10 sweeps, in all forage legume fields checked in south-central area week ending November 15. (Munson). KENTUCKY - Eggs averaged 5.7 and 1.6 per square foot at 2 Fayette County locations week ending October 31. Eggs averaged 14.7 per square foot in Barren County and 2.1 and 8.5 eggs per square foot in Fayette County week ending November 7. Adults heavier than usual. (Barnett, Parr). WEST VIRGINIA - Adults averaged 45 and larvae 4 per 100 sweeps in Ohio County alfalfa October 28. Adults averaged 45 and larvae 2 per 100 sweeps in Hancock County. Adults averaged 26 per 100 sweeps in Pendleton County alfalfa November 3 and 42 per 100 sweeps in Randolph County alfalfa November 4. (Hacker).

BEE T ARMYWORM (Spodoptera exigua) - CALIFORNIA - Damaged several commercial alfalfa plantings in Fresno County week ending October 31, (Cal. Coop. Rpt.).

PEA APHID (Acyrtosiphon pisum) - FLORIDA - About 1,700 nymphs and adults per 100 sweeps of 22-inch alfalfa at Gainesville, Alachua County, November 6. (Fla. Coop. Sur.). OKLAHOMA - Heavy; damaged fall-seeded alfalfa in Grady and Caddo Counties week ending November 14. (Okla. Coop. Sur.).

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Larval damage to late soybeans continued in some Choctaw County fields week ending October 31. Damage much later than usual. Many moths at lights in Lee County. (Sexton et al.).

STINK BUGS - SOUTH CAROLINA - Nezara viridula (southern green stink bug) and Acrosternum hilare (green stink bug) collected from Clarendon County soybean field by B. Lester October 14, 1975. Determined by R.P. Griffin. These are new county records. (McCaskill).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Moderate in Concho County week ending October 31. (McWhorter). Light to moderate in isolated cotton fields in Glasscock and Reagan Counties week ending November 14. Glasscock, Reagan, Upton, and Midland Counties initiated fourth control application. (Neeb).

SUGAR BEETS

BEE T ARMYWORM (Spodoptera exigua) - CALIFORNIA - Most serious pest of seedling sugar beets in Imperial Valley, Imperial County week of October 31. Treatments difficult as many pesticides ineffective. (Cal. Coop. Rpt.).

SALTMARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Larvae damaged sugar beets at Santa Maria, Santa Barbara County, week ending November 14. (Cal. Coop. Rpt.).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Continued to damage cabbage, cauliflower, and broccoli in commercial fields and gardens in Uvalde area week ending November 14. (Stewart).

GENERAL VEGETABLES

SWEET POTATO WEEVIL (Cylas formicarius elegantulus) - ALABAMA - Many larvae and adults collected from sweetpotatoes at 2 locations one mile west of Phenix City, Russell County, October 31, 1975. Collected and determined by N. Wilson and C.H. Knox. This is a new county record. Heavily infested sweetpotatoes 5 miles west of Ashford, Houston County, in old infested area. (Wilson, Knox).

CABBAGE LOOPER (*Trichoplusia ni*) - CALIFORNIA - This species and *Spodoptera exigua* (beet armyworm) serious in young Imperial County lettuce plantings. (Cal. Coop. Rpt.).

A LEAFMINER FLY (*Liriomyza sativae*) - FLORIDA - Light to heavy in nearly all celery fields week ending November 14. Principal pest of celery at Belle Glade, Palm Beach County. (Fla. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

SAN JOSE SCALE (*Quadraspidiotus perniciosus*) - MARYLAND - Increased range into Washington County apple orchards week ending November 7. Moderate to heavy in about 160 acres in 2 orchards. Infested several hundred acres of apple orchards in Washington County production area. (U. Md., Ent. Dept.). NEW HAMPSHIRE - Averaged 25 per fruit on 3 apple trees at Manchester, Merrimack County, week ending November 7. (Hopfer).

HICKORY PLANT BUG (*Lygocoris caryae*) - ALABAMA - Very heavy on numerous pecans in Lee County May 12, 1975. Collected by T.B. Hagler and H.F. McQueen. Determined by J.L. Herring. This is a new State record. (McQueen).

PECAN WEEVIL (*Curculio caryae*) - ALABAMA - Larvae emerged October 28 from nuts under 5 treated trees in Conecuh County; 38 larvae per 1,000 nuts under 5 trees and 13 per 1,000 nuts under 5 other trees. (Strother). KENTUCKY - Infested about half of pecan nuts at one location in Jefferson County week ending November 14. (Scheibner).

PECAN NUT CASEBEARER (*Acrobasis nuxivorella*) - NEW MEXICO - Fourth-generation activity on pecans suspected week of November 7. Fully grown larvae, pupae, and larvae entering hibernaculum found at Carlsbad, Eddy County. (N.M. Coop. Rpt.).

ORNAMENTALS

A SOFT SCALE (*Pulvinaria urbicola*) - ALABAMA - Taken on *Heterotheca subaxilaris* at Gulf State Park Sand Dunes, Baldwin County, May 31, 1975. Collected and determined by M.L. Williams. This is a new State record. (McQueen).

HEMISPHERICAL SCALE (*Saissetia coffeae*) - ALABAMA - Collected on fern at Sylacauga, Talladega County, June 24, 1975, by J.W. Williams and in Clay County July 8 by L. Barker. This species and *Planococcus citri* (citrus mealybug) taken on *Alternanthera* sp. at Pell City, St. Clair County, by J.W. Jordon July 29. Determined by M.L. Williams. These are new county records. (McQueen).

HOLLY SCALE (*Dynaspidiotus britannicus*) - ALABAMA - Taken on *Caladium jamaicense* in Gulf State Park, Baldwin County, June 29, 1975. Collected and determined by M.L. Williams. This is a new State record. (McQueen).

CAMPBOR SCALE (*Pseudaonidia duplex*) - ALABAMA - Taken on *Lyonia ligustrina* at Gulf State Park, Baldwin County, June 29, 1975. Collected and determined by M.L. Williams. This is a new county record. (McQueen).

ARMORED SCALES - ALABAMA - Abgrallaspis cyanophyllii collected on Ilex sp. (holly) at Auburn, Lee County, by C.H. Ray June 12, 1975. Hemiberlesia lataniae taken on Arecapalm at Dothan, Houston County, and Pseudaulacaspis cockerelli taken on magnolia at Ashford, Houston County, August 4, 1975. Collections by D. Bean. All above determinations by M.L. Williams. All are new county records. (McQueen). FLORIDA - Velataspis dentata infested leaves of Viburnum sp. along roadside at Wausau, Washington County, September 18, 1975. Collected by A.E. Graham. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

EUONYMUS SCALE (Unaspis euonymi) - FLORIDA - Adults moderate on 25 percent of 50 Euonymus sp. plants at Lake Butler, Union County, October 14, 1975. Collected by C.H. Webb. Determined by G.W. Dekle. This is a new county record. (Fla. Coop. Sur.).

A MEALYBUG (Pseudococcus sorghiellus) - ALABAMA - Taken on Lespedeza cuneata (Chinese lespedeza) at Lake Martin, Coosa County, by C.H. Ray July 15, 1975. Determined by M.L. Williams. This is a new county record. (McQueen).

FOREST AND SHADE TREES

DOUGLAS FIR TUSSOCK MOTH (Orgyia pseudosugata) - NEW MEXICO - Statewide pheromone trapping survey completed. Taken in Bernalillo, Colfax, Otero, Sandoval, and Torrance Counties October 8, 1975. Collected and determined by A. Smith. These are new county records. Taken in previously infested areas of Sante Fe, Los Alamos, Lincoln, and Sierra Counties. Defoliation in new areas ranged light to heavy, on a few to 1,000+ acres, and on Douglas-fir and white fir. (N.M. Coop. Rpt.). ARIZONA - Infested 200 white fir trees southwest of Chama, Rio Arriba County, August 27, 1975. Collected and determined by A.H. Smith. This is a new county record. (N.M. Coop. Rpt.).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - OKLAHOMA - Infestations mostly in loblolly pine in one spot near Eagletown and several spots near Bokhoma, McCurtain County, September 24, 1975. Collected and determined by L. Brossy. Infested 2-3 trees in most spots, 30 trees in largest spot. Salvage underway, loss estimated at about 55,000 board feet. (Okla. Coop. Sur.).

AN OLETHREUTID MOTH (Rhyacionia bushnelli) - NORTH DAKOTA - Larvae caused light damage to shelterbelt of ponderosa pines near Hazen, Mercer County. Collected by A.D. Tagestad and M.E. Dix September 10, 1975. Determined by A.D. Tagestad. This is a new county record. (Tagestad).

SOFT SCALES - ALABAMA - Toumeyella parvicornis collected on Pinus sp. in Barbour County by M.L. Williams and C.H. Ray May 16, 1975; on P. echinata (shortleaf pine) on Interstate Highway 66 in Escambia County by M.L. Williams May 31; and on Pinus sp. in Talledega County by C.H. Ray June 8. T. pini collected on Pinus virginiana (Virginia pine) in Butler County by M.L. Williams May 31; at Birmingham, Jefferson County, by C.H. Ray and J.M. Dunn June 10; and on P. taedae (loblolly pine) at Hamilton, Marion County, by H. Price September 18. T. virginiana collected on Pinus sp. at Birmingham, Jefferson County, by C.E. Smith June 27, 1975,

and on loblolly pine in Tuskegee National Forest, Macon County, by M.L. Williams September 29. Pseudophilippia quaintancii collected on Pinus sp. at Birmingham, Jefferson County, by C.E. Smith June 27, 1975, and on loblolly pine at York, Sumter County, and Demopolis, Marengo County, July 13 by M.L. Williams. All determined by M.L. Williams. These are all new county records. (McQueen).

A PINE APHID (Eulachnus agilis) - WEST VIRGINIA - Infested 10 percent of trees in Scotch pine plantation at Princeton, Mercer County, October 15, 1975. Collected by G.W. Gibson. Determined by M.B. Stoetzel. This is a new county record. (Hacker).

WHITE PINE APHID (Cinara strobi) - ALABAMA - Heavy on several white pines October 22 at Guntersville residence, Marshall County. Several trees dead. Collected by F. Wood. Determined by M.B. Stoetzel. This is a new county record. (McQueen).

REDHEADED PINE SAWFLY (Neodiprion lecontei) - ALABAMA - Fully grown larvae defoliated 25 percent of 150 loblolly pines in third and fourth year of growth on golf course at Heflin, Cleburne County. Controls being applied. (Thompson).

A SAWFLY (Macremphytus tarsatus) - ALABAMA - Larvae defoliated unidentified shrub (probably Cornus spp.) in apple orchards September 18 at Dadeville, Tallapoosa County. Collected by H. Webb. Determined by D.R. Smith. This is a new State record. (McQueen).

OAK SKELETONIZER (Bucculatrix ainsliella) - MARYLAND - Damage moderate to heavy in street plantings of willow oak at College Park, Hyattsville, and Greenbelt in Prince Georges County week ending November 7. (U. Md., Ent. Dept.).

ASIATIC OAK WEEVIL (Cyrtopistomus castaneus) - KENTUCKY - An adult collected near Edmonton, Metcalf County, in general sweeping of grasses July 24, 1972. Adults taken from grasses and shrubs near Greensburg, Green County, on grasses and shrubs and swept from low herbaceous plants in Robertson County, near Piqua, September 14, 1972. All collected and determined by D. Barnett; confirmed by R. Scheibner. These are new county records. (Barnett).

SANDCHERRY WEEVIL (Coccotorus hirsutus) - NORTH DAKOTA - Adult reared from larvae in fruit of Prunus pumila (sand cherry) collected in rural area of Bottineau County by J.D. Stein August 30, 1973. Determined by R.E. Warner. This is a new county record. (Stein).

ARMORED SCALES - ALABAMA - Diaspidiotus liquidambaris collected on Liquidambar styraciflua (sweetgum) at Dozier, Crenshaw County, and in Covington County by M.L. Williams June 1, 1975. Collected on sweetgum by C.H. Ray in Tuskegee National Forest, Macon County, June 3; Marshall County June 7; St. Clair County June 8; Shelby County June 8; Huntsville, Madison County, June 8; Blount County June 8; and Talladega County June 8. Collected on same host at Birmingham, Jefferson County, by C.H. Ray and J.M. Dunn June 10. Chionaspis nysae taken on Nyssa sylvatica (black tupelo) at Heath, Covington County, June 1, 1975. C. heterophyllae collected on Pinus taedae (loblolly pine) at Huntsville, Madison County, and

Acutaspis morrisonorum on Pinus taedae in Marshall County by C.H. Ray June 7, 1975. Pseudaulacaspis pentagona (white peach scale) collected on Morus rubra (red mulberry) at Huntsville, Madison County, by C.H. Ray June 7, 1975. All determined by M.L. Williams. All are new county records. (McQueen).

TULIPTREE SCALE (Toumeyella liriiodendri) - ALABAMA - Collected on Liriodendron tulipifera (yellow-poplar) in Chambers County by C.H. Ray May 24, 1975, and in Coosa County by G.S. Session May 26. Determined by M.L. Williams. These are new county records. (McQueen).

TERRAPIN SCALE (Lecanium nigrofasciatum) - ALABAMA - Collected on Sassafras albidum (white sassafras) at Huntsville, Madison County, by C.H. Ray June 7, 1975. Determined by M.L. Williams. This is a new county record. (McQueen).

SOFT SCALES - Lecanium corni - ALABAMA - Collected on Vaccinium in Barbour County by M.L. Williams and C.H. Ray May 16, 1975. Collected by C.H. Ray on Nyssa sylvatica (black tupelo) in Marshall County June 7 and on Quercus alba (white oak) in St. Clair County June 8. Taken on Madison County maple tree May 29, 1975, by R. Burton. Also collected on Sassafras albidum (white sassafras) at Huntsville, Madison County, by C.H. Ray June 7, 1975. All determined by M.L. Williams. All are new county records. (McQueen).

AN ERIOPHYID MITE (Eriophyes microcarpa) - NEW MEXICO - Observed on large areas of Grant, Sierra, and Chaves Counties during late September and early October on Juglans major and J. microcarpa. Sierra County is a new county record. Collected and identified by W. Iselin. (N.M. Coop. Rpt.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 3,968 cases reported from continental U.S. October 12 to November 8 as follows: Oklahoma 4; Texas 3,827; New Mexico 31; Arizona 41. Total of 2,011 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 973 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 637,882,200 as follows: Louisiana 180,000; Texas 528,388,200; New Mexico 14,733,000; Arizona 94,221,000; California 180,000. Total of 29, 610,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

COMMON CATTLE GRUB (Hypoderma lineatum) - TEXAS - Moderate in cattle in Concho County week ending November 14. (McWhorter).

HORN FLY (Haematobia irritans) - FLORIDA - Averaged 620 per beef animal in herd at Gainesville, Alachua County, November 6. Heavier than normal for time of year, probably due to lack of cold rains. (Fla. Coop. Sur.). MISSISSIPPI - Adults 25-30 on beef cattle in Wayne County week ending October 31. (Robinson). OKLAHOMA - Continued moderate to heavy on Comanche County cattle week ending October 31. Light, 5-10 per head, on cattle checked in Payne and Mayes Counties week ending November 14. (Okla. Coop. Sur.). TEXAS - Moderate to heavy on cattle in Bandera and surrounding

counties in southern area week ending October 31. Moderate on Concho County cattle. Still moderate on Wilbarger County cattle. (Boring). Horn fly moderate on cattle, sheep, and goats in San Angelo area week ending November 7. Moderate on Concho County cattle week ending November 14. (McWhorter).

STABLE FLY (*Stomoxys calcitrans*) - OKLAHOMA - Averaged 3 per head on dairy cattle in Payne County week ending November 14. (Okla. Coop. Sur.).

FACE FLY (*Musca autumnalis*) - MISSISSIPPI - Overwintering adults nuisance at Oktibbeha County residences week ending October 31. (Robinson). WASHINGTON - *Pollenia rudis* (cluster fly) and some *M. autumnalis* causing problems in buildings at Wynooche Dam in Grays Harbor County and at Mud Mountain facilities in King County week ending November 13. Interferred with electrical equipment in one instance. (Antonelli, Bailey).

EAR TICK (*Otobius megnini*) - OKLAHOMA - Moderate to heavy in ears of Comanche County cattle week ending October 31. (Okla. Coop. Sur.).

HOUSEHOLDS AND STRUCTURES

OLDHOUSE BORER (*Hylotrupes bajulus*) - SOUTH CAROLINA - Collected from residence in Kershaw County by J. Gray October 3, 1975. Determined by J.B. Kissam. This is a new county record. (McCaskill).

MISCELLANEOUS WILD PLANTS

A MEALYBUG (*Chaetococcus phragmitis* (Marchal)) - NEW JERSEY - Collected one mile east of Tuckerton, Ocean County, July 21, 1975, on *Phragmites communis* (common reed) by R.F. Denno. Determined by D.R. Miller and S. Nakahara. This is a new United States record. *C. phragmitis* was reported from Egypt, France, Iraq, Italy, Morocco, Palestine, and southern part of European Russia on *P. communis* and *Phragmites* species. It has been intercepted in agricultural quarantine from Austria, Germany, Poland, and Yugoslavia. This mealybug appears to be host specific on *Phragmites*. (Nakahara).

A WEEVIL (*Nanophyes watsoni*) - MARYLAND - Five adults collected on *Arum* sp. in a pond near Pocomoke City, Worcester County, by E.J. Ford May 27, 1963. Determined by R.E. Warner. This is a new State record. (PPQ).

STORED PRODUCTS

SALT MARSH CATERPILLAR (*Estigmene acrea*) - NEW MEXICO - Damaged stored sweetpotatoes at Portales, Roosevelt County. (N.M. Coop. Rpt.).

BENEFICIAL INSECTS

AN ICHNEUMON WASP (*Bathyplectes curculionis*) - NEW MEXICO - Collected in alfalfa at Los Lunas, Valencia County, May 21, 1975, by J. Ellington. Determined by R.W. Carlson. This is a new State record. (N.M. Coop. Rpt.).

AN ICHNEUMON WASP (Coccygomimus annulipes) - WEST VIRGINIA - One adult female collected under roofing paper bark flap on white oak tree at Moorefield, Hardy County, by C.C. Coffman by July 30, 1975. Determined by R.W. Carlson. This is a new county record. (Hacker).

A FLEA BEETLE (Longitarsus jacobaeae) - OREGON - Adults collected from 1971 release site in Tillamook County for redistribution in county week of October 20-24. Three releases, 200 adults each, to be made into caged tansy ragwort plants. (Gillette, Westcott).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

BOLL WEEVIL (Anthonomus grandis grandis) - NEW MEXICO - One adult collected in leggett trap by M.R. Perry October 23, 1975, quarter mile north of Malaga, Eddy County. Determined by R.Eads; confirmed by R.E. Warner. First find for year. (PPQ).

GRASSHOPPERS - NEW MEXICO - Continued migration of large numbers over U.S. Highway 285 between Roswell and Artesia in southern Chaves County. (N.M. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Ranged 0-3 percent in most cotton fields in El Paso, Pecos, Reeves, Glasscock, and Midland Counties week ending November 14. (Neeb). NEW MEXICO - Up to 12 percent in small bolls in fields near Carlsbad, Eddy County, week ending November 14. (N.M. Coop. Rpt.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - Total of 77 adults trapped on 39 properties to November 17 in Los Angeles County. Larvae found on 12 properties. Most recent finds (3 adults) trapped on 2 properties at Pacific Palisades about 2.5 miles northwest of Santa Monica and about 25 miles south of commercial orchards. Most traps removed from core area of infestation November 6. Trapping and bait sprays to continue in peripheral areas. Sterile release began November 10 in core area. Total of 18,537,000 released to November 22 in 25-square-mile area. Ratio of 1,079 sterile to one native as of November 20. (Cal. Coop. Rpt., PPQ).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 11/7-13, BL, ARMYWORM (Pseudaletia unipuncta) 17, BLACK CUTWORM (Agrotis ipsilon) 10, FALL ARMYWORM (Spodoptera frugiperda) 16, GRANULATE CUTWORM (Feltia subterranea) 23, YELLOWSTRIPED ARMYWORM (S. ornithogalli) 1.

KENTUCKY - Fayette County, 11/7-13, BL, armyworm 10, black cutworm 2, CABBAGE LOOPER (Trichoplusia ni) 1, VARIEGATED CUTWORM (Peridroma saucia) 2, yellowstriped armyworm 5.

MISSISSIPPI - Stoneville, 11/7-13, temp. 37-80 F., precip. 0.80, 2BL, armyworm 231, BEET ARMYWORM (Spodoptera exigua) 492, black cutworm 104, BOLLWORM (Heliothis zea) 36, cabbage looper 18, fall armyworm 788, granulate cutworm 87, TOBACCO BUDWORM (H. virescens) 14, variegated cutworm 4, yellowstriped armyworm 18.

HAWAII INSECT REPORT

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) adults light to moderate in about 10-15 acres of potatoes at Hoolehua, Molokai, week ending October 31. Adults about 5-15 and larvae 4-7 on each plant. Larvae moderate in several hundred square yards of tomatoes. Harvested fruit 15-25 percent infested. (Ah Sam, Mau). LEAFMINER FLIES (Liriomyza spp.) moderate, 4-7 per leaflet, in 0.25 acre of tomatoes at Waiahole, Oahu, week ending November 7. Infested 30-40 percent of older leaves. Larvae and damage heavy on 3-4 acres of green onions at Waianae, Oahu, week ending November 14. Nearly all plants infested. Mines too numerous to count on 40-60 percent of leaves. BEAN FLY (Ophiomyia phaseoli) counts and damage heavy on nearly all plants in 0.125 acre of snap beans at Waiahole week ending November 7. Main stem damage severe; dieback in 30-40 percent of plants. Adults present. CABBAGE WEBWORM (Hellula rogatalis) continued moderate in 0.5-1.0 acre of mustard cabbage at Pearl City, Oahu, week ending November 7. Damaged at least 25 percent of heads. (Mau). SOUTHERN GREEN STINK BUG (Nezara viridula) damaged about 10 percent of bean pods in yard plantings of long beans week ending November 7. Adults and immatures moderate. Trichopoda sp. (a tachinid fly) parasitized 90+ percent of adults; adults of T. pilipes heavy in area. Adults and immatures of a MEMBRACID BUG (Antianthe expansa) heavy in yard planting of peppers at Wailuku, Oahu, damage heavy, week ending November 7. (Miyahira). CARMINE SPIDER MITE (Tetranychus cinnabarinus) moderate, 10-20 per inch, in acre of papaya at Waianae week ending November 14; apparently decreasing. All stages of Stethorus siphonulus (a lady beetle) present. Moderate, with damage noticeable on 0.5-1.0 acre of snap beans at Waimanalo, Oahu. ONION THRIPS (Thrips tabaci) moderate to heavy, 8-10+ per leaf, on 0.25 acre of green onions at Koko Head, Oahu, with 60-80 percent damaged leaves week ending November 14. BET ARMYWORM (Spodoptera exigua) damaged 2-3 acres of onion at Waianae. (Mau).

Fruits and Ornamentals - ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) heavy on roses at Waialae-Kahala, lower Wilhelmina, and Kailua, Oahu, week ending October 31. Infestation at Kailua about 10 miles from original infestation at Kapahulu. (Fine). BANANA SKIPPER (Erionota thrax) larvae and damage moderate throughout most areas on Molokai week ending October 31. Larval damage expected to decrease. (Ah Sam, Mau). Damage by ? NOCTUID MOTH (Phlegetonia delatrix) heavy on 50+ of new growth on Java plum trees at Waiahole week ending November 7. Young terminal growth 40-60 percent defoliated. (Mau). Larvae of OLEANDER HAWK MOTH (Deilephila nerii) light on gardenia plants at Kaumana and Kona, Hawaii, October 23, 1975. Collected by S. Kobayashi. Determined by E. Yoshioka. This is a new island record. (Kobayashi). WESTERN FLOWER THRIPS (Frankliniella occidentalis) counts and damage heavy in several acres of tuberose at Waimanalo week ending November 7. This thrips 6-10 per blossom on 40-50 percent of open flowers. FLORIDA RED SCALE (Chrysomphalus aonidum) heavy on 20 percent of leaves, 100+ per leaf, on 12 citrus trees at Waianae week ending November 14. (Mau).

Turf and Pasture - GRASS WEBWORM (Herpetogramma licarsisalis) completely defoliated 2 acres in 25-30 acre pasture at Haiku, Maui, week of November 14. Eucelatoria armigera (a tachinid fly) and Casinarina infesta (an ichneumon wasp) heavy. Moderate webworm damage in 25 acre pasture at Nahiku, Maui. (Miyahira).

Beneficial Insects - An ENCYRTID WASP (Ooencyrtus erionotae) collected at Hoolehua, Molokai, by J. Ah Sam in September 1975 while parasitizing 35 percent of Erionota thrax (banana skipper) eggs. No release made on Molokai. Determined by K. Teramoto. This is a new island record. (Teramoto, Ah Sam). Parasitism in first half of October by a BRACONID WASP (Apanteles erionotae) 30, 29, and 35 percent on Hawaii, Maui, and Kauai, respectively. Control effective wherever E. thrax established. (Yoshioka et al.). A BRACONID WASP (Opius spp.) gave excellent control of Ophiomyia phaseoli on Kauai during October. Percent of parasitism by location: Hanamaulu 100, Hanapepe 97, Kapaa 100, Kaunakani 100, Kealia 33, Kekaha 80, Kilauea 100, Koloa 100, Mana 100, Waimea 94, and Wailua 100. (Sugawa, Melendez). Parasitism by an ICHNEUMON WASP (Diadegma insularis) light to moderate in Plutella xylostella (diamondback moth) throughout many areas of State week ending October 31. Parasitism 5, 22, and 18 percent on Kauai, at Kula, Maui, and at Pearl City, Oahu, respectively. (Sugawa et al.). MELASTOMA BORER (Selca brunella) infested 18 and 23 percent of buds of the weed Melastoma malabathricum (melastoma) at Kauai at Knudsen Gap and Hanahanapuni, respectively, week ending November 14. (Sugawa).

CORRECTIONS

CEIR 25(43):830 - Man and Animals - "... HORN FLY ... KENTUCKY ..." should read "FACE FLY ... KENTUCKY ..."

CEIR 25(43):831 - Federal and State Plant Protection Programs - "GRASSHOPPERS ... Aulocara eliotti ..." should read "GRASSHOPPERS - ... Aulocara eliotti ..."

CEIR 25(44):847 - Federal and State Plant Protection Programs - "GRASSHOPPERS ... Trachyrhachis kiowa ..." should read "GRASSHOPPERS ... Trachyrhachis kiowa ..."

CEIR 25(44):848 - Beneficial Insects - "A TINGID BUG (Leptobrysa decora ..." should read "A TINGID BUG (Leptobrysa decora ..."

DETECTION

New United States Record - A MEALYBUG (Chaetococcus phragmitis (Marchal)) - NEW JERSEY - Ocean County. (p. 875).

New State Records

A WEEVIL (Eunyssobia echidna) - MARYLAND - One adult collected in raw sugar-yeast lure trap at a Butler residence, Baltimore County, by E.J. Ford July 27, 1975. Determined by R.E. Warner. (PPQ).

HICKORY PLANT BUG (Lygocoris caryae) - ALABAMA - Lee County. (p. 871).

HOLLY SCALE (Dynaspidiotus britannicus) - ALABAMA - Baldwin County. (p. 871).

AN ICHNEUMON WASP (Bathyplectes curculionis) - NEW MEXICO - Valencia County. (p. 875).

A MEALYBUG (Brevennia rehi) - TEXAS - Hildago County. (p. 859).

A SAWFLY (Macremphytus tarsatus) - ALABAMA - Tallapoosa County. (p. 873).

A SOFT SCALE (Pulvinaria urbicola) - ALABAMA - Baldwin County. (p. 871).

A WEEVIL (Nanophyes watsoni) - MARYLAND - Worcester County. (p. 875).

New County and Island Records

A LEAFHOPPER (Scaphoideus titanus) - KENTUCKY - Four adults taken in malaise trap June 19-30, July 15-21, July 19-30, and July 29 to August 6 near Glendale, Hardin County. Collected and determined by P.H. Freytag. Confirmed by D.E. Barnett. (Barnett).

ARMORED SCALES in ALABAMA

Abgrallaspis cyanophylli - Lee (p. 872).

Acutaspis morrisonorum - Madison (p. 874).

Chionaspis heterophyllae - Madison (p. 873).

C. nyssae - Covington (p. 873).

Diaspidiotus liquidambaris - Crenshaw, Covington, Macon, Marshall, St. Clair, Shelby, Madison, Blount, Talladega, Jefferson (p. 873).

Hemiberlesia lataniae - Houston (p. 872).

Pseudaulacaspis cockerelli - Houston (p. 872).

AN ARMORED SCALE (Velataspis dentata) FLORIDA - Washington (p. 872).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) KENTUCKY - Metcalf, Green, Robertson (p. 873).

- CAMPHOR SCALE (Pseudaonidia duplex) ALABAMA - Baldwin (p. 871).
- CITRUS MEALYBUG (Planococcus citri) ALABAMA - St. Clair (p. 871).
- DOUGLAS FIR TUSSOCK MOTH (Orgyia pseudosugata) NEW MEXICO - Bernalillo, Colfax, Otero, Sandoval, Torrance. ARIZONA - Rio Arriba (p. 872).
- AN ENCYRTID WASP (Ooencyrtus erionotae) HAWAII - Molokai (p. 878).
- AN ERIOPHYID MITE (Eriophyes macrocarpae) NEW MEXICO - Sierra (p. 874).
- EUONYMUS SCALE (Unaspis euonymi) FLORIDA - Union (p. 872).
- EUROPEAN CORN BORER (Ostrinia nubilalis) FLORIDA - Santa Rosa (p. 868).
- GREENBUG (Schizaphis graminum) KENTUCKY - Todd, Caldwell (p. 868).
- GREEN STINK BUG (Acrosternum hilare) SOUTH CAROLINA - Clarendon (p. 870).
- HEMISPHERICAL SCALE (Saissetia coffeae) ALABAMA - Talladega, Clay, St. Clair (p. 871).
- AN ICHNEUMON WASP (Coccygomimus annulipes) WEST VIRGINIA - Hardy (p. 876).
- A MEALYBUG (Pseudococcus sorghiellus) ALABAMA - Coosa (p. 872).
- OLEANDER HAWK MOTH (Deilephila nerii) HAWAII - Hawaii (p. 877).
- AN OLETHREUTID MOTH (Rhyacionia bushnelli) NORTH DAKOTA - Mercer (p. 872).
- OLDHOUSE BORER (Hylotrupes bajulus) SOUTH CAROLINA - Kershaw (p. 875).
- A PINE APHID (Eulachnus agilis) WEST VIRGINIA - Mercer (p. 873).
- SANDCHERRY WEEVIL (Coccotorus hirsutus) NORTH DAKOTA - Bottineau (p. 873).
- SOFT SCALES in ALABAMA
Lecanium corni - Barbour, Marshall, St. Clair, Madison (p. 874).
Pseudophilippia quaintancii - Jefferson, Sumter, Marengo (p. 873).
Toumeyella parvicornis - Barbour, Escambia, Talladega (p. 872).
T. pini - Butler, Jefferson, Marion (p. 872).
T. virginiana - Jefferson, Macon (p. 872-873).
- SOUTHERN GREEN STINK BUG (Nezara viridula) SOUTH CAROLINA - Clarendon (p. 870).
- SWEET POTATO WEEVIL (Cylas formicarius elegantulus) ALABAMA - Russell (p. 870).

TERRAPIN SCALE (Lecanium nigrofasciatum) ALABAMA - Madison
(p. 874).

TULIPTREE SCALE (Toumeyella liriodendri) ALABAMA - Chambers
(p. 874).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) ALABAMA - Madison
(p. 874).

WHITE PINE APHID (Cinara strobi) ALABAMA - Marshall (p. 873).

Weather of the week continued from page 866.

Tuesday was confined to the upper Mississippi Valley and the Pacific Northwest coast with a few thundershowers just off the central gulf coast. Though temperatures turned cooler across most of the United States, much of the Atlantic Coast States and Ohio Valley region enjoyed a mild but sunny afternoon. Columbus, Georgia, put a new record high of 80 degrees on the books. Rains, snow, strong winds, and cold temperatures announced winter's arrival on Wednesday across a large part of the north-central United States. Heavy snow and rain mixed with snow fell in the western Great Lakes region and it wasn't long before nearly 5 inches blanketed Duluth, Minnesota. Morning showers and thundershowers were widespread from the Ohio Valley to the Louisiana Delta and from the Carolinas through Florida. A low pressure center fixed over the northern Great Lakes whipped rain and snow across a large part of the north-central United States during the day. North Dakota and Minnesota accumulated up to 9 inches since Tuesday. Circulating around the storm, strong winds pulled cold air deep into the southern Plains. Midday readings halted in the 40's and 50's, meantime the north-central United States shivered in the 20's along the Canadian border. Ahead of the cold air, afternoon showers broke out from New York and the middle Atlantic States to the eastern gulf coast. Thundershowers also turned up over portions of Alabama, Georgia, and Florida. Fair skies sheltered the central Mississippi Valley, southern halves of the Plains and Rockies, and much of the Pacific Northwest. Gusty winds still whistled across the central Plains and middle Mississippi Valley on Thursday. Early morning temperatures plunged below freezing in the Ohio Valley and into the low 20's and teens in portions of the Plains where north Platte, Nebraska, measured only 11 degrees at 2 a.m. In the eastern United States, the weather did an about-face from unseasonably mild conditions that dominated the area for the past 2 weeks. Afternoon temperatures in many southeastern spots dropped as much as 20 degrees and reached into the 40's in the northern portions of Georgia, Alabama, and Mississippi. Near the end of the week, a warming trend began over the western United States as cooler air shifted eastward. Friday morning, the Midwest ranked as the Nation's cold spot east of the Rockies. Temperatures in the teens stretched across the Upper Great Lakes region and held in the 20's in the Middle Mississippi Valley. Elsewhere, freezing temperatures chilled areas from Texas to the South Carolina coast. Miami Beach, Florida, chalked up a record low of 45 degrees. Over the weekend, a warming trend pushed the mercury in the Plains and the Rockies into the 60's and 70's. Saturday was the third day in a row that Sheridan, Wyoming, claimed 72 degrees, the only reported record high for the Nation. Meanwhile, a cold front pushing into the Northwest moistened the northern half of the Pacific coast, Idaho, and western Montana. Otherwise, high pressure centers kept the Nation dry over the weekend except in northern Maine where a few snow showers lingered. Nosaes, Arizona, drew some attention on Sunday. The morning mercury in that city sank to a low of 26 degrees but leapfrogged 61 degrees to a near record of 87 degrees in the afternoon.

The Establishment of Coccinella septempunctata L.
in the Continental United States

George W. Angalet 1/ and Richard L. Jacques 2

On June 28, 1973, R.L. Jacques collected several specimens of the coccinellid, Coccinella septempunctata L., along the New Jersey Turnpike in the Hackensack Meadowlands region of Bergen County. This lady beetle is considered to be the most important aphid predator in the Palearctic region and the above collection was the first record of its establishment in the continental United States.

The Beneficial Insects Research Laboratory, USDA-ARS, Newark, Delaware, has attempted to establish C. septempunctata in the United States intermittently from 1956 through 1971 from material received from India and France. Personnel of the laboratory released all stages of this predator in New Jersey, Delaware, Maryland, Virginia, Pennsylvania, and Ohio during this period. In addition, from 1956 through 1964, various stages of C. septempunctata were shipped to Maine, Washington, California, Arizona, Florida, the Virgin Islands, and the Dominican Republic. The F₁ generation of this coccinellid was recovered during the year of release in New Jersey, Ohio, and California in several fields where it had been released, but there was never any evidence of its permanent establishment in the continental United States until the recovery by Jacques in 1973.

In 1974 we began an investigation to determine whether C. septempunctata was established accidentally in New Jersey from unknown sources, or resulted from the many liberations made in the eastern United States. From the information obtained thus far, the origin of C. septempunctata in Bergen County has still not been definitely determined, but it appears to be related to the trash disposal sites at the Hackensack Meadowlands where trash from Kennedy International Airport and other transportation sources are dumped, rather than the result of our previous introduction attempts.

Attempts to sub-colonize C. septempunctata in new areas were conducted during 1974 and 1975. Large scale releases were made in Delaware, Ohio, Illinois, and Oklahoma. The Illinois liberations were made by C.E. White, Illinois Natural History Survey, and the Oklahoma releases by R.D. Eikenbary, Oklahoma State University.

In New Jersey, C. septempunctata was found to be abundant only in the Hackensack Meadowlands where it was originally discovered, and it has not dispersed to any great distance out of Bergen County. The farthest point from which C. septempunctata was

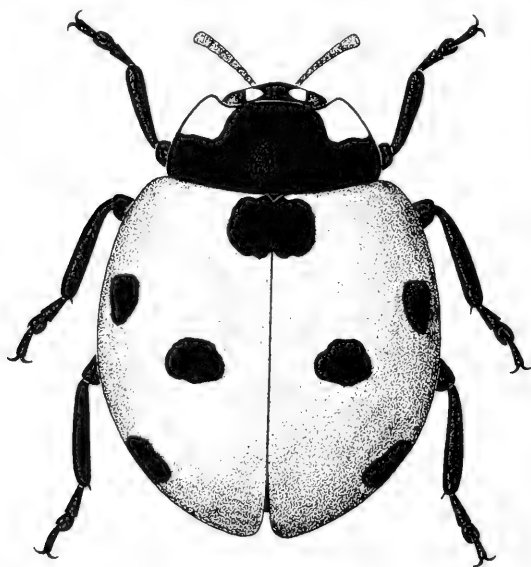
1/ Beneficial Insects Research Laboratory, ARS, USDA, Newark, Delaware 19713

2/ Biology Department, Fairleigh Dickinson University, Rutherford Branch, Rutherford, New Jersey 07070

collected from the original establishment was 35 miles at Greenwich, Connecticut. Surveys by Angalet and Jacques in 1974 and 1975 recorded C. septempunctata in the following counties in the eastern United States:

<u>Year</u>	<u>New Jersey</u>	<u>Year</u>	<u>New York</u>	<u>Year</u>	<u>Connecticut</u>	<u>Year</u>	<u>Delaware</u>
1973	Bergen	1975	Queens	1975	Fairfield	1975	New Castle
1973	Passaic	1975	Kings		(1 specimen)		(2 specimens)
1974	Essex	1975	Richmond				probably from 1974 releases
1974	Hudson						
1974	Middlesex						
1975	Morris						

Efforts will be continued to sub-colonize C. septempunctata in new areas, as this excellent aphid predator should prove as effective in the United States as it is in Europe and Asia. As the natural spread of this predator from the original establishment is slow, sub-colonization can only be carried out through manipulation.



U.S. Dept. Agr.
 Coop. Econ. Ins. Rpt.
 25(45-48)883-884, 1975

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Ostrinia (Pyrausta) nubilalis (Hübner))

Compiled by T. Perju 1/ and D. Mustea 2/ 3/

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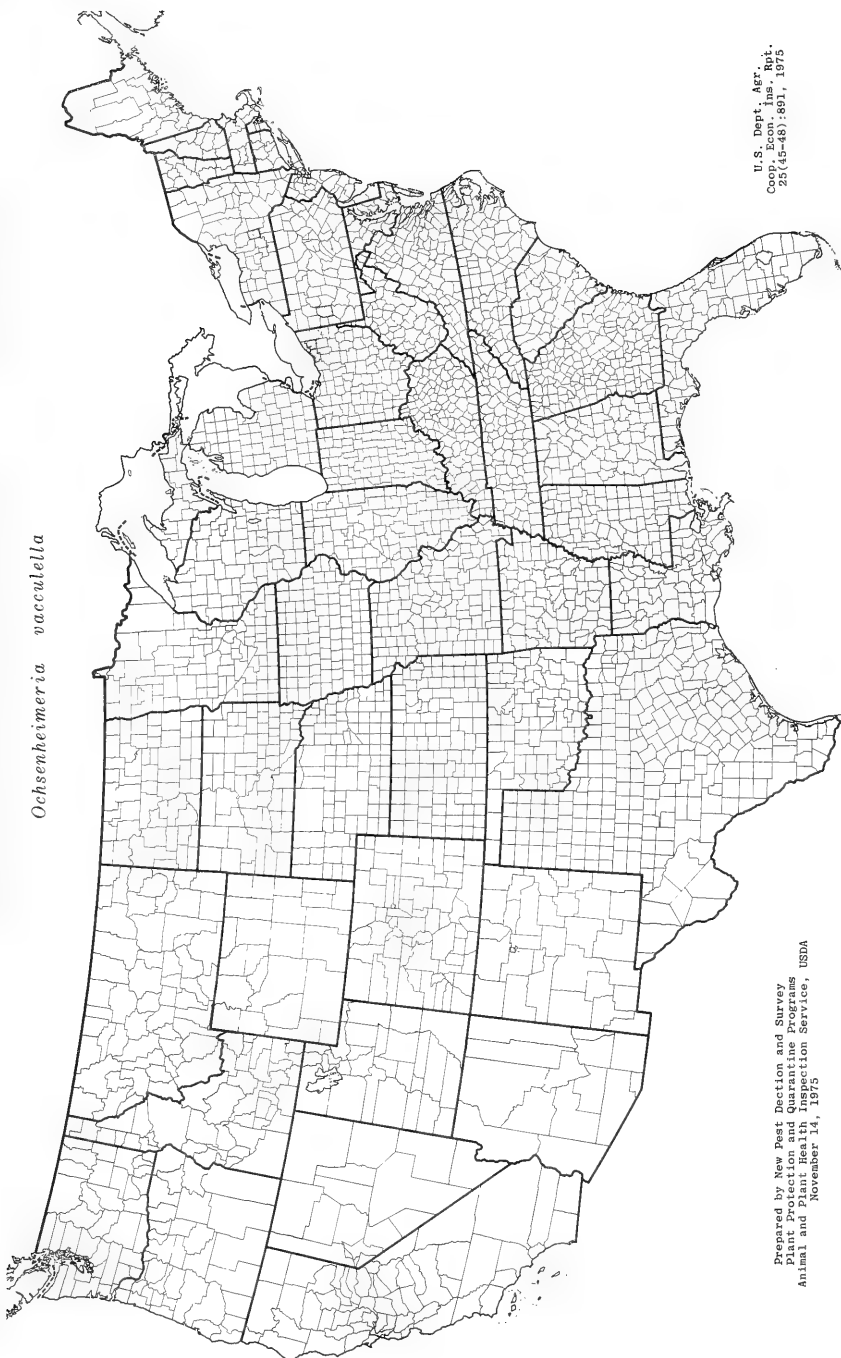
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U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(45-48)885-890, 1975

Distribution of Cereal Stem Moth

Ochsenheimeria vacculella

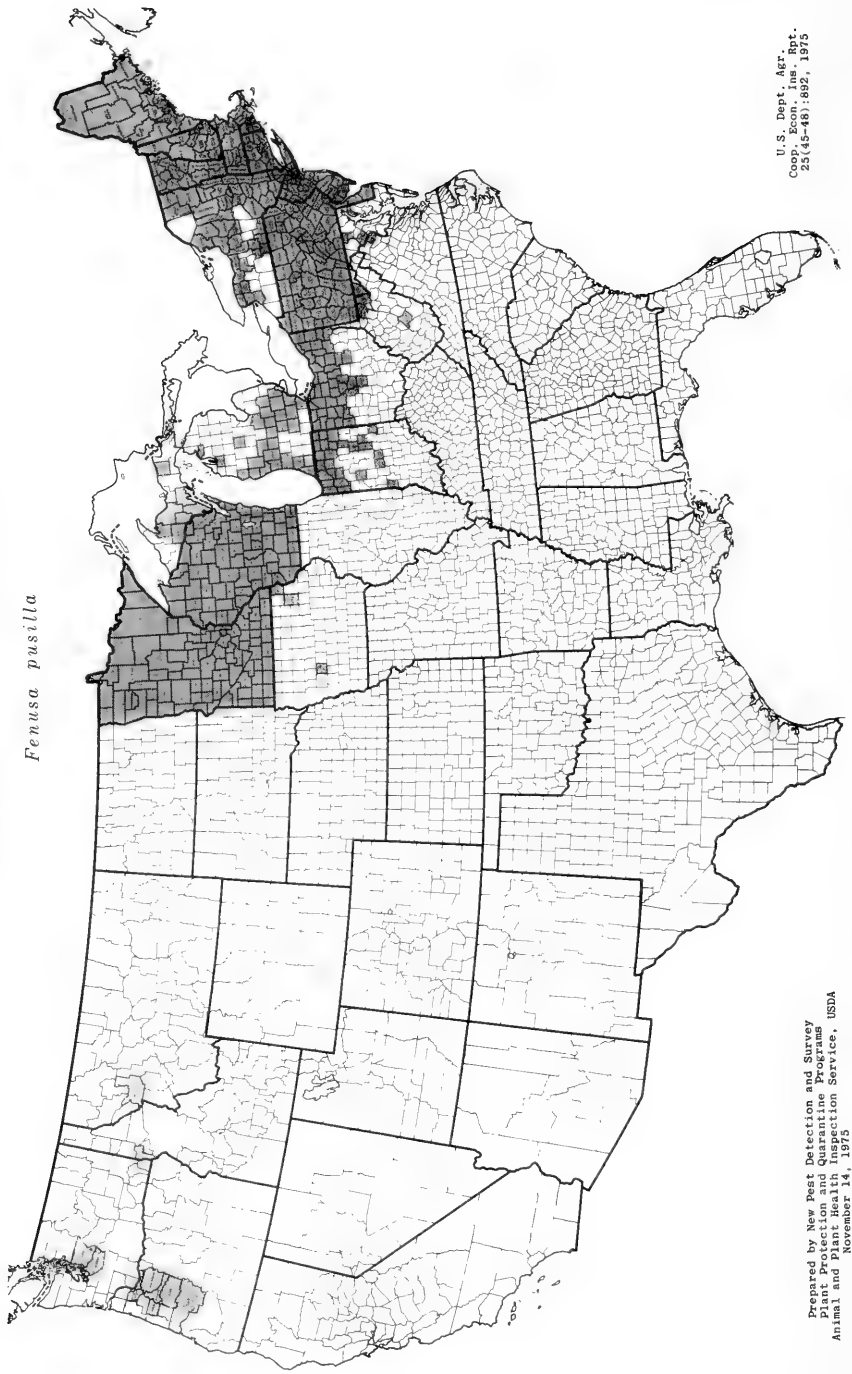


U. S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(45-48):891, 1975

Prepared by New Pest Detection and Survey
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service, USDA
November 14, 1975

Distribution of Birch Leafminer

Fenusa pusilla



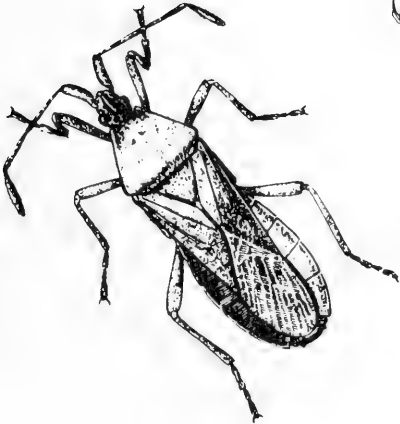
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U.S. DEPARTMENT OF AGRICULTURE
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VOL. 25 NOS. 49-52

December 1975

Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

GREENBUG very severe on some small grains in Texas, Oklahoma, and Kansas. (pp. 895-896).

Detection

Earlier collection of a SIRICID WASP in Georgia predates find in Alabama. (p. 899).

New State Records include a SIRICID WASP (p. 899) and an ANT (p. 908) in Florida.

For new county records, see page 902.

Special Reports

Dryocosmus kuriphilus Yasumatsu, (Hymenoptera: Cynipidae), An Oriental Chestnut Gall Wasp in North America. (pp. 903-905).

First Report of Pheidole moerens in Florida (Hymenoptera: Formicidae). (p. 906).

The Use of Bait Traps for Assessment of Stored Product Insect Populations. (pp. 907-909).

The Author of the Scientific Name of the Cabbage Maggot. (p. 910).

Spider Mites (Tetranychidae: Acarina) from Southeast Asia and Japan. (pp. 911-921).

Imported Fire Ant Quarantines. Map. Centerfold.

Reports in this issue are for the weeks ending November 21 through December 19 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING DECEMBER 14

Reprinted from Weekly Weather and Crop Bulletin supplied by
National Weather Service, NOAA.

HIGHLIGHTS: A series of disturbances moving across the Nation triggered a variety of precipitation during the week. A winter storm that developed in the western United States spread snow from the Pacific Northwest into the high central Plains. Unseasonably warm weather and thunderstorms, at times severe, dominated the middle Mississippi and Ohio Valleys. Monday turned out to be a typical December day in the midwest as a frontal system spread snow across parts of Iowa, Illinois, Wisconsin, and northern Missouri. Soon, light snow blanketed these areas and, by evening, spread into parts of Indiana and Michigan.

TEMPERATURE AND PRECIPITATION: A low pressure center formed on the front. In the Southeast, precipitation in a variety of forms encompassed an area from the Carolinas and Georgia into the gulf along the coast into Maryland and Delaware. Limited precipitation during the day included showers and a few thundershowers in parts of Florida and light rain and drizzle from the middle Atlantic States northward through New Jersey. Near normal temperatures in most of the Nation leveled off in the 20's and 30's in the North and in the 60's and 70's South with a few readings in the teens in northern Minnesota and some 80's in extreme southern California. Most of the Nation's wet weather stayed east of the Mississippi River on Tuesday, held in place by a low pressure center over southeast Ohio and accompanying frontal systems. Despite steady snowfall from Wisconsin and Michigan into the lower Great Lakes and Ohio Valley,

Weather of the week continued on page 922.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - TEXAS - Fed on corn tassels and on table beets in Lower Rio Grande Valley in south-central area week ending November 21. (Cole, Norman).

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Treatment of infested roadside weed hosts continued week ending November 21. Treatments completed in Fresno County. Total of 1,368 acres treated in Kern County. Additional treatment applied in Gorman area on U.S. forestry land, Interstate 5 Highway interchanges, and frontage roads. Treatments to continue in Kern County as long as beet leafhoppers stay on drying thistle. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - TEXAS - Fed on corn tassels in south-central area week ending November 21. (Cole).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Ranged 0-3 per linear foot in Lea County wheat week ending November 21. Up to 3 per linear foot near Portales, Roosevelt County, week ending November 28. (N.M. Coop. Rpt.).

TEXAS - Greenbug 1-25 per foot of drill row on small grains in Foard, Motley, and Wichita Counties week ending November 21. Moderate to heavy in some fields scattered in Knox County. Heavy in some fields, damage excessive, some treatments applied. One to 200 per linear foot damaged Lipscomb County wheat. Increased in Collin and Denton Counties. Temperature drop which slows beneficial insect activity expected to continue. Activity increased in Hill, Bosque, and Erath Counties due to light beneficial insect populations. Greenbug heavy, 300-600 per foot of row, in scattered fields of small grains in Baylor, Jones, Knox, and Wilbarger Counties week ending December 12. Moderate, 75-200 per foot of row, in Young County. Lighter, 1-74 per foot of row, in Archer, Dickens, Fisher, Hardeman, and Motley Counties. Up to 200 per linear foot in Lipscomb, Hemphill, and Ochiltree Counties on 3 to 6-inch wheat and 0-25 per linear foot on seedling wheat in Moore County. Increased in north-central area on wheat in Hale County. Noted in McCulloch County. (Boring et al.).

OKLAHOMA - Greenbug 18-230 per linear foot of wheat in southern Alfalfa County week ending November 21. Still heavy in some areas of Kay and Grant Counties; many fields treated. Light to heavy in Noble County; light in Payne County. Counts per linear foot by county: Garfield 2-145; Roger Mills and Caddo 20-1,000; McClain up to 1,000; Kingfisher up to 150 on young wheat and up to 300 in older fields; Canadian 25-300; Oklahoma up to 300; Kiowa up to 50 in isolated fields; and Jefferson up to 200. Ranged 5-200 per linear foot of wheat in Tillman and Jackson Counties week ending November 28. Still heavy in some areas in west-central, north-central, and central areas. Cold temperatures and snow limited activity. Counts per linear foot of wheat by county week ending December 5: Washita 2,000-3,000; Logan 12-325; Noble 11-125; Cotton 50-300; Harmon 50-75. Heavy in Garvin and McClain Counties, moderate to heavy in Stephens, Canadian, Beckham, and Custer Counties, and light to moderate in Grady County. Moderate on wheat and rye in Hughes County. (Okla. Coop. Sur.).

KANSAS - Greenbug averaged up to 1,000 per drill row foot in 3-inch wheat near Burr Oak, Jewell County, and up to 900 in 6-inch Douglas County wheat week ending November 21. No parasitism in most fields surveyed. Significant parasitism by Lysiphlebus testaceipes (a braconid wasp) in 2 Miami County fields. Cold weather November 19 to December 1 with rains resulted in heavy greenbug mortality in some wheatfields in eastern area. Field of 3-inch wheat near Burr Oak, Jewell County, went from 1,000 per drill row foot on November 18 to 200-300 December 3. Damage severe with many dead plants. Declined from 900 on November 18 to 600 per row foot on 7-inch wheat in Douglas County; but in Shawnee County 6-inch wheat averaged 165 per row foot on November 17 and averaged 230 on December 4. (Bell). ILLINOIS - Light, averaged approximately 10 per foot of row, on 3 to 4-inch winter wheat in Jackson County. (Ill. Ins. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Heavy on young alfalfa in Garvin County. Light to moderate in Grady County. (Okla. Coop. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - FLORIDA - Adults collected in blacklight traps at Holt, Okaloosa County, by J.H. Carter July 17, 1975, and at Altha, Calhoun County, by E. Curlee July 18. Determined by D.C. Ferguson. These are new county records. Additional specimens collected at same locations. (Fla. Coop. Sur.).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - NEW MEXICO - Ranged from 90-percent infested corn in Lea, Roosevelt, and Curry Counties to 2-3 larvae per stalk in Quay and Union Counties week ending December 5. (N.M. Coop. Rpt.). MISSOURI - Fall survey conducted in 5 southeast area county cornfields week ending November 29. Infested plants ranged 24-69.2, averaged 52.8. Girdled plants ranged 1.2-23.2, averaged 11.2. (Munson). ILLINOIS - Overwintered larvae in 21 of 24 cornfields surveyed in White, Jackson, and Union Counties week ending December 12. Infested up to 20 percent of a field in White and 19 percent of a field in Union. (Ill. Ins. Rpt.).

SMALL GRAINS

AN APHID (Rhopalosiphum padi) - TEXAS - Increased on small grains in Wilbarger County where 1-75 per foot of row observed week ending December 12. Light in Archer, Wichita, and Hale Counties. (Boring, Latham). OKLAHOMA - Counts per linear foot of wheat by county week ending November 21: Cotton, Harmon, Jackson, Greer, and Kiowa 30-60; Beckham, Roger Mills, Caddo, Washita, and McClain 0-100; Grant and Garfield 0-50. Ranged 0-10 per linear foot in wheat in most areas except in west-central counties where scattered heavy infestations found week ending November 28. Counts per linear foot of wheat by county week ending December 5: Noble 8-75, Logan 10-75, Kingfisher 0-55, Tillman 8-10, and Harmon 2-30. Light to heavy in Washita County. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - ALABAMA - Developing populations of this species and other aphids widespread over several thousand acres of Covington County small grain fields week ending November 21. Damage significant; treatments applied in some plantings. (Pike). MARYLAND - Light to moderate on wheat and barley throughout Eastern Shore week ending November 28. Cold stopped increases in all areas. (U. Md., Ent. Dept.).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Ranged 1-15 per foot of drill row of wheat in Foard and Wilbarger Counties week ending November 21. (Boring). TEXAS - Light, 6-70 per foot of drill row on small grains week ending December 12 in Archer, Hardeman, and Wichita Counties. Up to 450 per foot of drill row in Foard and Wilbarger Counties. Building up in north-central area. (Boring, Turney).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - One live adult collected from haystack at Las Cruces, Dona Ana County, by T.D. Schowalter December 12, 1975. Determined by W. Iselin. This is a new county record and first specimen collected in south-central part of State. (N.M. Coop. Rpt.). MISSOURI - Adults 2-21 per 10 sweeps and first and second instar larvae 2-9 week ending November 21. Eggs by county: Barry 77, Cedar 78, Cooper 66.5, Saline 91.5. (Munson). KANSAS - Sixty percent of stems infested with eggs or hatched eggs (20 percent hatch) in sample of 10-inch alfalfa taken in Atchison County on December 4. (Bell). KENTUCKY - Eggs averaged 90 per square foot in Barren County week ending November 21. Eggs averaged 15.6 and 15.1 per square foot in Fayette County alfalfa week ending November 28. (Barnett et al.).

CLOVER LEAF WEEVIL (Hypera punctata) - NEW MEXICO - One adult recovered from haystack at Las Cruces, Dona Ana County, by B. Principe December 12, 1975. Determined by W. Iselin. This is a new county record. (N.M. Coop. Rpt.).

SOYBEANS

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - NORTH CAROLINA - Taken from soybean stems near Lumberton, Robeson County, November 12, 1975, by D. Oxendine. Two stages of insect noted. Population, 50+ per stem, concentrated near base. Determined by D.L. Stephan. This is first report of this species from soybeans in State. (Stephan).

A PLATYSTOMATID FLY (Rivellia quadrifasciata) - LOUISIANA - Adults, more than one per sweep, taken near Bunkie, Avoyelles Parish, during August. Tentatively identified larvae damaged root nodules in soybean field plots in St. Landry Parish. Up to 141 larvae taken in single 3-foot soil sample week ending November 28. (Eastman, Wuensche).

A CERAMBYCID BEETLE (Dectes texanus) - NORTH CAROLINA - Larval activity in Hyde and Washington Counties lodged 5 percent or less of soybeans. Lack of reports indicate lower than normal rate statewide week of December 5. (Hunt).

DECIDUOUS FRUITS AND NUTS

PECAN CARPENTERWORM (Cossula magnifica) - ALABAMA - Larvae active week of December 5 in high percentage of pecan trees in 20-acre Baldwin County orchard. Orchard has history of heavy infestation with 1-10 larvae per tree in 50+ percent of all trees per year. (Coats).

SMALL FRUITS

A LEAFHOPPER (Scaphoideus titanus) - KENTUCKY - Adult male taken on grape vines near Elizabethtown, Hardin County, June 19, 1975. Collected and determined by D. Barnett. Confirmed by P.H. Freytag. This is a new county record. (Barnett).

ORNAMENTALS

EUONYMUS SCALE (Unaspis euonymi) - TEXAS - Heavy on euonymus in Bell, Mills, and Brown Counties week ending November 21. Plants died where stressed for moisture. Heavy defoliation common on many infested plants. (Hoelscher).

CAMELLIA SCALE (Lepidosaphes camelliae) - MISSISSIPPI - Heavy on camellia in southern half of State week ending December 5. (Hepner).

FLORIDA WAX SCALE (Ceroplastes floridensis) - ILLINOIS - Heavy on dogwood and holly at Nashville, Davidson County, week ending December 12; controls planned. (Ill. Ins. Rpt.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - FLORIDA - Damage heavy to roses, pittosporum, and smilax in several commercial nurseries at Leesburg, Lake County. Buildup due to improper timing and poor spray coverage. Crowded plants in some nurseries prevented adequate spray coverage. (Fla. Coop. Sur.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Decreased significantly in Coastal Plain week ending November 14. Some active flights noted. Activity decreased slightly in northern Piedmont, Charlotte area, and east of Asheville. (N.C. For. Ser.). Flying adults still taken on Monroe County sticky traps December 5. (Hepner).

ENGRAVER BEETLES (Ips spp.) - FLORIDA - Building up to heavy populations by December 5 in Walton and Okaloosa Counties on pines damaged by hurricane Eloise. Damaged species include slash, loblolly, spruce, and sand pines. (Fla. Coop. Sur.).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - FLORIDA - Building up to heavy numbers in pines, Pinus spp., damaged by hurricane Eloise in panhandle area of State, primarily in Walton County but also in Okaloosa County by December 5. (Fla. Coop. Sur.).

A SIRICID WASP (Eriotremex formosanus) - GEORGIA - One female collected at large about one mile from Hunter Army Air Field in Chatham County by L.D. Cline in November 1974. Determined by L.D. Cline; confirmed by D.R. Smith. This collection predates previous United States record from Alabama. (Cline). See CEIR 25(44):851-854. FLORIDA - Adult female netted in clearing near edge of mixed woods, Spring Lake, 8 miles southwest of Marianna, Jackson County, by W.M. Cross May 25, 1975. Determined by W.H. Cross; confirmed by D.R. Smith. This is a new State record. (Fla. Coop. Sur.).

AN OLETHREUTID MOTH (Episimus tyrius) - MARYLAND - Spotty moderate to light damage on red maple, silver maple and less on Norway maple in central and southern area week ending November 28. Damage more noticeable than in 1974. (U. Md., Ent. Dept.).

A GEOMETRID MOTH (Thysanopyga intractata) - VIRGINIA - Defoliated 50-75 percent of hundreds of acres of American holly in Northumberland County week ending December 12. Most damage occurred in protected dense woodlands along streams. (Allen).

A PHYTOPTID MITE (Trisetacus floridanus) - FLORIDA - Collected from Pinus clausa (sand pine) at Port St. Lucie, St. Lucie County, November 4, 1975, by E.W. Campbell. Determined by H.A. Denmark. This is a new county record. (Fla. Coop. Sur.).

MAN AND ANIMALS

SCREWORM (Cochliomyia hominivorax) - Total of 1,559 cases reported from continental U.S. during November 9-22 as follows: Texas 1,489, New Mexico 6, Arizona 43, Oklahoma 1. Total of 959 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 522 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 323,778,000 as follows: Texas 270,084,000, New Mexico 1,998,000; Arizona 51,696,000. Total of 201,060,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HORN FLY (Haematobia irritans) - FLORIDA - Decreased due to cold weather, adults averaged 35 per beef animal in herd at Gainesville, Alachua County, week ending November 28. (Fla. Coop. Sur.). MISSISSIPPI - Adults 5-10 per beef animal in Noxubee County week ending November 21. (Robinson). OKLAHOMA - Light populations still active on cattle in southwest counties week ending November 21. (Okla. Coop. Sur.).

YELLOWFEVER MOSQUITO (Aedes aegypti) - TENNESSEE - Adults and larvae collected from old tires September 6, 1975, at Nashville, Davidson County. Collected by G.E. Ingram. Determined by R.F. Darsie. This is a new county record. (Gordon, Bruer).

A HIPPOBOSCID FLY (Pseudolynchia canariensis) - ALABAMA - Heavy on pigeons grown commercially on farm with quail and rabbits near Phenix City, Russell County. Collected by B. Pearson October 19, 1975. Determined by F.C. Thompson. This is a new county record. Many pigeons in area died over past several months from disease. (McQueen).

HOUSEHOLDS AND STRUCTURES

BROWNBANDED COCKROACH (Supella longipalpa) - MINNESOTA - Noted in residence at St. Paul, Ramsey County, week ending November 21. Infestation heavy, regular household insecticides ineffective. Species one of least reported in State, infestation source unknown. (Minn. Pest Rpt.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - No additional adults or larvae found in Los Angeles County from November 18 to December 15. Total of 84,889,997 sterile pupae and adults released to December 15 in 28 square-mile area. (PPQ).

RED IMPORTED FIRE ANT (Solenopsis invicta) - FLORIDA - Problem in localized areas of 4,000 acres of young citrus near Ft. Pierce, St. Lucie County, week ending November 21. Heavy fertilization caused bark splitting and sap flow, resulting in fire ants feeding on sap and building sand cover over bud unions and in limb crotches. Some dieback and tree mortality noted. (Fla. Coop. Sur.).

HAWAII INSECT REPORT

General Vegetables - A MEMBRACID BUG (Antianthe expansa) heavy on tomato and eggplant in backyard gardens at Ewa, Oahu, week ending November 21. Hundreds of nymphs and adults found per plant. No damage visible. (Mau). Heavy counts and damage in backyard plantings of chili pepper at Hilo, Hawaii Island, week ending December 5. All stages present. (Yoshioka). BROAD MITE (Polyphagotarsonemus latus) damage heavy in backyard plantings of bell pepper at Ewa week ending November 21. Infested 80+ percent of plants in several gardens. (Mau). BEET ARMYWORM (Spodoptera exigua) moderate on commercial plantings of green onions at Waikapu, Maui, week ending November 28. Up to 15-20 percent of leaves infested or damaged. (Miyahira). DIAMONDBACK MOTH (Plutella xylostella) larvae light to heavy in daikon, Chinese cabbage, cauliflower, and head cabbage at Volcano and Waimea, Hawaii Island, week ending December 5. Heavy in 0.5-1.0 acre of Chinese cabbage at Volcano, Hawaii Island. Larvae 15 per head. Light to moderate on cauliflower (0.5 acre) and head cabbage (5 acres). Moderate, with damage on 5+ acres head cabbage and in 6+ acres Chinese cabbage at Waimea. (Shishido, Mau). CABBAGE LOOPER (Trichoplusia ni) and GREEN GARDEN LOOPER (Chrysodeixis chalcites) counts and damage moderate to heavy on 10+ acres of Iceberg lettuce at Kula, Maui, week ending December 12. Larvae up to 14, averaged 5-8, per head on nearly all heads. (Mau). TOMATO PINWORM (Keiferia lycopersicella) severely infested and damaged nearly all tomato fruit on 3 acres at Pulehu, Maui, week ending December 12. Some plants averaged 2-3 per leaflet. Moderate counts on 4-5 acres of tomato at Kula. Infested 30 percent of fruits. (Murai, Mau).

Fruits and Ornamentals - ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) light on roses at Kalihi and Kalihi Valley, Oahu, week ending November 21. Scattered from the residential area surrounding Fort Shafter and into the valley. Infested area, farthest west of original infestation site at Kapahulu, Oahu. (Fine, Mau). OLEANDER

HAWK MOTH (Deilephila nerii) severely damaged several gardenia plants (10-12) at Kailua and Kona, Hawaii Island, week ending December 5. (Yoshioka). Heavily damaged crepe gardenia at Haiku, Maui, week ending December 12. Many late instar found. (Ah Sam). BANANA SKIPPER (Erionota thrax) damage moderate to heavy on banana week of December 12 at Pahoa, Hakalau, Laupahoehoe, and Waimea, Hawaii Island. (Matayoshi).

Households and Structures - FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus) definitely established on Molokai at Kipu, and possibly at Kaunakakai. Found in telephone and fence poles at Kipu. Kipu infestation and heavy damage to parts of warehouse at Kaunakakai indicate eradication from this island may be impossible. Pseudoworkers and alates of FOREST TREE TERMITE (Neotermes connexus) heavy in dead branches of Eucalyptus trees at Kipu. This termite present on all major islands. (Tamashiro, Lai).

Beneficial Insects - AN ENCYRTID WASP (Ooencyrtus erionotae) definitely established on Molokai. Surveyed at Kipu week ending November 28. No releases made. (Miyahira). Parasitized 61-75 percent of Erionota thrax eggs at Hilo. (Matayoshi). A PTEROPHORID MOTH (Oidaematophorus sp.) severely defoliated Hamakua pamakani at Volcano. Defoliated 70-80 percent of terminals along several hundred yards of roadside weeds. Galling by a GALL FLY (Procecidochares alani) on 80-90+ percent of Hamakua pamakani terminals at Onomea and several other locations along Hamakua coast of Hawaii Island week ending December 5. Adults light. (Shishido, Mau). Release of 250 adults of A SCARAB (Canthon humectus) against Haematobia irritans (horn fly) at Ulupalakua, Maui, week of December 12. First release on Maui. (Miyahira, Yoshioka).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 12/5-11, BL, ARMYWORM (Pseudaletia unipuncta) 3, BLACK CUTWORM (Agrotis ipsilon) 6, FALL ARMYWORM (Spodoptera frugiperda) 1, GRANULATE CUTWORM (Feltia subterranea) 5.

KENTUCKY - Fayette County, 12/5-12, BL, Armyworm 1, black cutworm 1, VARIEGATED CUTWORM (Peridroma saucia) 1.

DETECTION

New Western Hemisphere Record - A SIRICID WASP (Eriotremex formosanus) - GEORGIA - Chatham County. (p. 899).

New State Records - AN ANT (Pheidole moerens) - FLORIDA - Alachua County. (p. 906). A SIRICID WASP (Eriotremex formosanus) - FLORIDA - Jackson County. (p. 899).

New County Records

A LEAFHOPPER (Osbornellus clarus) - KENTUCKY - Adult male collected in blacklight trap near Bowling Green, Warren County, June 23, 1975. Collected and determined by D. Barnett; confirmed by P. Freytag. (Barnett).

A LEAFHOPPER (Scaphoideus intricatus) - KENTUCKY - Adult male collected in malaise trap near Spears, Jessamine County, by P.H. Freytag August 22-30, 1974. Determined by P.H. Freytag and confirmed by D. Barnett. (Barnett).

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Dona Ana (p. 897).

CLOVER LEAF WEEVIL (Hypera punctata) NEW MEXICO - Dona Ana (p. 897).

EUROPEAN CORN BORER (Ostrinia nubilalis) FLORIDA - Okaloosa, Calhoun (p. 896).

A HIPPOBOSCID FLY (Pseudolynchia canariensis) ALABAMA - Russell (p. 899).

A PHYTOPTID MITE (Trisetacus floridanus) FLORIDA - St. Lucie (p. 899).

YELLOWFEVER MOSQUITO (Aedes aegypti) TENNESSEE - Davidson (p. 899).

CORRECTIONS

CEIR 25(33):690, 693 - Delete DEER FLY (Silvius pollinosus) - NEW MEXICO - ... Determination should read "... (Silvius quadrivittatus) ... Confirmed by F.C. Thompson." (N.M. Coop. Rpt.).

CEIR 25(45-48):872 and 880 - FOREST AND SHADE TREES "'DOUGLAS FIR TUSsock MOTH (Orgyia pseudosugata) ..." should read "DOUGLAS FIR TUSsock MOTH (Orgyia pseudotsugata) ..."

CEIR 25(45-48):878 - CORRECTIONS - Second group - "... Aulacara elliotti ..." should read "... Aulocara elliotti ..."

CEIR 25(45-48):879 - DETECTION - "A MEALYBUG (Brevennia rehi) ... Hildago County. (p. 859)." should read "A MEALYBUG (Brevennia rehi) ... Hidalgo County. (p. 869).

CEIR 25(45-48):880 - DETECTION - "AN ERIOPHYID MITE (Eriophyes macrocarpae) ..." should read "AN ERIOPHYID MITE (Eriophyes microcarpae) ..."

Dryocosmus kuriphilus Yasumatsu, (Hymenoptera: Cynipidae),
An Oriental Chestnut Gall Wasp in North America

J.A. Payne 1/, A.S. Menke 2/, and P.M. Schroeder 3/

Economic Importance: The cynipid gall wasp, (Fig. 1) Dryocosmus kuriphilus Yasumatsu, threatens the chestnut industry of Japan and Korea (Paik et al., 1963, Shimura, 1972). Resistant trees have been obtained by breeding and selection, but another strain of the wasp has now developed that attacks these resistant trees (Shimura, 1972). Late-ripening varieties of Castanea crenata Siebold and Zuccarini, Japanese chestnut, tend to be more resistant than others. There is little resistance in Castanea mollissima Blume, Chinese chestnut. Dryocosmus kuriphilus was first reported in Japan in 1941 (Yasumatsu, 1951) and introduced into Korea in 1961. It attacks the vegetative buds and disrupts shoot growth through formation of a gall (Fig. 2). The galls suppress shoot elongation and reduce fruiting; trees with severe infestations lose their vigor and often die.

There are few large chestnut groves in the United States, but small plantings consisting largely of seedling Chinese chestnuts exist in the Midwest, East, and Southeast (Jaynes, 1975). Chinese chestnut seedlings are offered for sale by most mail-order nurseries. In addition, approximately 100,000 chestnut seedlings (1966 survey) are produced annually in State nurseries for distribution to landowners for wildlife and other planting purposes (Christisen, 1969).

Distribution: Japan and Korea. Infestation was first found in the United States in Peach County, Georgia, in 1974 (CEIR 15(33):693, 1975). Approximately 30 acres of commercial grove and scattered yard trees are infested in Fort Valley. A one-acre commercial grove is infested in Byron.

Hosts: Chinese chestnut, Castanea mollissima Blume, and Japanese chestnut, C. crenata Sieb. and Zucc.

Life History and Habits: The wasp has one generation per year in Georgia and Korea. The early instar larvae overwinter inside the chestnut bud. Galls develop in early spring (late March), almost in synchrony with chestnut bud break. Larvae feed 20-30 days before pupating. Adult wasps begin emerging from galls during the first week of June. Emergence is completed in approximately 2 weeks. Males appear to be unknown in this species (Yasumatsu, 1951); only female wasps have been collected in Georgia and Korea. The female lays 3-5 eggs in a cluster inside the buds (Paik, 1963). Larvae hatch in 40 days by late July; larval growth is very slow through the autumn and winter.

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Description: EGG - Oval, milky white, 0.1-0.2 mm. long. LARVA - 2.5 mm. long when fully grown, milky white when newly hatched. PUPA - Black, 2.5 mm. long. ADULT (Fig. 1) - 3 mm. long; body black; legs, (except last tarsal segment), scape and pedicel, clypeal apex, and middle of mandible yellow brown; frons and vertex of head weakly shining, very finely sculptured; scutum, side of scutellum, mesopleuron, and abdomen highly polished, impunctate; rest of body sculptured; scutum with two uniformly impressed convergent grooves (notaulices); marginal cell of forewing open along wing margin; female antenna with 14 segments, apical segments not expanded into a club. GALL - Diameter 8-15 mm., greenish, often containing portions of developing leaves, stems, and petioles. After adult emergence, the gall dries, becomes woodlike, and remains attached to the tree for several years (Fig. 3).

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See illustrations on next page.

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25(49-52):903-905, 1975

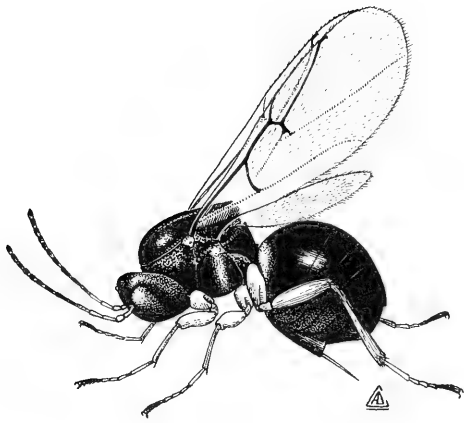


Fig. 1 Adult chestnut gall wasp, Dryocosmus kuriphilus Yasumatsu.



Fig. 2 Chestnut galls containing portions of leaves and petioles.

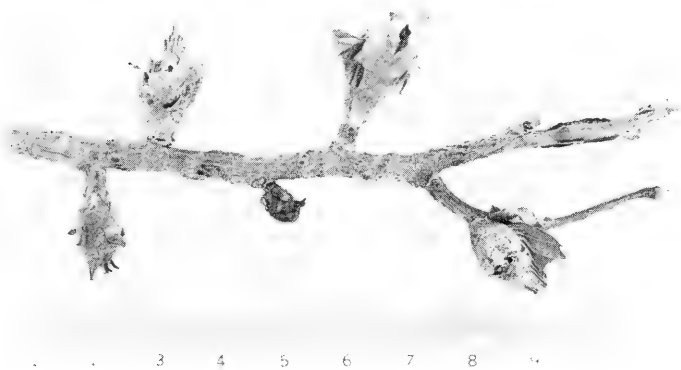


Fig. 3 Dried galls sometimes remain attached to the branch several years after departure of the gall wasp, thus making survey easy.

First Report of *Pheidole moerens* in Florida
(Hymenoptera: Formicidae)

Daniel P. Wojcik ^{1/}, W.A. Banks ^{1/}, and W.F. Buren ^{2/},

Pheidole moerens Wheeler, described from Puerto Rico (Wheeler, 1908), is one of the commoner species of *Pheidole* in Puerto Rico, but Culebra is the only other West Indian Island that it has been reported from (Smith, 1936). We recently (June 1975) collected this species in Mobile, Alabama, confirming Smith's 1967 report.

In a current survey to determine the effects of the red imported fire ant, *Solenopsis invicta* Buren, on native ant species, *P. moerens* was collected in Gainesville, Florida. This survey is conducted bimonthly by placing 2 baits (ground beef and honey (40 percent) in agar) on separate squares of heavy aluminum foil, 1-3 feet apart at each of 100 baiting sites. *P. moerens* was collected on one or both of the baits 7 times at 5 widely scattered sites in January, May, and November 1973 and in July 1974. With its first collection, *P. moerens* was recognized to be different from *P. floridana* Emery (a similar species, commonly found in Gainesville). One of us (W.F.B.) compared Gainesville specimens with the types of *P. moerens* at the Museum of Comparative Zoology, Harvard University, and found them to be conspecific.

In *P. moerens*, the prothorax of the majors is transversely rugulose; the head of the minors is densely granulose with longitudinal rugulae on the anterior half, and the postpetiole is globular and not more than 1.5 times the width of the petiole. *P. floridana* differs because the prothorax of the majors is densely covered with granulose sculpture without transverse rugulae; the head of the minors is densely granulose without longitudinal rugulae on the anterior half, and the postpetiole is pyriform and twice as wide as the petiole.

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U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(49-52):906, 1975

The Use of Bait Traps for Assessment of Stored-Product
Insect Populations

D.B. Pinniger 1/

An assessment technique useful for both evaluation of insecticidal disinfestation treatments and for monitoring population levels has been developed at PICL (Pest Infestation Control Laboratory at Slough).

Residual populations of beetles may be composed of individuals or small groups of insects in cracks, crevices, and other dead spaces. At any given time most insects are inactive and remain hidden, but a small percentage are actively wandering over the exposed fabric of the building. When heavy infestations occur, the proportion of wandering insects is obvious but with light infestations the very few active beetles are difficult to detect by visual inspection. The aim of a bait technique is to insert a standard trap into the environment which will arrest the movement of these wandering insects and perhaps attract other insects from harbourages. Insects present in the trap can then be counted and results compared with data from other traps and trap periods.

Other workers have used gunny trap bags for infestation surveys in stored product environments (Green and Coauthors, 1953; Strong, 1970; and McFarlane and Warui, 1973). The bait trap adopted by PICL is a welded plastic mesh* container with 1.5 mm. apertures, heat sealed on three sides to form an envelope 20 cm. x 10 cm. The envelope is then filled with 130 ml. (85g.) of food material and closed with staples. Various food materials have been tested, the most successful being a mixture of equal parts of wheat, broken groundnuts, and kibbled carobs (locust beans). All food mixture is sterilised at 70 degrees C. for 8 hours before use to kill any stray live insects.

The bait traps are labelled, placed around the storage area being surveyed, and left in position for a known period of time (2-7 days). They are then examined by shaking the bait trap vigorously over a white tray. Any insects present, fall through the mesh, which acts as a sieve, and on to the tray where they can be counted. If it is not practicable to count on site, the insects may be collected in a tube, or the baits can be placed in sealed polyethylene bags and examined later.

*Mesh Ref. Code 032 supplied by Netlon Ltd., N.E. Wing Bush House Aldwych, London WC2B 4PX

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Traps have been successfully used in farms, mills, and warehouses in wall/floor angles and corners, dead spaces under machinery and behind bulkheads, elevator pits, and conveyor tunnels. Infestation outside storage premises has been detected by placing bait traps under a waterproof cover in the open. Infestations in ships have been detected in deck/bulkhead angles, bilges, box beams, ledges, behind shifting boards, and under dunnage. In many cases insects have been detected in bait traps when they have not been found during normal inspection. Temperature is an important influence on the activity of insects and higher catches have been obtained in the United Kingdom when temperatures have been above 15 degrees C. The absence of an alternative food supply greatly increases the effectiveness of bait traps and they are most effective in empty buildings, etc. However, insects can be detected in the vicinity of foodstuffs, for example around stacks of bagged goods.

Although primarily developed for detecting Oryzaephilus surinamensis, a wide range of beetle species has been found in bait traps (Table 1).

Table 1.--Beetle species found in bait traps.

Species	Ships	Farms	Other Premises	Maximum number per bait trap
<u>Ahasverus advena</u>	-	+	-	10
<u>Attagenus sp.</u>	+	-	-	14
<u>Cryptolestes sp.</u>	+	+	+	5
<u>Dermestes sp.</u>	+	-	-	3
<u>Gibbium psylloides</u>	+	-	-	7
<u>Lasioderma serricorne</u>	+	-	-	20
<u>Necrobia rufipes</u>	+	-	-	3
<u>Oryzaephilus surinamensis</u>	+	+	+	20,000
<u>Oryzaephilus mercator</u>	+	-	-	100
<u>Palorus ratzeburgi</u>	-	-	+	50
<u>Ptinus fur</u>	-	+	+	1
<u>Ptinus tectus</u>	-	-	+	5
<u>Sitophilus granarius</u>	+	+	+	50
<u>Sitophilus oryzae</u>	+	-	-	3
<u>Stegobium paniceum</u>	+	-	-	6
<u>Tribolium castaneum</u>	+	-	+	200
<u>Tribolium confusum</u>	-	-	+	12
<u>Trogoderma granarium</u>	+	-	+	30
<u>Typhaea stercora</u>	+	+	+	20

Spider Mites (Tetranychidae: Acarina)
from Southeast Asia and Japan

E.W. Baker 1/

I have recently spent three months in Thailand studying the tetranychid mites as a consultant for FAO. Because many tetranychids from Southeast Asia and Japan are widely distributed, it has been critical to compile a list of species known to occur in this region before starting studies on the spider mites of Thailand. Much of the previously published data given here has been taken from the works of Shozo Ehara, Tottori University, Japan. Other important studies are by D.C.M. Manson, L.C. Rimando, and P.K-C. Lo.

Several of the mites native to Southeast Asia and Japan are now found in many parts of the world, including the United States, and are considered to be serious pests. Because most of the spider mites of Thailand appear to cause serious damage to their hosts, any accidental introduction of these species into the United States could potentially have serious consequences. Therefore, it seems desirable to present the following list with information on hosts and pertinent references as an aid for quarantine related identifications and as a foundation for future work on the tetranychid fauna of Southeast Asia and Japan.

Ninety species of spider mites are recorded from the above areas. Sixty-four of these are not known to be established in the United States, and 61 are not known from Thailand. The host lists include many plants that are currently cultivated in the United States.

Bryobia Koch, 1836

*Bryobia eharai Pritchard and Keifer, 1958
Japan, Taiwan
Chrysanthemum

*Bryobia japonica Ehara and Yamada, 1968
Japan
Wildrose

Bryobia praetiosa Koch, 1836
Japan, Taiwan
Apple, Campanula medium, clover, grass, Iris, pear,
Sphenoclea seylanica, strawberry

Tetranychina Banks, 1917

Tetranychina harti (Ewing)
Japan, Taiwan
Oxalis

*Mites not yet known in the United States

1/ Systematic Entomology Laboratory, IIBIII, ARS, USDA, Beltsville,
MD 20705

Petrobia Murray, 1877

Petrobia latens (Müller, 1776)

Japan

Allium, grass, strawberry

Tetranychopsis Canestrini, 1889

*Tetranychopsis borealis Ehara and Mori, 1969

Japan

Rubus chamaemorus, R. parvifolius

Eutetranychus Banks, 1917

*Eutetranychus africanus (Tucker), 1926

Burma

Citrus

*Eutetranychus orientalis (Klein, 1936)

Japan, Taiwan, Hong Kong, Thailand, Philippines

Annona, Artocarpus integra, Bauhinia purpurea, Calotropis gigantea, Carica papaya, Cassia, Citrus, croton, Durio zibethinus, Euphorbia, frangipani, Gliricidia, grapes, grass, Hedera japonica, Jatropha multifida, leguminous tree, Manihot, Menispermaceae, Muntingia calabura, Murraya paniculata, Musa sapientum, Nerium indicum, Pachira macrocarpa, peach, Persea americana, Psophocarpus tetragonolobus, Pterocarpus macrocarpus, Pyrus pyrifolia, rambutan, Ricinus communis, santol, shaddock, Schismatoglottis, squash, Terminalia catappa, Theobroma cacao, Thevetia peruviana

Aponychus Rimando, 1962

*Aponychus corpuzae Rimando, 1962

Japan, Taiwan, Thailand, Philippines

Bamboo, Bambusa stenostachya, Schizostachyum lima

*Aponychus nakaoui Ehara and Wongsiri, 1975

Thailand

Bamboo

*Aponychus siamensis Ehara and Wongsiri, 1975

Thailand

Bamboo

*Aponychus vannus Rimando, 1968

Thailand, Philippines

Bamboo

Panonychus citri (McGregor, 1916)

Japan, Taiwan, Hong Kong, Thailand. (Early identifications of this mite may include Panonychus elongatus Manson.)
Avocado, Areca cathecu, Averrhoa, Boehmeria, Carica papaya,
Citrus, Coccoloba uvifera, Cocos nucifera, Coculus
trilobus, Ficus, Jasminum, Morus australis, Murraya
paniculata, Osmanthus, Pithecellobium dulce, Prunus
persica, Pyrus pyrifolia, Rosa, Sapodilla, Trachycarpus
excelsa, Vitis vinifera.

*Panonychus elongatus Manson, 1963

Burma, Thailand
Citrus

*Panonychus globosus Tseng, 1974

Taiwan
Achyranthes obusforia, Vitis

Panonychus ulmi (Koch, 1836)

Japan
Apple, pear

Allonychus Pritchard and Baker, 1955

*Allonychus bambusae Lo, 1969

Taiwan
Bambusa

Eotetranychus Oudemans, 1931

*Eotetranychus asiaticus Ehara, 1956

Japan, Taiwan
Citrus, Ficus erecta, grape, guava, Morus, persimmon,
shaddock

*Eotetranychus boemeriae Lo, 1969

Taiwan
Boehmeria nivea, Broussonetia papyrifera

*Eotetranychus boreus Ehara, 1969

Japan
Apricot, plum

*Eotetranychus camelliae Tseng, 1975

Taiwan
Camellia sasanqua

*Eotetranychus celtis Ehara, 1965

Japan, Thailand
Celtis sinensis var. japonicus, Morus

*Eotetranychus shii Ehara, 1965

Japan
Shiia sieboldii

- *Eotetranychus cendanai Rimando, 1962
 Taiwan, Thailand, Cambodia, Philippines
Citrus, C. aurantifolia, C. hystrix, C. nobilis, Gliricidia
sepium, Murraya paniculata, Sesbania grandiflora,
 shaddock
- *Eotetranychus geniculatus Ehara, 1969
 Japan
 Grape, strawberry
- *Eotetranychus kankitus Ehara, 1955
 Japan
Citrus
- *Eotetranychus maai Tseng, 1975
 Taiwan
Rubus
- Eotetranychus sexmaculatus (Riley, 1890)
 Taiwan
Citrus
- Eotetranychus smithi Pritchard and Baker, 1955
 Japan
 Grape, pear
- *Eotetranychus spanius Rimando, 1962
 Philippines
Psidium guajava
- *Eotetranychus suginamensis (Yokoyama, 1932)
 Japan
Morus, Quercus serrata
- *Eotetranychus suvipakiti Ehara and Wongsiri, 1975
 Thailand
 Banana, Dioscorea
- *Eotetranychus thailandicus Ehara and Wongsiri, 1975
 Thailand
Ficus
- Schizotetranychus Trägårdh, 1915
- *Schizotetranychus andropogoni (Hirst, 1926)
 Thailand
 Sugarcane
- *Schizotetranychus baltazaræ Rimando, 1962
 Philippines, Taiwan, Burma
Citrus nobilis
- *Schizotetranychus bambusæ Reck, 1941
 Japan
 Bamboo

- *Schizotetranychus bhandhufalcki Ehara and Wongsiri, 1975
Thailand
Cassia, C. siamea, leguminous plants, Pterocarpus macrocarpus
- Schizotetranychus celarius (Banks, 1917)
Japan, Hong Kong
Bamboo, grass, rice
- *Schizotetranychus cercidiphylli Ehara, 1973
Japan
Cercidiphyllum japonicum
- *Schizotetranychus Chiangmaiensis Ehara and Wongsiri, 1975
Thailand
Calotropis gigantea
- *Schizotetranychus floresi Rimando, 1963
Philippines
Bambusa spinosa
- *Schizotetranychus lanyuensis Tseng, 1975
Taiwan
Hosts unknown
- *Schizotetranychus lechrius Rimando, 1962
Philippines, Taiwan
Bean, Citrus, Colocasia esculentam
- *Schizotetranychus leguminosus Ehara, 1973
Japan
Maackia amurensis var. buergeri, Pueraria lobata
- *Schizotetranychus mori Tseng, 1975
Taiwan
Morus
- *Schizotetranychus vermicularis Ehara and Wongsiri, 1975
Thailand
Grass
- *Schizotetranychus yaungi Tseng, 1975
Taiwan
Citrus medica var. sarcodactylis, C. paradisi
- *Schizotetranychus yoshimekii Ehara and Wongsiri, 1975
Thailand
Rice

Oligonychus Berlese, 1886

- *Oligonychus antherius Rimando, 1963
Philippines
Desmodium gangeticum, Flemingia strobilifera
- Oligonychus bicolor (Banks, 1894)
Taiwan
Acer cinnamomifolium, Zelkova serrata

Oligonychus biharensis (Hirst), 1924

Taiwan, Thailand, Philippines

Acacia confusa, Achras zapota, Ampelopsis heterophylla,
apple, Artocarpus integer, Bauhinia purpurea, Bischofia
javanica, Cassia fistula, Citrus, Diospyros, Durio
zibethinus, Eriobotrya japonica, Erythrina, Eugenia
javanica, Euphoria longana, Goniothalamus undulatus,
Hevea, Hibiscus tiliaceus, legume, Lepisanthus
sengalensis, Litchi chinensis, Macaranga bicolor,
Mangifera indica, Musa, Persea americana, Pleuropteris
hypoleucus, Pyrus pyrifolia, Rosa, Sapindus mukorossi,
Vitis vinifera, Zizyphus cambodiana

Oligonychus coffeae (Nietner, 1861)

Taiwan, Thailand, Philippines

Alnus japonicus, avocado, Citrus, Combretum quadrangulare,
Juniperus chinensis, mango, Punica granatum, Syzygium
jambos, tea

*Oligonychus exsicicator (Zehntner, 1897)

Java, Indonesia

Sugarcane

Oligonychus hondoensis (Ehara, 1954)

Japan

Japanese cedar

*Oligonychus kadarsani Ehara, 1969

Java, Indonesia

Sugarcane

*Oligonychus karamatus (Ehara, 1956)

Japan

Larix leptolepis

Oligonychus mangiferus (Rahman and Sapro, 1940)

Taiwan

Annona squamosa, Bauhinia acuminata, Delonix, Euphoria
longana, Mangifera indica, Musa, Rosa, Terminalia
catappa

*Oligonychus matthyssei Rimando, 1963

Philippines

Gliricidia sepium

*Oligonychus modestus (Banks, 1900)

Thailand

Cocos nucifera

*Oligonychus orthius Rimando, 1963

Japan, Taiwan, Thailand, Philippines

Imperata cylindrica, Musa sp., Saccharum officinarum, Sorghum
vulgare, Zea mays

*Oligonychus oryzae (Hirst, 1926)

Thailand

Corn, Musa

- *Oligonychus penai Rimando, 1963
 Philippines
Ixora chinensis
- *Oligonychus perditus Pritchard and Baker, 1955
 Japan, Taiwan, Hong Kong
Chamaecyparis, Juniperus
- *Oligonychus rubicundus Ehara, 1971
 Japan
Miscanthus sinensis
- *Oligonychus shinkajii Ehara, 1963
 Japan, Taiwan
 Corn, Languas speciosa, rice, sugarcane, Trachycarpus excelsa
- Oligonychus subnudus (McGregor, 1950)
 Taiwan
Pinus
- *Oligonychus tsudomei Ehara, 1966
 Japan
Pinus luchuensis
- *Oligonychus urma Ehara, 1966
 Japan
 Bamboo
- *Oligonychus velascoi Rimando, 1962
 Thailand, Philippines
 Banana, coconut, Corchorus, Musa x paradisiaca, Pennisetum purpureum
- *Oligonychus yuae Tseng, 1975
 Taiwan
Cunninghamia
- *Oligonychus yasumatsui Ehara and Wongsiri, 1975
 Thailand
Pinus kesiyu
- Tetranychus Dufour, 1832
- Tetranychus cinnabarinus (Boisduval, 1867)
 Japan, Philippines
Citrus, Musa acuminata, pear, Phaseolus vulgaris, soybean,
 strawberry

Tetranychus desertorum Banks, 1900

Japan

Cucumber, eggplant, melon, Phaseolus, Physalis pruinosa,
* soybean

*Tetranychus fijiensis Hirst, 1929

Thailand, Philippines

Citrus, coconut, Dieffenbachia picta, peach, pear, pummelo,
Ptychosperma macarthurii

Tetranychus hydrangeae Pritchard and Baker, 1953

Taiwan, Thailand, Philippines

Codiaeum variegatum, Ficus religiosa, Glycine, grape,
Hydrangea macrophylla, Manihot utilissima, Melia,
Polygonum multiflorum, Rosa, Rubus and many others

*Tetranychus kanzawai Kishida, 1927

Japan, Taiwan, Hong Kong, Philippines

Apple, Citrus, clover, corn, eggplant, Ehretia macrophylla,
grape, hop, Manihot maritima, Morus, Murraya paniculata,
peach, pear, Phaseolus lunatus, Sambucus, Solanum nigrum,
soybean, tea, Terminalia catappa, Verbena hortensis,
V. phlogiflora.

*Tetranychus lambi Pritchard and Baker, 1955

Taiwan

Cordyline terminalis

Tetranychus ludeni Zacher, 1913

Taiwan

Fragaria chiloensis, Ipomoea batatas, Livistonia, Rubus,
Solanum tervum, Vitis vinifera

Tetranychus marianae McGregor, 1950

Thailand, Philippines

Bamboo, Centrosema pubescens, Ipomoea aquatica, I. triloba,
Merremia vitifolia, Morus

Tetranychus neocalidonicus Andre, 1933

Taiwan, Hong Kong, Philippines

Acalypha stipulacea, Acalypha wilkesiana, Ageratum conyzoides,
Aleurites, Artocarpus integrifolia, banana, Buddleia
paniculata, Ceiba pentandra, Colocasia esculenta, Gynura
crepedioides, Ipomoea, Iris, Merremia vitifolia,
Moringa oleifera, Morus alba, Musa x paradisiaca,
Mussaenda philippica, Nephrolepis exaltata, Ruellia
tuberosa, Solanum melongena, S. tervum, S. verbascifolium
Tectona grandis, Zea mays

*Tetranychus phaselus Ehara, 1960

Japan, Taiwan

Glycine, Phaseolus vulgaris, soybean

- *Tetranychus piercei McGregor, 1950
 Japan, Taiwan, Hong Kong, Philippines
Ageratum esculenta, Carica papaya, Cliforea ternates,
Colocasia esculenta, Musa sapientum, M. textilis,
 palm, Prunus persica, sweetpotato
- *Tetranychus ricini Tseng, 1975
 Taiwan
Ricinus communis
- *Tetranychus taiwanicus Ehara, 1969
 Taiwan, Thailand
Citrus, Pandanus odoratissimus
- "Tetranychus telarius (Linnaeus, 1758)"
 Japan, Taiwan. (According to Ehara this appears to be a
 mixture of T. cinnabarinus and T. urticae.)
- *Tetranychus truncatus Ehara, 1956
 Japan, Taiwan, Thailand, Philippines
Achyranthes aspera, Ameranthus spinosus, Ameranthus tricolor,
Brassica pekinensis, Carica papaya, Ceiba
pentandra, Celosia argentea, Clerodendron, Cucumis,
Cucurbita maxima, Dahlia, Datura alba, Glycine soja,
Impatiens balsamina, Ipomoea reptans, Lycium chinense,
Manihot, M. esculenta, Melia, Momordica cochinchinensis,
Moringa oleifera, Morus, Oryza sativa, Phaseolus lunatus,
Psidium sativum, Psophocarpus tetragonolobus, Ricinus
communis, Rosa, Sambucus, Sambucus formosana,
Spathiphyllum cannaefolium, Zea mays
- Tetranychus tumidellus Pritchard and Baker, 1955
 Taiwan, Thailand
Morus alba, Sambucus formosana, Solanum
- *Tetranychus umalii Rimando, 1963
 Philippines
Asparagus plumosus
- Tetranychus urticae Koch, 1836
 Japan
 Apple, grape, peach, pear, sweet cherry
- *Tetranychus viennensis Zacher, 1920
 Japan
 Apple, cherry, pear
- Tetranychus yusti McGregor, 1955
 Thailand
Cucumis, Manihot esculenta

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25(49-52):911-921, 1975

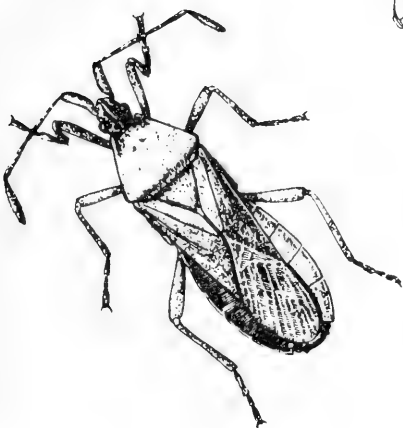
average snow depths measured only 1-2 inches. At midday, showers and thundershowers streamed into areas from Florida and the Carolinas. Light rains were scattered northward to New England and widespread snow sprawled across lower Michigan and the eastern half of the Ohio Valley. In the West, drizzle and fog enveloped the coastal areas from central California northward. The only fair skies to be found reached eastward across southern and central Plateau regions into the lower Plains. A slow moving storm center along the lower Great Lakes region kept the northern tier of the States on lookout at midweek. Snow drifted into parts of Michigan, North Dakota, Montana, and Idaho throughout the day and by evening freezing rain iced the central and lower Great Lakes region. From the Canadian border to Florida, morning temperatures ranged in the 30's and 40's and hovered in the lower teens in the northern Plains. Though winter made a firm grasp on the East and North, it seemed like springtime across the central and southern Plains. In the afternoon, sunny skies warmed areas from the southern Plateau region across the lower Great Plains into western Kentucky and Alabama. In Pueblo, Colorado, balmy 64 degrees put a new record high on the books. A cold front pushing southward through the Plains and eastward across the Great Lakes region on Thursday morning, hailed wintry weather in its path. Morning temperatures behind the front sank into the teens in the northern Plains. During the day, an intrusion of cold air gave rise to 9 varieties of precipitation throughout the interior of the Nation. Snow was scattered from the northern Rockies into western Nebraska and over the northern Plains into parts of Wisconsin, Michigan, and Pennsylvania.

Chilly damp weather persisted across large parts of the country into the evening, though light widespread precipitation caused hazardous traveling conditions in many areas. Elsewhere another frontal system brought adverse weather to parts of the western United States. As a Pacific storm approached the coast, light rain and snow occurred along the western edges of northern California and Oregon. As the weekend approached, a western winter storm was passing over the Intermountain regions and Rockies. Fed by cold air pushing behind a northwest frontal system, the storm deepened in the northern Great Basin area. Friday, rain or snow reached across the mountains from central California through Nevada, Utah, Idaho, and Wyoming. A Cold front moved into Texas, a low pressure center formed in Missouri, and brought low clouds with widespread drizzle and fog to much of the remainder of the Plains, the upper Mississippi Valley, and portions of the Ohio Valley. Cutting its way through the high central Plains, a western storm spread snow from the Pacific Northwest over the Plateau and northern Rockies on Saturday. Behind the snow, arctic air sliding southward tumbled some temperatures to near zero levels--Havre, Montana, 2 degrees. For a warmer note, above normal temperatures spread northward through the Ohio Valley. Precipitation in the area included some locally heavy thunderstorms in Illinois, Indiana, and Michigan. Winter arrived in the Plains on Sunday as cold air pushing southward caused temperatures in Kansas and Iowa to drop 30 degrees or more compared to early morning readings. In portions of the northern Rockies and Plains, temperatures plunged well below zero. Meantime, unseasonably warm weather shattered record high temperatures throughout the middle Mississippi Valley where readings ranged from the 50's to the low 70's.

U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

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AGRICULTURE
AGR 101



VOL. 25 INDEX

1975

White

Gordon

Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



**ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF**

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 Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Federal Center Building
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- 2/ Also carried as Phenacaspis heterophyllae in Vol. 25.
- 3/ Also carried as Chionaspis sylvatica and Phenacaspis nyssae in Vol. 25.
- 4/ Also carried as Phenacaspis pinifoliae in Vol. 25.
- 5/ Also carried as Chionaspis parkii, Phenacaspis occidentalis, and P. platani in Vol. 25.
- 6/ Also carried as Chionaspis betulae in Vol. 25.
- 7/ Also carried as Phenacaspis fujicola in Vol. 25.

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- Dysaphis foenicula
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667, 672, 744, 749

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- Eastern spruce gall aphid
(Adelges abietis)
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(Reticulitermes flavipes)

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 European chafer
 (*Amphimallon majalis*)
 European corn borer
 (*Ostrinia nubilalis*)
 European earwig
 (*Forficula auricularia*)
 European elm scale
 (*Gossyparia spuria*)
 European fruit lecanium
 (*Lecanium corni*)
 European pine sawfly
 (*Neodiprion sertifer*)

1/ Also carried as Eriotremex sp.

European pine shoot moth
(*Rhyacionia buoliana*)
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(*Panonychus ulmi*)
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912
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289, 313, 329, 345, 365, 385, 405, 460,
503, 529, 549. Light traps: 81, 99,
175, 212, 271, 297, 323, 336, 356, 377,
398, 421, 452, 473, 495, 496, 523, 544,
565, 584, 606, 629, 651, 673, 694, 730,
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646
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cabbageworm) 51, 577, 597, 793
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690
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446
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(*Spilonota ocellana*)

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Face fly
(*Musca autumnalis*)
Fall armyworm
(*Spodoptera frugiperda*)
Fall cankerworm
(*Alsophila pometaria*)
Fall webworm
(*Hyphantria cunea*)
False chinch bug
(*Nysius ericae*)
Faronta diffusa (wheathead armyworm)
Light traps: 377, 398, 452, 473, 496,
523, 545, 565, 566, 585, 606, 607, 629,
630, 651, 652, 673, 674, 694, 695, 712,
713, 730, 750, 763, 775, 787, 797, 847
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81, 99, 136, 175, 212, 245, 271, 297,
336, 356, 377, 398, 421, 452, 473, 495,
496, 523, 544, 565, 584, 606, 629, 651,
673, 694, 712, 730, 750, 763, 775, 787,
797, 815, 823, 847, 876, 901
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744, 749

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80, 254
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(*Solenopsis geminata*)
Fire engraver
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(*Cryptolestes pusillus*)
Floodwater mosquito
(*Aedes sticticus*)
Florida fern caterpillar
(*Calloplistria floridensis*)
Florida red scale
(*Chrysomphalus aonidium*)
Florida wax scale
(*Ceroplastes floridensis*)
Foreign grain beetle
(*Ahasverus advena*)
Forest tent caterpillar
(*Malacosoma disstria*)
Forficula auricularia (European earwig)
211, 558, 726, 746, 749
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(*Coptotermes formosanus*)
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522, 692
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233
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274, 690
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594
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321
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908
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909
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417
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roller) 708
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hopper) 132

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582

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(Colaspis brunnea)

Grape flea beetle
(Altica chalybea)

Grape mealybug
(Pseudococcus maritimus)

Grape root borer
(Vitacea polistiformis)

Graphognathus spp. (whitefringed beetles)
269, 284, 296, 321, 397, 471, 563, 605,
627, 691, 711, 729, 748, 831, 847, 855

Graphognathus fecundus 1/
855-860

Graphognathus leucoloma dubius
See Graphognathus leucoloma leucoloma

Graphognathus leucoloma fecundus
See Graphognathus fecundus

Graphognathus leucoloma imitator
See Graphognathus fecundus

Graphognathus leucoloma leucoloma 2/
855-860

Graphognathus leucoloma pilosus
See Graphognathus leucoloma leucoloma

Graphognathus leucoloma striatus
See Graphognathus leucoloma leucoloma

Graphognathus minor 3/
856

Graphognathus peregrinus 4/
711, 855, 856

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532, 574, 640

Grasshoppers
161, 188, 269, 282, 353, 375, 396, 419,
450, 493-494, 471, 514, 532, 542-543,
562-563, 582, 603-604, 626, 649, 670,
691, 710, 728, 747, 762, 773, 784, 796,
822, 831, 847, 876

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(Herpetogramma licarsisalis)

Gratiana lutescens lutescens
166

Gratiana lutescens pallidula
166

Gray field slug
(Deroceras laeve)

Great Basin wireworm
(Ctenicera pruinina)

Greater wax moth
(Galleria mellonella)

Greenbug
(Schizaphis graminum)

Green cloverworm
(Plathypena scabra)

Green garden looper
(Chrysodeixis chalcites)

Green fruitworm
(Lithophane antennata)

Greenhouse whitefly
(Trialeurodes vaporariorum)

1/ Also carried as Graphognathus leucoloma
fecundus, G. leucoloma imitator, and
Naupactus leucoloma in Vol. 25.

2/ Also carried as Graphognathus leucoloma
dubius, G. leucoloma pilosus,
G. leucoloma striatus, Naupactus
leucoloma, Pantomorus dubius,
P. pilosus, and P. striatus in Vol. 25.

3/ Also carried as Graphognathus minor
and Pantomorus minor in Vol. 25.

4/ Also carried as Graphognathus peregrinus
and Pantomorus peregrinus in Vol. 25.

Green June beetle
(Cotinis nitida)

Green peach aphid
(Myzus persicae)

Green shield scale
(Pulvinaria psidii)

Green stink bug
(Acrosternum hilare)

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279

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(Amblyomma maculatum)

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51, 467, 472

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814, 832

Habrocytus piercei
51

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294, 320, 334, 352, 373, 395, 417, 448,
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624, 647, 669, 689, 709, 727, 746, 749,
761, 772, 784, 795, 810, 821, 833, 846,
874, 899, 901

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320

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Hairy fungus beetle
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83, 84, 86

Hamatabanus carolinensis (a tabanid fly)
52, 306

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617, 628

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Harrisina brillians (western grapeleaf
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845, 849

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42, 85, 354, 451, 774

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596, 620, 664, 665, 685, 703-704, 723,
724, 741, 758, 769, 770, 782, 793, 809

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102, 110, 119-120, 209, 213, 215-216,
329, 391, 407, 437, 442, 460, 481, 485,
504, 507, 530, 534, 575, 596, 620, 642,
660, 664, 685, 703-704, 723, 724, 741,
758, 767, 770, 782, 793, 809. Light
traps: 356, 377, 398, 421, 452, 473,
495, 523, 544, 565, 584, 606, 627, 629,
651, 673, 694, 712, 730, 750, 763, 775,
787, 797, 815, 823, 832, 847, 876

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213, 215-216, 313, 332, 365, 385, 412,
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Light traps: 297, 323, 336, 356, 377, 398, 421, 452, 473, 495, 496, 523-524, 544, 584, 606, 627, 629, 630, 651, 652, 673, 674, 694, 695, 712, 713, 730, 731, 750, 751, 763, 775, 787, 797, 815, 823, 832, 847, 876
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849
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708
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52
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(Lygocoris caryae)
- Hickory shuckworm
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44
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355
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7, 12, 253, 324, 372, 623, 708, 725, 727, 745
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233
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(Apis mellifera)
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(Psylliodes punctulatus)
- Horn fly
(Haematobia irritans)
- Horse bot fly
(Gasterophilus intestinalis)
- House cricket
(Acheta domesticus)
- House fly
(Musca domestica)
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52
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583
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369, 389
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209, 444
- Hylemya brassicae (cabbage maggot)
226, 465, 508, 597, 621, 910
- Hylemya platura (seedcorn maggot)
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574
- Hylobius pales (pales weevil)
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- Hylobius radicus (pine root collar weevil)
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- Hylotrupes bajulus (oldhouse borer)
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355
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297, 316
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208, 267, 389, 897, 902
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247, 250, 254, 258, 319, 372, 466, 468, 489, 510, 537, 558, 559, 578, 579, 599, 622, 646, 667, 668, 687, 689, 707, 727, 760, 774, 783, 794, 809, 829
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394, 417, 491
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8-9, 41, 65, 81, 98, 134, 173, 209, 244, 268, 272, 278, 294, 352, 373, 512, 830, 874
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601
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466
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(Pieris rapae)
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(Plagioderma versicolora)
- Iphiaulax manteri (a braconid wasp)
52

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254, 257, 300, 416, 898
- Ips sulcifrons
52
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574, 640
- Irbsia pacifica
461, 574
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640
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- Ischyroceraea arctica (a sawfly)
45
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(Sarcoptes scabiei)
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(Choristoneura pinus)
- Jacksonia papillata (an aphid)
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668, 672
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7, 12, 84, 99, 220, 317, 354, 509, 705,
706, 759, 812, 877, 900
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- L**
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574, 640
- Lambdina fiscellaria (hemlock looper)
300
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393
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(Uroplata girardi)
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(Bombotelia jocosatrix)
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(Cynaues angustus)
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(Monocesta coryli)
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52, 908
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467, 472
- Lasius flavus (an ant)
813
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813
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250, 578, 794, 809, 820
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1/ Also carried as Phenacaspis cockerelli
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2/ Also carried as Phenacaspis
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1/ Also carried as Scaphoideus dilatus in Vol. 25.

1/ Also carried as Scutacarus acarorum in Vol. 25.

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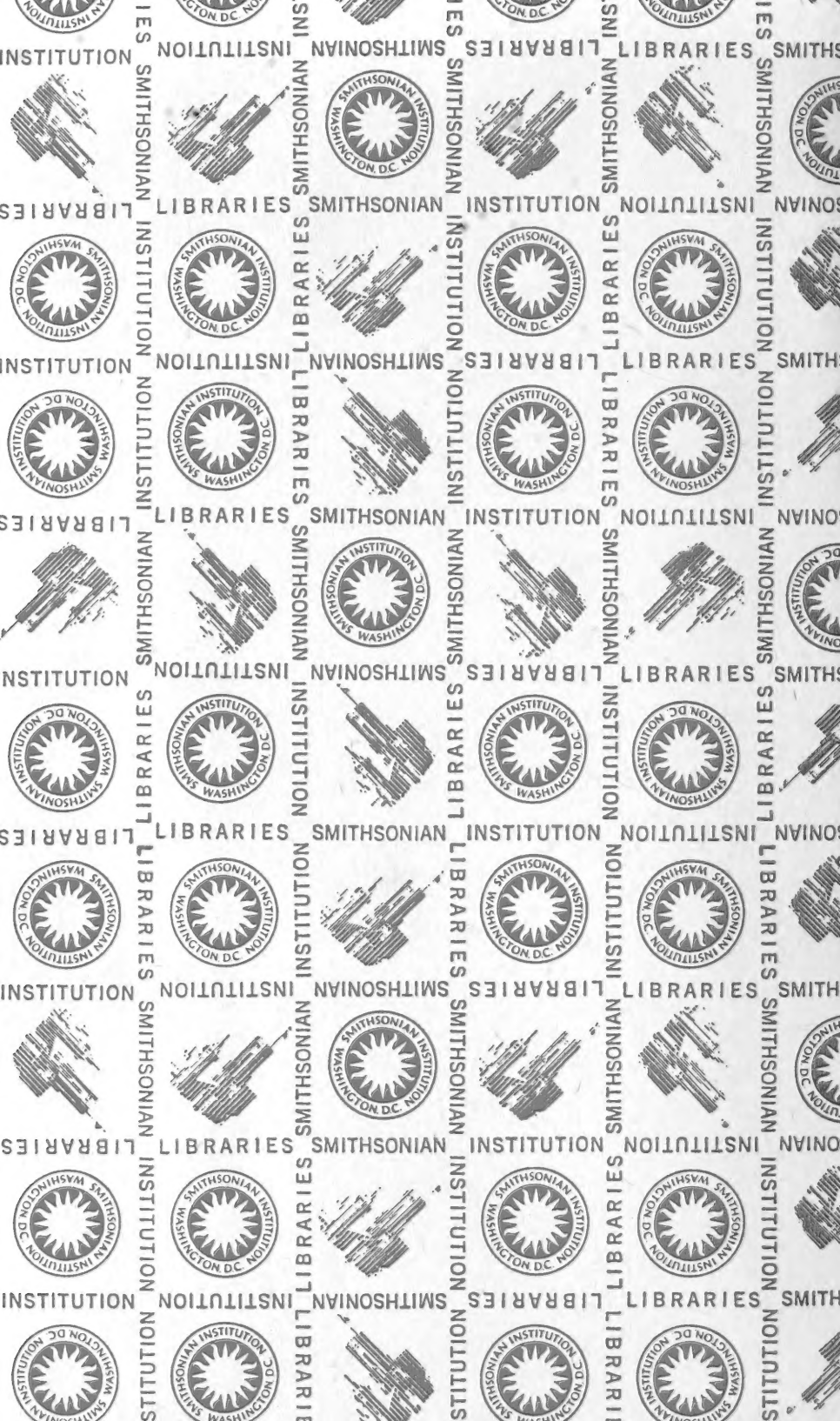
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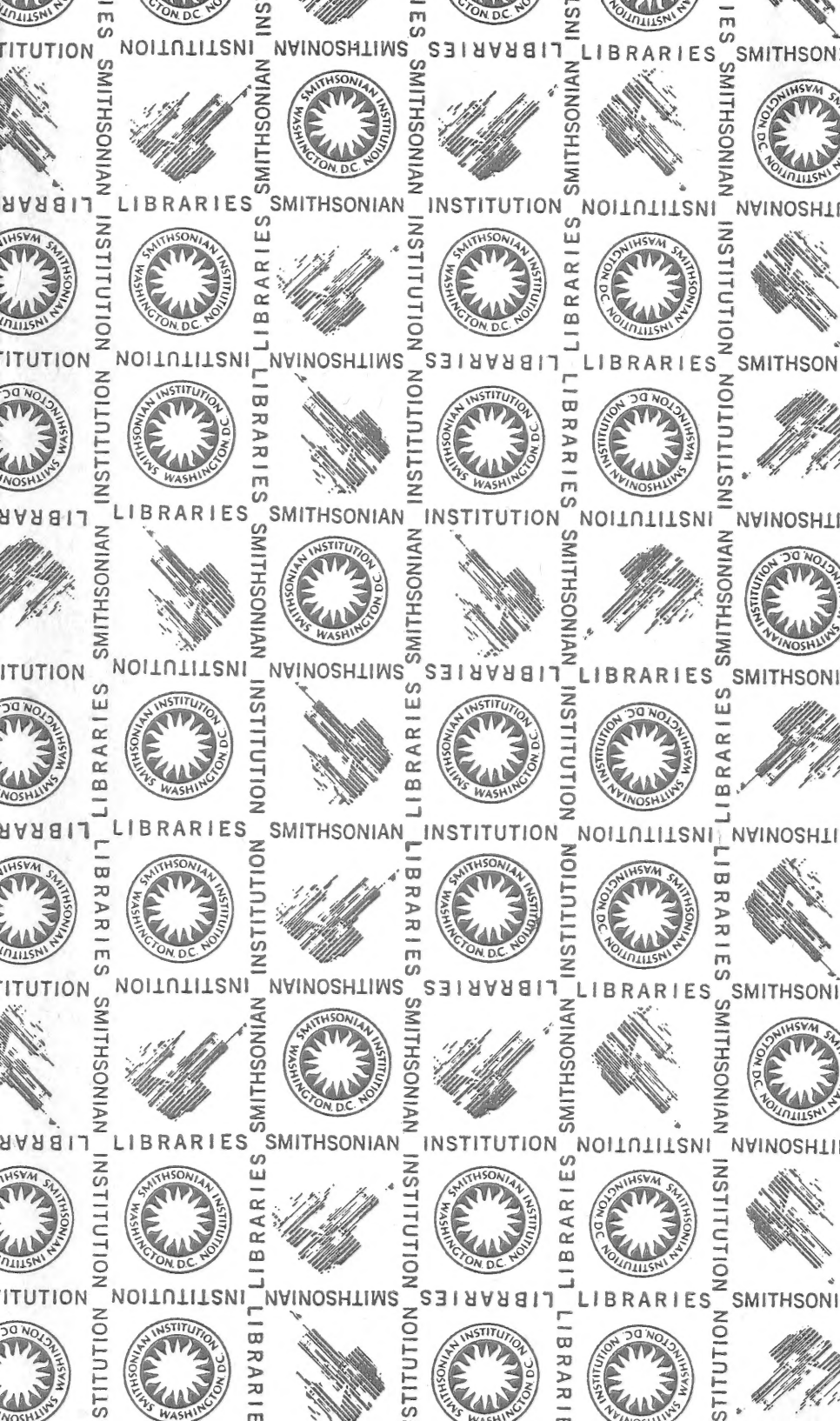
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