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Cooperative
**ECONOMIC INSECT
REPORT**



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PLANT PEST CONTROL DIVISION

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UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

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

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN LEAF APHID populations high on corn in Wisconsin and the Dakotas; of some concern in other areas. (p. 719). POTATO LEAFHOPPER increasing on alfalfa in Lake States; heavy in Maryland. (pp. 719, 720, 741). SIX-SPOTTED LEAFHOPPER remains high in Minnesota and Michigan. SPOTTED ALFALFA APHID heavy in Oklahoma. (p. 720).

EUROPEAN CORN BORER first-brood larval injury and level of infestation generally higher in Michigan than in recent years; higher than 1965 in Wisconsin, lowest since 1961 in Illinois; second-generation larvae light in southeast Missouri due to intense hot weather. (pp. 720, 721, 741). CORN ROOTWORM adults emerging in several areas. (p. 721). SORGHUM WEBWORM and SORGHUM MIDGE damaging in Texas; sorghum midge caused up to 90 percent damage in some fields in many central and southern counties. (pp. 721, 722). CHINCH BUG counts high in Indiana corn and Oklahoma sorghum; activity increasing in New Jersey. (p. 722).

PLANT BUGS heavy in alfalfa in several Central States and in Wyoming and Arizona. (p. 723). GARDEN WEBWORM heavy on alfalfa in Missouri and Arkansas and soybeans in Missouri; some alfalfa completely destroyed and some heavy moth flights observed in Missouri. (p. 724).

BOLL WEEVIL infestations at high level in several Southern States; conditions ideal for further buildup in other areas. Population in Alabama recovered from extreme winter conditions of 3 years ago; damaging in all counties. BOLLWORMS serious in eastern South Carolina, increasing in western Tennessee; could become problem earlier than usual in California. (p. 726). CABBAGE LOOPER could develop economic infestations in California, and LYGUS BUGS continue of concern in areas of State on cotton. (p. 727). SPIDER MITES becoming problem in cotton in South Carolina, Tennessee and Mississippi (p. 728); building up on soybeans in Delaware and causing severe russetting of this crop in Illinois. (p. 724).

EUROPEAN RED MITE problem in orchards in several areas. BLACK SCALE at highest level in 15 years of record on Florida citrus. (p. 731). HORN FLY problem on livestock increasing in several States. HORSE FLIES severe on cattle in Georgia, and DEER FLIES caused some loss of milk production in Wisconsin. (p. 735).

First EUROPEAN CHAFER adult flights occurred in Ohio and Pennsylvania. JAPANESE BEETLE damaging some crops and flowers. (p. 737).

Detection

- GYPSY MOTH adults, larvae and pupae observed at infestation site in Michigan. (p. 738).

New State records include a WEEVIL (Cosmobarus americana) in Oregon and a PERIL-AMPID WASP (Perilampus chrysopae) in Delaware. (p. 739).

For new county and island records see page 739.

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White-Fringed Beetle Quarantine Map - see centerfold

WEATHER OF THE WEEK ENDING JULY 25

HIGHLIGHTS: (1) Cooler Central, Northeast. (2) Widespread local showers, Central and East.

TEMPERATURES: Extended heat spells in many north central and northeastern areas ended as weekly average temperatures were 2° to 5° below normal; the coolest week since mid-June. Relief came with a welcome mass of refreshing cool air moving southward. By Monday, July 25, the cool air was replaced by warm, humid air once again. Hot weather continued from the southwestern deserts eastward to the Mississippi River and over the northern Rocky Mountains. The California valleys warmed to slightly above normal but Oregon and Washington temperatures were below normal for the fifth week. Temperatures at Salt Lake City averaged 6° above normal with 100° or higher on 4 days. In contrast, St. Louis reported only 1 day over 100° and new York City only 1 day over 90°. The high at Oklahoma City was 108° on Tuesday but only 85° on Thursday.

Weather continued on page 740.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - Occasional larva found in smaller corn in few areas. (Wis. Ins. Sur.). MINNESOTA - Trace numbers found in small grain in Marshall and Polk Counties. (Minn. Ins. Rpt.). NORTH DAKOTA - Light defoliation evident in barley in Richland County. Larvae up to 6 per square foot. (Brandvik). COLORADO - Adults averaged 42 per week in Baca County light trap. (Campbell).

BUDWORMS (Heliothis spp.) - NORTH CAROLINA - Populations declined on tobacco. Relatively high from early season. (Mistic).

CORN EARWORM (Heliothis zea) - NEW JERSEY - Increasing in sweet corn throughout State; however, light trap collections do not reflect larval increase in several areas. (Ins.-Dis. Newsltr.). VIRGINIA - Larvae in some tassels of field corn in Bland County, and in tassels of corn in Carroll County. (Isakson, Tabor). GEORGIA - Light on peanuts in Tift County. (French). KANSAS - Very light in corn and sorghum; less than 1 per 25 plants. Those in sorghum in whorl. (Simpson). COLORADO - Found in early sweet corn in Mesa, Delta and Montrose Counties; 10-16 eggs per 10 silks. Preliminary counts in field corn showed 0-30 eggs per 10 silks. Adults in light traps low, 0-4 per trap per night. (Bulla). Adults average 10 per week in Baca County light trap. (Campbell). UTAH - Control underway in market and home garden corn in Salt Lake and Davis Counties. (Knowlton, July 18). NEW MEXICO - Medium to heavy on corn in Curry, Lea and Eddy Counties. (Campbell). Larval infestations in sweet corn in Mesilla Valley 98 percent in untreated fields. (Durkin).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Treatments applied to some sorghum in Curry and Roosevelt Counties. (Campbell). UTAH - Numerous on spring barley in Cache County. (Knowlton). COLORADO - Infesting corn in Eaton and Hudson areas, Weld County. Lady beetle adults 0-2 per plant. Should keep aphids under control. (Urano). WYOMING - Very light on corn in Goshen and Platte Counties. (Marks). SOUTH DAKOTA - Appearing in corn and sorghum. Ranged 150-200 per plant on sorghum in Hutchinson and Yankton Counties. (Kantack, July 15). Heavy on tassels of corn in southeastern area. Predators common, but numbers variable. (Jones). MINNESOTA - Colonies present on emerging tassels and upper leaves of corn. Predators present, but aphid colony size apparently increased past week. (Minn. Ins. Rpt.). WISCONSIN - Populations high in western counties, but some evidence predation and parasitism will be controlling factors noted. (Wis. Ins. Sur.). ILLINOIS - Populations increasing; range 0.2 percent plants infested in southeastern area to 17 percent in western district. (White et al.). INDIANA - Apterous forms appearing in scattered areas throughout northern half of State; 10-20 individuals per corn plant. In Benton County, 600 acres of corn required treatment; 30-60 percent of plants with tassels covered. (Everly, Huber). MICHIGAN - Beginning colonies common near tassel of corn plants in many Lower Peninsula counties. (Thompson, Janes, Wells). VIRGINIA - Light to heavy on corn in southwest area; 40-90 percent of tassels infested with 20-1,500 aphids per tassel. Many lady beetle larvae present. (Isakson). NORTH CAROLINA - Heavy in field of corn in Bladen County and field in Pamlico County. Heavy in 5-acre field in Washington County; 80 percent of tassels infested, with 50 percent of tassels emerged. Field suffering from lack of moisture. (Sasser, Rea, Mount). ALABAMA - Extremely heavy in several corn fields in Dallas County. (McQueen). OKLAHOMA - Increased considerably in grain sorghum in some areas of Grady County. Light numbers present in most northeast area fields. (Okla. Coop. Sur.).

HORNWORMS (Manduca spp.) - NORTH CAROLINA - Increased on tobacco past 10 days, but still relatively light. Populations previously extremely low. (Mistic).

POTATO LEAFHOPPER (Empoasca fabae) - MICHIGAN - Adults increasing; 26 per 10 sweeps in second-growth alfalfa in Monroe, Lenawee and Washtenaw Counties. (Ruesink). ILLINOIS - Populations decreasing in central area. Adults 338 and nymphs 205 per 100 sweeps in second and third-crop alfalfa. Some yellowing apparent in one-third of fields. (White). WISCONSIN - Continues increase in alfalfa although yellowing

not yet noticeable. Averaged 3 per sweep in Columbia, Green Lake and Fond du Lac Counties. Adults on snap beans in Waushara County; 1-2 per plant on wax beans in Durand area. (Wis. Ins. Sur.). MINNESOTA - Counts in alfalfa increased past week; average per 100 sweeps: South central 54; central 110; west central 60. (Minn. Ins. Rpt.). COLORADO - Ranged 2-4 per 100 sweeps on potatoes in Weld, Adams and Morgan Counties. (Jenkins).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Adults 1.5-2 per 100 sweeps in potato fields in Laramie and Goshen Counties. Controls recommended where nymphs present. (Marks). COLORADO - Adults 1-2 per 100 sweeps, with one nymph per 10 leaves in shaded spots on potatoes in Weld and Adams Counties. In Morgan County, adults 2-6 per 100 sweeps, with 2 nymphs per 10 leaves. (Jenkins).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Counts remained high in west central and northwest districts on small grain; 106 and 300 respectively per 100 sweeps. (Minn. Ins. Rpt.). MICHIGAN - Adults 1.8 per 10 sweeps in second-growth alfalfa in Monroe, Lenawee and Washtenaw Counties. (Ruesink). COLORADO - Continues to appear in Baca County light trap; 248 taken. (Campbell).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WYOMING - Counts 8-10 per 10 sweeps in Goshen County alfalfa. (Marks). COLORADO - None taken in alfalfa in Weld, Morgan and Adams Counties. (Jenkins). OKLAHOMA - Moderate to heavy in alfalfa in Grady, Cleveland, Kingfisher, Washita and Kiowa Counties. Ranged 6-50 per 10 sweeps in Nowata and Washington Counties. (Okla. Coop. Sur.). ARKANSAS - Not found in Lee and Conway Counties, although medium in Conway County field 2 weeks ago. Rain apparently influential in reducing populations. (Boyer). MISSOURI - Light in southwest and central areas; 50-100 per 10 sweeps. (Houser, Peters). KANSAS - Light (15-50 per 10 sweeps) in Bourbon, Crawford, Cherokee, Labette, Neosho, Lyon and Miami Counties; moderate (175-350 per 10 sweeps) in Chase, Butler, Crowley, Elk and Greenwood Counties. In fields with high populations, lady beetle larvae high, up to 150 per 10 sweeps. (Simpson). SOUTH DAKOTA - Alates and winged forms 10 per 100 sweeps in alfalfa in Yankton County. (Jones). WISCONSIN - Little change noted since last week. (Wis. Ins. Sur.). ILLINOIS - Averaged 95 per 100 sweeps in second and third-crop alfalfa in central district. (White).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - SOUTH DAKOTA - Damaged 90 percent of whorls of corn in field in Yankton County; damage up to 50 percent in other fields. Damaged 10-20 percent of whorls on corn in Charles Mix County. (Kantack, July 15). Caused extensive damage in some untreated fields in northern Yankton County; up to 4 larvae per plant and 90 percent of plants infested. (Jones, Kantack). MINNESOTA - No egg masses found. Borers per 100 plants averaged as follows: Southwest 28, south central 5, west central 34, northwest 112. (Minn. Ins. Rpt.). NEBRASKA - Second-generation moths appearing in east. Pupation beginning in central area. (Hill, Rhine). MISSOURI - Peak moth emergence apparently occurred in southeast area week ending July 16. Second-generation larvae in area light due to intense heat. (Keaster, Jones). Pupation complete in southwestern area, moth emergence about 50 percent. Infestation in late corn very light. Moth emergence 10-15 percent in central area; pupation well underway, but larvae still present. (Houser). IOWA - First pupa of first-brood found at Ankeny July 7. Second-brood moths expected July 25. (Iowa Ins. Inf.). WISCONSIN - Pupation well underway in sandy areas. Populations appear higher than last year in early planted corn. Incidence of leaf feeding appears high in many corn fields. Percent infestation 18-24 in Trempealeau, Buffalo, Pepin, Dunn and Jackson Counties; 40-70 percent in early planted Sauk County corn. (Wis. Ins. Sur.). ILLINOIS - Borers per 100 plants by district as follows: West 3.2, lowest since 1961; west-southwest 5.25, highest since 1960; southeast 4.2. (White, Randell, Petty). INDIANA - Adult emergence underway in southern third of State. (Huber). MICHIGAN - Injury by first-brood larvae and level of infestation generally higher than during recent years. (Janes, Wells). OHIO - Causing some concern in north central and northwestern areas. (Blair). DELAWARE - Moths abundant in Sussex County. (Burbutis, Davis). VERMONT - First damage observed in sweet corn. (Nielsen, July 18).

VIRGINIA - Conspicuous on southwest area field corn. Infestation 20-60 percent. Some fields 95 percent infested in Clarke County. Corn stunted by drought most severely affected. (Isakson et al.).

FALL ARMYWORM (Spodoptera frugiperda) - DELAWARE - Light numbers of nearly full-grown larvae feeding in whorls of field corn in Sussex County. (MacCreary). MISSOURI - Third to fifth-stage larvae 1-2 per plant in whorls of 5-40 percent of plants in late corn in southwest quadrant of State; heaviest infestations in only few fields. (Houser). OKLAHOMA - Light in grain sorghum terminals in Mayes County. All larval stages present. (Okla. Coop. Sur.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Continues damaging many late-planted grain sorghum fields in central area. Generally moderate, but some heavy infestations reported from Brazos, Burleson, Bell and Williamson Counties. (Parker).

A SKIPPER (Lerodea eufala) - ARIZONA - Larvae 40 per 100 sweeps in late sorghum in Gila Valley. (Ariz. Coop. Sur.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - ILLINOIS - Adults emerged in Mercer County July 7. (Sechriest). KANSAS - Adults emerging in large numbers from untreated fields in Finney County; lower in treated fields in Finney and Rush Counties. (DePew). SOUTH DAKOTA - First adults observed July 11 in Lincoln County; 2 per corn plant in some fields in Yankton County July 14. Less than 5 percent of population adults. (Kantack, Nearman). Adults present in high numbers in some fields in southeastern counties. Adults 30+ per stalk in Hutchinson and Yankton Counties. (Jones, Kantack). WYOMING - Small numbers of adults present in widely scattered corn fields in Goshen and Platte Counties. Most heavily infested field in Platte County, where adults 4-6 per corn plant. (Marks).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OHIO - Adults emerging in most areas. Infested corn in Clark County with one or more beetles on silk. (Polivka). INDIANA - Adults emerging in central areas; 8-12 per silk in Wabash River flood-plain field in Vermillion County. (Gould, Carlson). WISCONSIN - Adults appearing; pupation over 50 percent in several fields. (Wis. Ins. Sur.). MISSOURI - Adults 1-2 per silk mass in corn in northeastern area. (Thomas).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - D. undecimpunctata howardi light (2-10 per 10 plants) in most areas of southeastern section. Occasional fields with 2-3 per plant. (Simpson). NEBRASKA - Diabrotica spp. adult emergence 50-75 percent in central area, starting in northeast. Adults heavy in some parts of southern and southeast areas. (Perry, Roh). SOUTH DAKOTA - Surveys show Diabrotica spp. larval infestations more general than in 1965, but much lower than in 1963 and 1964 and range from few per plant with no serious root damage, to heavy infestations (40-50 per plant) and serious root damage. Young larvae still present in most fields; adults emerging in southern counties. (Jones, July 15). D. undecimpunctata howardi adults 8 per 100 sweeps in Yankton County alfalfa. Very few D. longicornis observed in corn this season. (Jones). MINNESOTA - D. longicornis and D. virgifera adults found in southern counties. First emergence noted July 8 at Southwest Experiment Station at Lamberton; this unusually early. (Minn. Ins. Rpt.). OHIO - Populations high on field corn in Clinton and Clark Counties. (Polivka).

CORN FLEA BEETLES (Chaetocnema spp.) - CALIFORNIA - C. ectypa abundant in milo plantings in Imperial County. (Campbell, Ext. Ser.). ARIZONA - C. ectypa heavy in late-planted sorghums in Gila Valley; 500 per 100 sweeps. (Ariz. Coop. Sur.). NEW YORK - C. pulicaria common but not abundant on unsprayed corn in Hudson Valley. (N. Y. Wkly. Rpt., July 18).

SAP BEETLES - ILLINOIS - Glischrochilus quadrisignatus adults 0-300 per 100 corn plants in west district. (White). INDIANA - Glischrochilus sp. adults 11-23 per infested corn plant in east central district. In northern third of State, adults 1-17 per plant in whorls and leaf sheaths. (Huber). MICHIGAN - Adults, probably G. quadrisignatus, widespread in southern counties. Especially numerous in corn

plants damaged by borers. (Welk et al.). OHIO - G. quadrisignatus infesting some corn and entering homes in Madison County. (Ewart, Jones). VIRGINIA - Carpophilus lugubris adults moderate on fully tasseled corn in Carroll County. (Isakson, Tabor).

WIREWORMS - NEW JERSEY - Severe in field corn in Salem County; necessitated re-planting. (Ins.-Dis. Newsltr.).

CHINCH BUG (Blissus leucopterus) - INDIANA - Generally light in east central district, none observed in west central area. Controls applied in few corn fields in Allen, Whitley and Grant Counties. Ranged 20-60 late nymphs and adults per plant in border rows of corn adjacent to wheat in east central area. (Huber, Lehker). OKLAHOMA - Up to 30 per plant in grain sorghum in northeast area. (Okla. Coop. Sur.).

SAY STINK BUG (Chlorochroa sayi) - ARIZONA - Increasing in sorghum fields of Graham County; light to moderate, mostly light. (Ariz. Coop. Sur., July 15).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Continued principal insect problem in State. Damage widespread in many central and southern counties on late-planted grain sorghum and in fields where growth delayed due to excessive moisture earlier in year. In many of these fields, damage as high as 90 percent. Variable infestations of Celama sorghiella usually accompanying midge damage. (Texas Coop. Rpt., July 15). Continued to inflict heavy damage to late-planted grain sorghum in central and gulf coast areas of State. Adult activity heavy on newly emerged heads of late grain sorghum in Rockwall County; however, damage light in other areas of State. In Swisher, Briscoe, Deaf Smith and Hall Counties, only light emergence from Johnsongrass reported. Adult activity light on grain sorghum heads in Lamb, Hale and Lubbock Counties. (Parker).

SPIDER MITES (Tetranychus spp.) - NEBRASKA - Building up on corn in central area. Some damage to lower leaves reported. Controls applied. (Roselle). COLORADO - General in corn over Weld County. Heavy in Johnstown area; chemical control applied. (Boyes). WYOMING - Light on lower leaves of corn plants in Goshen and Platte County fields. (Marks). UTAH - Damage appearing on corn in Salt Lake County. (Knowlton).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - MINNESOTA - Counts up to 600 per 100 sweeps found in late planting of oats in northwest district. (Minn. Ins. Rpt.).

HESSIAN FLY (Mayetiola destructor) - OHIO - Infestations 20-80 percent in wheat in east central and northwestern areas. (Rose).

WHEAT STEM SAWFLY (Cephus cinctus) - OHIO - Damage to wheat appears less severe than in 1965. (Rose). NORTH DAKOTA - Larvae cutting stems of wheat in McHenry County. (Brandvik).

BROWN WHEAT MITE (Petrobia latens) - UTAH - Populations range conspicuous to damaging in spring wheat in several areas of Salt Lake County. (Knowlton, July 18).

TURF, PASTURES, RANGELAND

A SKIPPER (Lerodea eufala) - ARIZONA - Larvae 15 per 100 sweeps in Bermuda grass. (Ariz. Coop. Sur.).

CHINCH BUG (Blissus leucopterus) - NEW JERSEY - Activity increasing in central and northern counties. (Ins.-Dis. Newsltr.).

A FALSE CHINCH BUG (Nysius raphanus) - CALIFORNIA - Heavy on rangelands at Yuba City, Sutter County. (Cal. Coop. Rpt.).

WEBWORMS - KANSAS - Causing extensive damage to buffalo grass, turf and pastures in Rice and Stafford Counties. (Thompson). ILLINOIS - First Crambus trisectus moths for second generation observed in Champaign July 22. (Randell).

FORAGE LEGUMES

PEA APHID (Acrythosiphon pisum) - NEW MEXICO - Medium to heavy in alfalfa in Chaves, Eddy, San Juan and Rio Arriba Counties. (Mathews, Heninger). UTAH - Becoming numerous in some Duchesne and Uintah County alfalfa. (Knowlton). COLORADO - Low to moderate in second-cutting alfalfa in Mesa, Delta and Montrose Counties; 250-5,000 per 100 sweeps. (Bulla). Low to moderate on alfalfa in Weld, Morgan and Adams Counties; 200-300 per 100 sweeps. (Jenkins). WYOMING - Adults and nymphs 70-85 per 10 sweeps in alfalfa in Laramie, Goshen and Platte Counties. (Marks). NORTH DAKOTA - Remains low in most second-crop alfalfa; 300 per 100 sweeps in north central and southwestern counties. (Brandvik). WISCONSIN - Remains very low. (Wis. Ins. Sur.). MICHIGAN - Adults and nymphs 5.2 per 10 sweeps in second-growth alfalfa in Monroe, Lenawee and Washtenaw Counties. (Ruesink).

YELLOW CLOVER APHID (Therioaphis trifolii) - WISCONSIN - Heavy in red clover near Hixton; 20 per sweep. (Wis. Ins. Sur.).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - INDIANA - Adults and nymphs 60-600 per 100 sweeps on third-growth alfalfa in southwestern district. Adults and nymphs 100-1,600 per 100 sweeps on second-growth alfalfa in northern third of State. (Huber, White). ILLINOIS - Adults 40 and nymphs 7.5 per 100 sweeps in second and third-crop alfalfa in central district. (White). KANSAS - Low, 0-5 per 10 sweeps, in most areas of southeastern section. (Simpson).

TARNISHED PLANT BUG (Lygus lineolaris) - OHIO - Some high populations noted on alfalfa in north central area; numbers highest in Ashland County, 10 per sweep. (Rose). MICHIGAN - Adults extremely numerous on wide variety of crops in Lower Peninsula. (Janes et al.). Averaged 35 per 10 sweeps in second-growth alfalfa in Monroe, Lenawee and Washtenaw Counties. (Ruesink). INDIANA - Adults and nymphs 80-700 per 100 sweeps on second-growth alfalfa in northern third of State. On third-growth alfalfa in southwest, adults and nymphs 100-500 per 100 sweeps. (Huber, White). ILLINOIS - Adults 50 per 100 sweeps in alfalfa in central district. No nymphs observed. (White). WISCONSIN - Nymphs and adults of L. lineolaris, Adelphocoris lineolatus and A. rapidus common in many alfalfa fields. (Wis. Ins. Sur.). NORTH DAKOTA - Up to 40 per 100 sweeps in second-crop alfalfa in Sioux, Grant, and Morton Counties. (Brandvik).

LYGUS BUGS (Lygus spp.) - ARIZONA - Increasing in alfalfa seed fields in Gila Valley; 400 per 100 sweeps. (Ariz. Coop. Sur.). WYOMING - Counts 70-80 per 10 sweeps in alfalfa in Laramie, Goshen and Platte Counties. (Marks). KANSAS - Remain low in southeastern area; 5-15 per 10 sweeps in most alfalfa. (Simpson).

LEAFHOPPERS (Empoasca spp.) - INDIANA - Adults ranged 2-19 per sweep on blossoming alfalfa in northern half of State. (Huber). ARIZONA - E. mexara continues to increase in Yuma Valley alfalfa; 90 per 100 sweeps. (Ariz. Coop. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Adults 28 per 10 sweeps in second-growth alfalfa in Monroe, Lenawee and Washtenaw Counties. (Ruesink). WISCONSIN - Adults numerous in most areas; up to 50 per sweep. (Wis. Ins. Sur.).

ALFALFA WEEVIL (Hypera postica) - SOUTH DAKOTA - Larval populations declined following first cutting of alfalfa. In Elk Creek Valley, Meade County, up to 50 larvae per 100 sweeps; up to 90 per 100 sweeps in Spearfish, White and Wood areas, Lawrence County. Larvae first to fifth instar. Pupae and teneral adults present. Up to 44 adults per 100 sweeps in latter area. These populations in second-crop alfalfa 8-10 inches high. (Jones). COLORADO - Larvae 5-30 per 100 sweeps in alfalfa in Mesa, Delta and Montrose Counties. (Bulla). All stages scarce in alfalfa research plots in Larimer County. (Simpson). NEW MEXICO - Ranged 10-30 per

25 sweeps in alfalfa in Rio Arriba County, 1-3 in San Juan County. (Heninger). CALIFORNIA - Larvae and adults, probably this species, heavy on 40 acres of alfalfa in Merced County, medium on 20 acres in Madera County. (Cal. Coop. Rpt.).

BLISTER BEETLES (Epicauta spp.) - KANSAS - Low in alfalfa in southeastern area; less than 2 per 10 sweeps. (Simpson). SOUTH DAKOTA - E. fabricii, E. maculata and E. pennsylvanica common on alfalfa in various areas; near Spearfish, Lawrence County, up to 20 adults per 100 sweeps. (Jones, July 15). NORTH DAKOTA - E. fabricii low in second-crop alfalfa in southwestern counties; 5 per 100 sweeps in Adams and Grant Counties. (Brandvik).

FLEA BEETLES - ARIZONA - Phyllotreta sp. heavy in several fields of alfalfa in Yuma Valley; 220-360 per 100 sweeps. (Ariz. Coop. Sur., July 15). SOUTH DAKOTA - Systema blanda 200 per 100 sweeps on alfalfa in Piedmont and Bear Butte areas of Meade County. (Jones, July 15).

GARDEN WEBWORM (Loxostege similalis) - ARKANSAS - Larvae 150-200 per 100 sweeps in Conway County alfalfa. Practically 100 percent of stems showed feeding. (Ark. Ins. Sur.). MISSOURI - Larvae heavy in Butler, Pemiscot, and Stoddard Counties on alfalfa. Some alfalfa completely destroyed. (Jones). Heavy moth flights observed in alfalfa in Springfield and Carthage areas; damage very heavy in Vernon County alfalfa. (Houser). Heavy damage to alfalfa reported from west central area. (Thomas). ILLINOIS - Larvae observed in very small numbers in alfalfa in central district. (White).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Averaged 37 per 10 sweeps in alfalfa in Washington County. Lighter in other northeast counties. (Okla. Coop. Sur.). KANSAS - Larvae 20-30 per 10 sweeps in alfalfa in Anderson, Woodson and Greenwood Counties. Larvae much lower but adults high elsewhere in southeast. (Simpson). COLORADO - L. commixtalis adults increased in Weld County light trap. (Reynold).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Larvae ~7.5 per 100 sweeps in second and third-crop alfalfa in central district. (White).

ALFALFA CATERPILLAR (Colias eurytheme) - COLORADO - Adults abundant in alfalfa in Mesa, Delta and Montrose Counties. (Bulla). NEW MEXICO - Adults abundant over alfalfa in northern Eddy County. (Campbell). Larvae 1-3 per 25 sweeps in San Juan County, with adults abundant over fields. (Heninger).

THRIPS - NEW MEXICO - Medium to heavy in alfalfa in Chaves, San Juan and Rio Arriba Counties. (Mathews, Heninger).

SOYBEANS

GARDEN WEBWORM (Loxostege similalis) - MISSOURI - Larvae heavy on soybeans in Butler, Pemiscot and Stoddard Counties. (Jones). Heavy damage to soybeans reported in west central area. (Thomas). ARKANSAS - Infesting small soybeans (2-4 inches high) in Monroe, Woodruff, Jefferson and Independence Counties. (Barnes et al.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ILLINOIS - Adults 0-60 per 100 sweeps in 19 to 31-inch soybeans in central district. (White).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Present on most soybeans in coastal and Piedmont counties, but not serious enough for controls; may build up later. (Nettles et al., July 20).

A THRIPS (Sericothrips variabilis) - ILLINOIS - Very common and causing light silvering in many soybean fields in central district. (White).

SPIDER MITES (Tetranychus spp.) - DELAWARE - T. atlanticus building up on soybeans in some areas of Sussex County. (Connell). ILLINOIS - T. telarius infesting 0-100 percent of soybean plants in central district fields; russetting severe in some fields. (White).

PEANUTS

CUTWORMS - GEORGIA - Light to heavy across peanut belt. (French).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NORTH CAROLINA - Adults noted moving to peanuts in Bertie County July 11-15. (Campbell).

COTTON

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Percent punctured squares 76 in 2 untreated Robeson County fields. In Scotland County, 3 fields treated twice averaged 32 percent and 4 fields treated 3 times averaged 3 percent punctured squares; 6 fields treated 3-5 times ranged 0-2 percent infestation. Cotton in these counties squaring freely, few blooms observed. (Mount, July 15). SOUTH CAROLINA - Buildup continues; first-generation adults now in all sections of State. Generally, percent squares punctured continues to rise even though more squares present on plants. (Sparks, July 18). Infestations increasing slowly in Florence area with activity of first-generation weevils, but still lower than normal due to hot, dry weather. Adults 0-3 per 100 squares in treated plots, 0-5 in untreated plots. Larval infestations 0.75-4.8 percent in treated plots, 2.2-40 percent in untreated plots. (Taft et al., July 20). TENNESSEE - Square counts 19 percent compared with 28 percent last week. Hibernating weevils about disappeared. Peak first-generation emergence should occur by July 29. In those areas where some rain has occurred, situation ideal for further buildup. Infestations heavier in southeastern portion of cotton-growing area. (Locke). ALABAMA - Survival of larvae and pupae in squares higher in northern part of State and emergence of first and second-generation adults medium to high, depending on controls applied 15-20 days earlier. Infestations much higher in area than at same time in 1965 and control efforts more general. Infestation in central and southern counties light to medium; few counties report high numbers. Hot, dry weather reduced "hatch out" of adults and general use of effective controls reduced numbers considerably. Damaging numbers in all counties including Lauderdale, Limestone, Madison and Jackson Counties in extreme north. General and widespread infestation at this time equal to or greater than any time since 1962. In 3 years and part of this season A. grandis has recovered from extreme weather conditions in winter of 1962-63. (McQueen).

GEORGIA - Percent punctured squares 1-80 in Colquitt, 1-2 in Worth and 3 in Tift Counties. (French). Second-generation emergence resulting in very heavy infestations in some southern area fields. (Jordan). MISSISSIPPI - Punctured squares found in 12 of 19 fields in delta counties. Infestation 4.5 percent (maximum 21) in these 12 fields. (Pfrimmer et al., July 21). Populations at high level throughout State. Considerable increase noted in southern delta area. Percent punctured squares 19-38 in 8 fields in Carroll County; 5-10 in Leflore County; 6-25 in several hundred acres in Yazoo County. Heavy "hatchout" noted in northeastern hill section. Punctured squares 60-70 percent in several counties. In northern delta region, punctured squares ranged light to heavy. Percent punctured squares by county as follows: Marshall 10-20; De Soto 10-30; Tunica 60 in "hot spots", with 10-15 in other areas; Tallahatchie 20-30; Panola 60-70 in "hot spots", with 10-30 in other areas; Coahoma very light with isolated "hot spots" noted in some areas; Pontotoc 60-70. (Dinkins). LOUISIANA - Some emergence from squares occurred in "hot spots" in older fields first week of July; egg laying more obvious past week, punctured squares more plentiful in these spots. Heavy emergence expected last week of July. Infestations higher in southern area than central and northern areas. (Tynes, July 18). Nine weevils found in 6 of 198 fields in Madison Parish. Punctures found in 98 fields; percent damaged squares 1-21 per 100 squares; averaged 1.7 percent per 100 squares for 198 fields. (Cleveland et al., July 21). ARKANSAS - Present in 62 percent of 5,781 fields compared to 44 percent last week; 68 or 1.2 percent of infestations at recommended treatment level, compared with 17 fields or 0.3 percent last week. (Barnes, Boyer). OKLAHOMA - Percent punctured squares 20-30 in cotton adjacent to wooded areas in Grady County. Moderate in Cotton County and light in Bryan County. (Okla. Coop. Sur.). TEXAS -

Percent punctured squares 8.6 (maximum 60) in 73 fields in Waco area. Squares becoming scarce in many early planted fields. (Cowan et al.).

For Boll Weevil in Texas High Plains and in Arizona, see page 737.

A FLEA BEETLE (Phyllotreta sp.) - ARIZONA - Heavy in few cotton fields in Yuma and western Maricopa Counties. Damage appears moderate. Averaged 400 per 100 sweeps in more heavily infested fields. (Ariz. Coop. Sur., July 15).

BOLLWORMS (Heliothis spp.) - SOUTH CAROLINA - More serious than Anthonomus grandis in many eastern area fields. (Cott. Ltr., July 18). Percent larval infestation in Florence area 0-2 in treated plots, 0-3 in untreated plots. Total of 35 H. zea and 7 H. virescens taken in light trap. Generally light in area with some hard-to-kill populations reported. (Taft et al., July 20). TENNESSEE - Increasing over western area; eggs and larvae present. Reached control levels in many fields. (Locke). GEORGIA - Eggs 6 and larvae 4-9 per 100 terminals in Colquitt County; eggs 12-19, larvae 0-1 in Worth County; eggs 27 and larvae 43 in Tift County. Infestation increasing in southern area cotton; egg counts very high. (Jordan). ALABAMA - Larvae not generally serious except in isolated areas of south and west sections. (McQueen). MISSISSIPPI - Eggs found in one of 19 fields in delta counties; injured squares found in 9 fields. Injury averaged 0.9 percent (maximum 2). Moth flight increased slightly. Moth activity may increase sharply due to recent rains. (Pfrimmer et al., July 21). H. zea and H. virescens light throughout State; new generation hatching, however. Continue light in Pontotoc, De Soto, Tunica, Coahoma, Tallahatchie and Panola Counties. None found in Marshall County. In Leflore County, eggs 4-8 and larvae 1-2 per 100 terminals. In Yazoo County, eggs 3-5 and larvae 1-2 per 100 terminals. (Dinkins). LOUISIANA - No H. zea larvae and very few eggs found in cotton. Increased egg laying expected next 7-10 days. (Tynes, July 18). Larvae found in 18 of 198 fields in Madison Parish. Ranged 1-10 per 100 squares in 18 fields, averaged 0.09 per 100 squares in 198 fields. Punctures found in 106 of these fields; 1-13 per 100 squares. Overall average for 198 fields 1.7. Larvae found in 18 of 194 fields where terminal checks made; 1-17 per 100 terminals in these fields; averaged 0.4 larva per 100 terminals in 194 fields. Eggs found in 62 fields; 1-16 per 100 terminals; overall average 0.8 egg per 100 terminals in 194 fields. (Cleveland et al., July 21).

ARKANSAS - Of 2,428 fields scouted, 42 percent infested compared with 25 percent last week; only 0.4 percent at treatment level. (Barnes, Boyer). MISSOURI - H. zea larvae 1-4 and eggs 1-5 per 100 terminals in 3 percent of 623 cotton fields in Southeast "delta" area. (Jones). OKLAHOMA - Averaged 5 per 100 plants in irrigated cotton in Grady County. (Okla. Coop. Sur.). TEXAS - Infestation decreased slightly in Waco area. In 14 treated fields, eggs 0-2.8 and larvae 0-3.5 per 100 terminals. In 60 untreated fields, eggs 0-5.5 and larvae 0-15.6 per 100 terminals. Square injury 0-4.5 percent in 14 treated fields, 0-30.5 percent in 59 untreated fields. Boll injury 0.4 percent in 14 treated fields and 0.6 percent in 49 untreated fields. Thirty-seven percent of larvae collected and identified July 1-15 H. virescens; 15 percent of larvae collected July 16-22 H. virescens. (Cowan et al.). NEW MEXICO - Some control applied for H. zea in Chaves, Eddy and Dona Ana Counties. (Campbell, Garcia). Damage lower in other cotton-growing areas. (N. M. Coop. Rpt.). ARIZONA - H. zea scattered and light in Graham, Maricopa and Pinal Counties. No increase in egg counts noted. (Ariz. Coop. Sur., July 15). H. zea continues light and spotted; most infestations not economic. (Ariz. Coop. Sur.). CALIFORNIA - Numbers still high for time of year in Arvin and Wheeler Ridge areas of Kern County. Larvae not of immediate concern due to earliness of season; however, if numbers continue high, problem may develop earlier than usual. Due to earliness of crop, many fields have extremely heavy boll set. (Black, July 14). Populations low in most of San Joaquin Valley, although few very large larvae still evident. Some small larvae detected, particularly in parts of Kern County. Moth activity generally light, although eggs abundant in corn in Shafter and Causelo areas. (Leigh, July 15).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Evident throughout San Joaquin Valley cotton; heavier in northern end of valley. Moth activity strong, economic infestations could develop. (Leigh, July 15). OKLAHOMA - Small larvae abundant in cotton in some areas of Grady County. (Okla. Coop. Sur.). SOUTH CAROLINA - Some light infestations and diseased larvae seen in Florence area. (Taft et al., July 20).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Evident in Tulare Lake area on cotton; some moderate infestations present. Mostly large larvae; however, some egg masses observed. (Leigh, July 15). ARIZONA - First and second-stage larvae scattered on cotton throughout Graham County. Small number of light infestations reported in Pinal County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Primary pests of cotton in Imperial County. Nymphal development and adult migration continue. Increasing in some previously treated and untreated fields. (Campbell, July 15). Continue of most concern in Kern County cotton; however, pressure not as high as in previous weeks. No massive migrations occurred with recent cutting of alfalfa. Many fields still harbor high numbers; nymphs appearing in large numbers in many areas. (Black, July 14). Continue problem in cotton throughout San Joaquin Valley. Counts per 50 sweeps in Shafter 3-28, Corcoran 3-5, west Fresno County 8-19, Madera County 12-18; nymphs predominate. Treatment not needed in many fields; infestations have not built up. (Leigh, July 15). ARIZONA - Continue to cause moderate to heavy damage to cotton in Pinal, Pima and Maricopa Counties. Increasing in Graham County. (Ariz. Coop. Sur.).

PLANT BUGS - TENNESSEE - Causing light damage to very small squares over western area. Control not justified. (Locke). MISSISSIPPI - Lygus lineolaris and Psallus seriatus remain unchanged throughout delta area; no increase noted. (Dinkins). L. lineolaris found in 5 of 19 fields in delta counties; 2.3 per 100 terminals. (Pfrimmer et al., July 21). LOUISIANA - P. seriatus and L. lineolaris infestations decreased in Madison Parish. P. seriatus found in 34 of 118 fields; 1-22 per 100 sweeps in these fields; averaged 0.9 per 100 sweeps for 118 fields. L. lineolaris found in 90 fields; 1-28 per 100 sweeps in these fields; averaged 2.9 per 100 sweeps for 118 fields. (Cleveland et al., July 21). MISSOURI - Plant bugs present in 74 percent of 623 cotton fields in southeastern "delta" area; numbers increasing. (Jones). TEXAS - P. seriatus continues to decline in Waco area; no damaging populations found. Averaged 5.9 per 100 terminals in 14 treated fields, 8.2 in 60 untreated fields. (Cowan et al.). NEW MEXICO - Spanogonicus albofasciatus and P. seriatus damaging cotton in Eddy, Chaves and Dona Ana Counties. (Campbell, Garcia).

COTTON APHID (Aphis gossypii) - ARIZONA - Moderate to heavy in areas of Pima County and in Queen Creek area of Maricopa and Pinal Counties. MISSOURI - Light in 14 percent of 623 cotton fields in southeastern "delta" area; decreasing. (Jones).

STINK BUGS - CALIFORNIA - Adults increased in many Imperial County cotton fields; nymphs appearing. Control problem due to migration from milo. These pests may be continual problem throughout season with 180,000 acres of milo under cultivation. (Campbell, July 15).

LEAFHOPPERS - CALIFORNIA - Continue to increase in some untreated Imperial County fields; relatively stable with some trend to decrease in other instances. (Campbell, July 15). Abundant in cotton in western Fresno County; however, economic damage does not appear to be occurring. Cotton growers on east side of San Joaquin Valley should be alert to possible economic infestations of Empoasca fabae. (Leigh, July 15).

CRICKETS - CALIFORNIA - Nymphs increasing in Imperial County cotton. In northern part of county, some fields with considerable leaf damage as well as damage to bolls, especially where bolls cracked prematurely and crickets have eaten out seed. (Campbell, July 15).

SPIDER MITES - SOUTH CAROLINA - Becoming problems in nearly all counties. Some infestations very heavy, defoliation occurring. Recommended miticides generally not giving good results; however, few giving excellent results. Lack of followup application responsible for most lack of control. Initial applications giving good control. (Cott. Ltr., July 18). TENNESSEE - Still increasing; extensive damage expected over western area if controls not applied. Conditions ideal for further buildup. (Locke). MISSISSIPPI - Continue problem in some fields in delta counties. (Pfrimmer et al., July 21). Tetranychus urticae numbers reduced considerably in Tallahatchie County due to heavy rains; currently light. Heavy in Le-flore and Issaquena Counties. (Dinkins). MISSOURI - Mostly Tetranychus atlanticus light in field margins and spots within fields in 21 percent of 623 cotton fields in southeastern "delta" area. (Jones). CALIFORNIA - Spider mites under control with few exceptions in Kern County cotton. Controls needed on ends of rows near dusty roadways in some fields. Plants closing the middle so coverage increasingly difficult as season progresses. (Black, July 14). Abundant in some San Joaquin Valley cotton, particularly along field margins and roadways; however, mostly under control. (Leigh, July 15).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - NORTH CAROLINA - Increasing on tobacco in Johnston, Wayne and Lenoir Counties. (Mistic).

SUGAR BEETS

BEEB WEBWORM (Loxostege sticticalis) - COLORADO - Second-generation adults appearing on sugar beets in Weld, Adams and Morgan Counties. (Jenkins). Trace numbers of larvae in Prospect Valley area. (Rothman). Adults increased in Weld County light trap. (Reynold). MINNESOTA - Eggs present in some fields in Red River Valley; counts low. (Minn. Ins. Rpt.).

A WEEVIL (Cosmobarus americana) - OREGON - Collected from sugar beets at Ontario, Malheur County, August 5, 1965, by B. J. Landis. Det. by R. E. Warner. This is new State record. (Landis).

STINK BUGS - KANSAS - Continue problem to sugar beet growers in southwestern area, 4-11 per plant in fields examined. Some controls applied but results erratic. (DePew).

SPINACH LEAF MINER (Pegomya hyoscyami) - UTAH - Damage common in sugar beets in Salt Lake County. (Knowlton, July 18).

MISCELLANEOUS FIELD CROPS

A MINT FLEA BEETLE (Longitarsus waterhousei) - OREGON - Damaging numbers found in Jefferson County mint field. This is new county record. (Morrison).

STRAWBERRY SPIDER MITE (Tetranychus atlanticus) - OREGON - Moderate numbers appearing in some Jefferson County mint fields. (Morrison).

POTATOES, TOMATOES, PEPPERS

POTATO TUBERWORM (Phthorimaea operculella) - VIRGINIA - Larvae severe in potatoes dug 2 weeks ago at Waverly, Sussex County. (Isakson, Parson).

HORNWORMS (Manduca spp.) - MISSOURI - M. quinquemaculata and M. sexta injuring tomatoes in central area. (Wkly. Rpt. Fr. Grs., July 20).

A BLISTER BEETLE (Epicauta conferta) - OKLAHOMA - Damaging tomatoes in Perkins area of Payne County. (Okla. Coop. Sur.).

POTATO APHID (Macrosiphum euphorbiae) - COLORADO - Low, 1-5 per potato leaf, in Weld, Adams and Morgan Counties. (Jenkins).

Aphids on Potatoes in Maine - Populations generally very small on untreated potato foliage. At Presque Isle increase in numbers and percent of infested plants much below average during past week. In Lee district aphids over 4 times as abundant as at Presque Isle but rate of increase slightly below average. In Houlton district, where aphids most abundant, average of 2.25 aphids on 3 leaves per plant from top, middle and bottom of plant, but rate of increase much below average. Macrosiphum euphorbiae predominates followed by Aphis nasturtii and Myzus persicae or Acyrtosiphon solani. First fungus-killed aphid found July 18 near Presque Isle, slightly earlier than usual. (Shands et al.).

BEANS AND PEAS

BEAN APHID (Aphis fabae) - WISCONSIN - Colonies building up on leaves of wax beans near Durand; 30-40 per leaf. (Wis. Ins. Sur.).

STALK BORER (Papaipema nebris) - WISCONSIN - Larvae boring into pods of snap beans in Madison area. (Wis. Ins. Sur.).

COTTON SQUARE BORER (Strymon melinus) - TEXAS - Moderate in seed pods of green beans near Robstown, Nueces County. (Nolan).

ROSE CHAFER (Macrodactylus subspinosus) - VERMONT - Feeding on beans in Burlington area. (Nielsen, July 18).

COLE CROPS

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Adult numbers high in central and eastern areas past 2-3 weeks; large numbers of larvae anticipated. (N. Y. Wkly. Rpt., July 18).

CABBAGE LOOPER (Trichoplusia ni) - NEW JERSEY - Increasing on cabbage throughout State. (Ins.-Dis. Newsltr.). NORTH CAROLINA - Populations of this species, Pieris rapae and Plutella maculipennis declined sharply on crucifers on experiment station at Faison due to dry conditions. (Brett).

DIAMONDBACK MOTH (Plutella maculipennis) - NORTH DAKOTA - Light damage evident in cultivated mustard, Ward County; 100 larvae per 100 sweeps. (Brandvik).

GENERAL VEGETABLES

ONION MAGGOT (Hylemya antiqua) - COLORADO - Damage to onions general in Gilcrest area, Weld County. (Urano).

ONION THRIPS (Thrips tabaci) - COLORADO - Low in most onion fields in Weld, Adams and Morgan Counties. Some damage on early leaves. (Jenkins).

SPINACH LEAF MINER (Pegomya hyoscyami) - UTAH - Damage common in table beets and spinach in Salt Lake County. (Knowlton, July 18).

FLEA BEETLES - GEORGIA - Moderate on sweetpotatoes in Berrien County. (Barber).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Carpocapsa pomonella) - INDIANA - Adult captures in Vincennes area increased. Flight activity pronounced July 12-13. Most first-brood burrows in fruit vacated. (Dolphin, July 18). MISSOURI - Only occasional new entry reported from any area except northwest. (Wkly. Rpt. Fr. Grs., July 20). TEXAS - Heavy, widespread infestations noted in apple orchards throughout Cooke County. (Tibbets) NEW MEXICO - Increasing in San Juan County light traps. Up to 84 moths per trap in untreated orchards. (Durkin).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - COLORADO - Peak moth flights occurred in Palisade area, Mesa County, July 15; 137 moths taken in 15 bait traps on 3 properties. (Bulla). MISSOURI - Few found in peaches in extreme southeast area. (Wkly. Rpt. Fr. Grs., July 20). INDIANA - Adults increased in peach block near Vincennes. (Dolphin).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - Second-brood moths emerged July 7 in Monroe County. (N. Y. Wkly. Rpt.). INDIANA - One adult taken in bait trap in Vincennes area. (Dolphin, July 18). MICHIGAN - Second-brood larvae small in southwest apple orchards. (Wooley, Carpenter). WISCONSIN - Adults laying eggs in Door County. (Wis. Ins. Sur.). MISSOURI - Some feeding noted on apples in northwest area. (Wkly. Rpt. Fr. Grs., July 20).

PEACH TREE BORER (Sanninoidea exitiosa) - WISCONSIN - Damaging peach, plum and cherry trees in Kenosha County. (Wis. Ins. Sur.).

LESSER PEACH TREE BORER (Synanthedon pictipes) - INDIANA - Adult male captures down; 297 last period, 117 this period. (Dolphin).

FALL WEBWORM (Hyphantria cunea) - INDIANA - Nest size increasing in Vincennes area. Most unsprayed apple trees infested. (Dolphin, July 18).

PLUM CURCULIO (Conotrachelus nenuphar) - CONNECTICUT - Found at Storrs July 18. This one of latest dates of adult activity in State. (Savos). TEXAS - Damage heavy to peaches near San Antonio, Bexar County. (Parker).

SCARABS (Cotinis spp.) - INDIANA - First C. nitida adult of year collected by beating peach foliage. (Dolphin, July 18). OKLAHOMA - C. nitida causing heavy damage to ripe peaches in Perkins area, Payne County. (Okla. Coop. Sur.). ARIZONA - C. texana feeding on stone fruits in Graham, Cochise and Pima Counties; damage moderate to heavy on many backyard fruits. (Ariz. Coop. Sur., July 15).

DRIED FRUIT BEETLE (Carpophilus hemipterus) - ARIZONA - Light to moderate on stone fruits and fig in Tucson area, Pima County. (Ariz. Coop. Sur.).

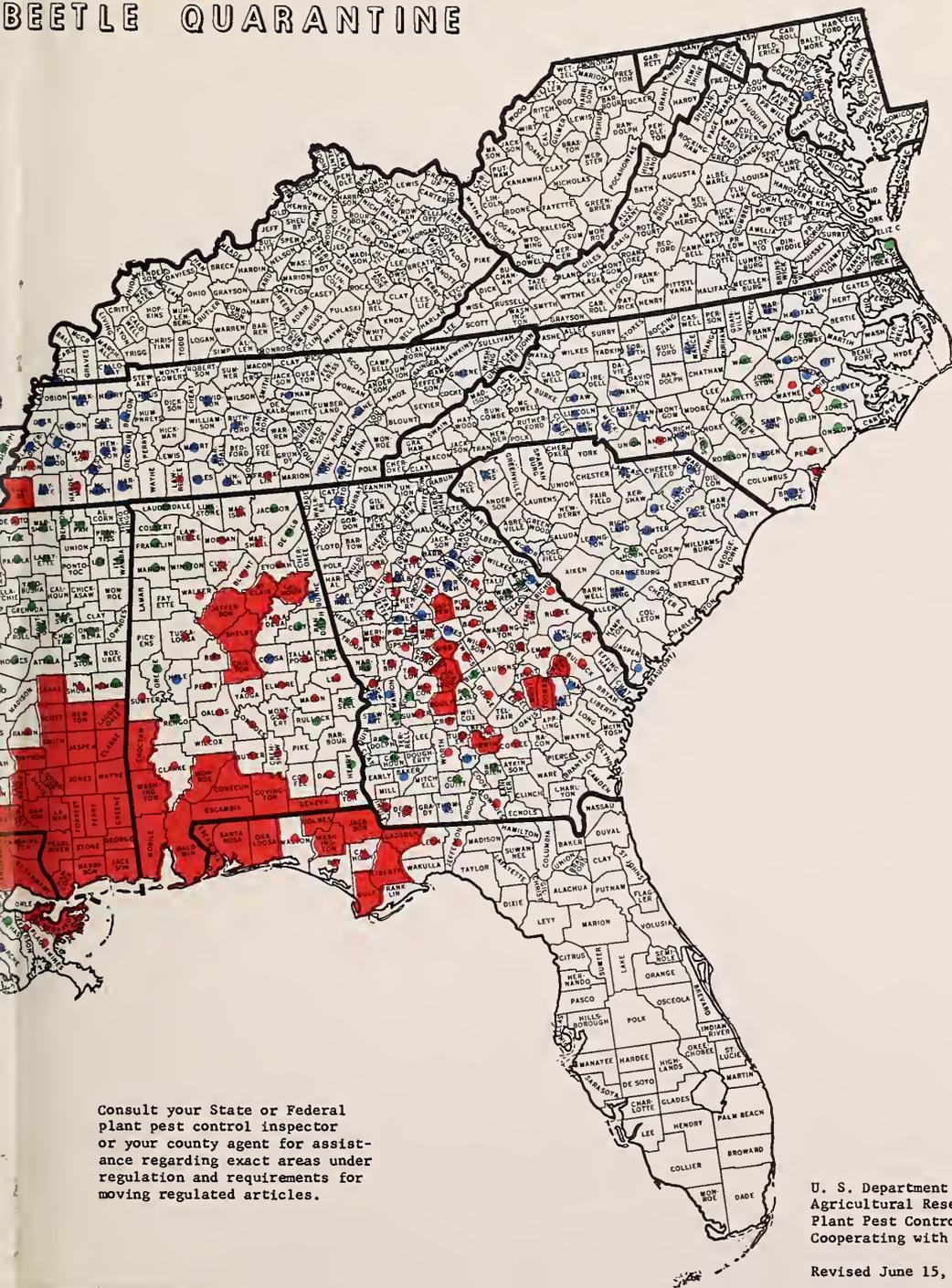
PEAR-SLUG (Caliroa cerasi) - UTAH - Damage to pear and cherry foliage common in Salt Lake County orchards and about homes. (Knowlton, July 18).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - NORTH CAROLINA - Second-generation crawlers appearing July 6 on peaches in sand hills area. (Smith).

PERIODICAL CICADAS (Magicalicada spp.) - WISCONSIN - Localized infestation observed in Columbia County. Cast pupal skins scarce. Some racoon and skunk predation evident. (Wis. Ins. Sur., July 15). ILLINOIS - M. septendecim observed for first time this season in Mason County July 5. (Moore).

APPLE MAGGOT (Rhagoletis pomonella) - CONNECTICUT - Adult emergence from early ripening apple varieties continues at high rate in New Haven; increased on later varieties. Dry conditions probably holding down emergence. (Savos, July 20). VERMONT - Most important problem in orchards at present time. Emergence continues and expected to increase over next few weeks. (Nielsen, July 18). WISCONSIN - Initial adult emergence high in several areas. (Wis. Ins. Sur.).

BEETLE QUARANTINE



Consult your State or Federal plant pest control inspector or your county agent for assistance regarding exact areas under regulation and requirements for moving regulated articles.

U. S. Department of Agriculture
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Revised June 15, 1966

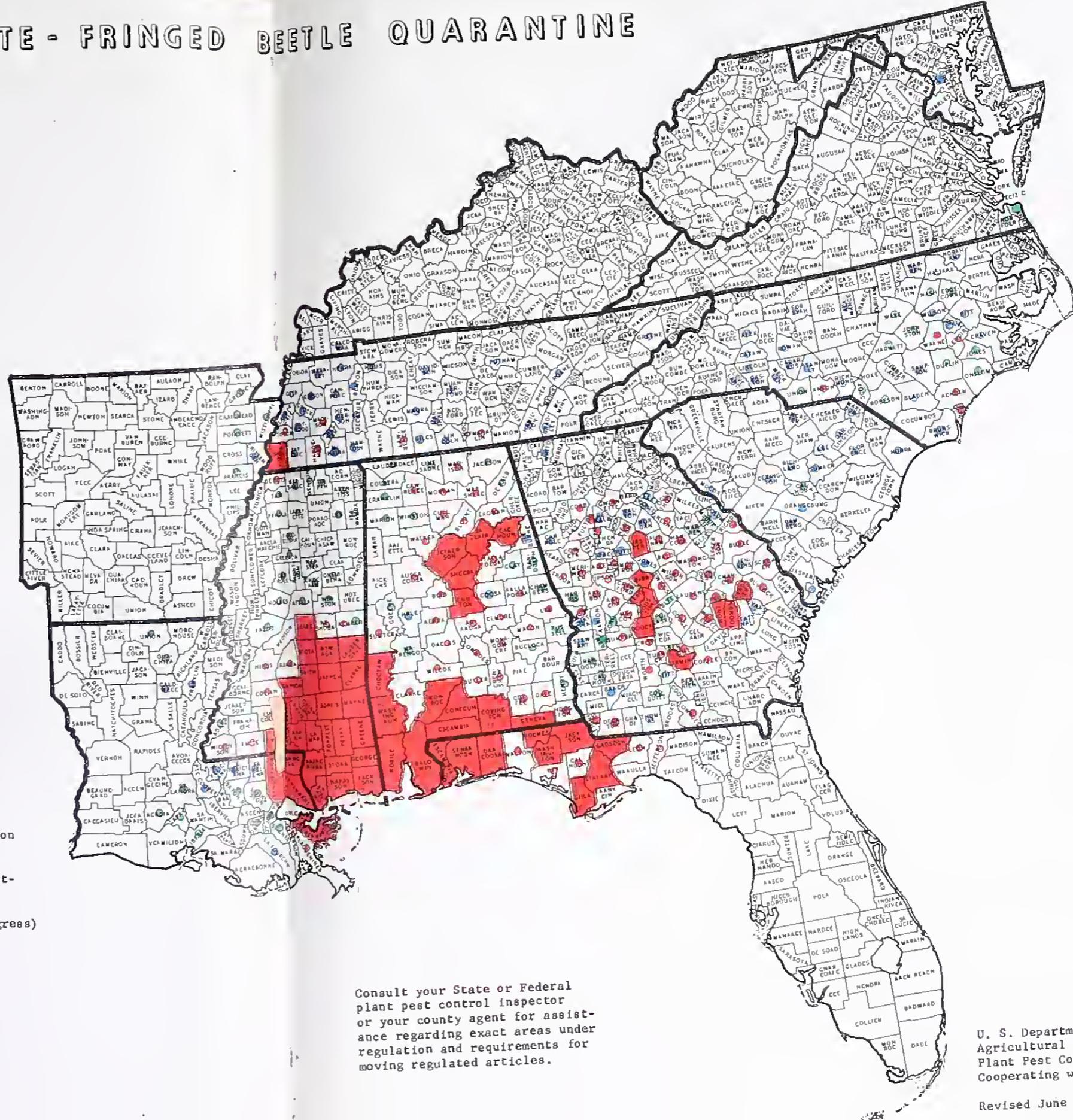
WHITE - FRINGED BEETLE QUARANTINE

REGULATED ARTICLES ARE:

1. Forest, field, nursery, and greenhouse-grown woody or herbaceous plants with roots.
2. Soil, compost, manure, peat, muck, clay, sand, and gravel, whether independent of or associated with nursery stock, other plants, plant products, or other products or articles, except that processed sand and gravel are not included as regulated articles.
3. Grass sod; plant crowns and roots for propagation; true bulbs, corms, tubers, and rhizomes of ornamental plants, when freshly harvested or uncured; potatoes (Irish) when freshly harvested; peanuts in shells, and peanut shells.
4. Uncleaned grass, grain and legume seed; hay, straw, seed cotton and cottonseed.
5. Scrap metal and junk; brick, tile, stone; concrete slabs, pipes, and building blocks; and cinders.
6. Forest products, such as cordwood, stump wood, logs, lumber, timbers, posts, poles, and crossties.
7. Used harvesting machinery and used construction and maintenance equipment.

COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED;
COUNTIES WITH COLORED DOT ARE PARTIALLY REGULATED.

- Generally infested area--State and Federal regulations. (Eradication treatments not planned or in progress)
- Suppressive area--State and Federal regulations. (Suppressive treatments planned or in progress)
- State regulations only. (Suppressive treatments planned or in progress)



Restrictions are imposed on movement of regulated articles from a regulated area as follows:

1. Red into or through green, blue, or white.
2. Green into or through white, blue, or green.
3. Within green.
4. Blue into any other area.*

*If required by the appropriate State quarantine or by an authorized inspector.

Consult your State or Federal plant pest control inspector or your county agent for assistance regarding exact areas under regulation and requirements for moving regulated articles.

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EUROPEAN RED MITE (Panonychus ulmi) - VERMONT - Built up in some blocks during past week of dry hot weather. (Nielsen, July 18). NEW YORK - Extremely heavy in many orchards of Monroe County. (N. Y. Wkly. Rpt., July 18). INDIANA - Increasing rapidly on apple trees in research plots where miticides not used. Some commercial peach growers report damaging populations in Vincennes area. (Dolphin). NORTH CAROLINA - Moderately abundant in few peach orchards in sand hills area July 6. (Smith). MISSOURI - This species and Tetranychus spp. remain major problem in orchards statewide. Building up in Kansas City area; control required. Many growers experiencing difficulty with control in northwest area. Populations very erratic in southeast. (Wkly. Rpt. Fr. Grs., July 20).

SPIDER MITES (Tetranychus spp.) - CONNECTICUT - Low throughout State except for moderate to heavy infestations at Storrs. (Savos, July 20). NEW JERSEY - Moderate in peach orchard near Middletown, Monmouth County. (Ins.-Dis. Newsltr.). GEORGIA - On apples in Fannin, Carroll, Gilmer and Clarke Counties. (Jordan et al.). COLORADO - Damaging foliage of apple and pear in Mesa County; 10-30 per leaf in heavily infested orchards. Well under control in Delta County orchards; 1-3 per leaf. Fourth cover spray posted for Mesa County, July 23. (Bulla). NEW MEXICO - T. mcdanieli populations webbing entire branches in unsprayed orchards; 2 sprays, applied on 7-day interval, necessary to maintain control. (Durkin).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Adults active in Payne and Lincoln Counties. Second-generation egg laying underway. (Okla. Coop. Sur.).

PECAN SPITTLEBUG (Clastoptera achatina) - SOUTH CAROLINA - Serious damage to pecans indicated again this year in Orangeburg County. (Nettles et al., July 20). ALABAMA - Medium and widespread in pecan orchard near St. Elmo, Mobile County. (Dillier, Seibels).

APHIDS - SOUTH CAROLINA - Heavy but spotty on pecans in coastal counties. (Thomas, July 20). GEORGIA - Yellow species heavy on pecans in Sumter County. (Fletcher). OKLAHOMA - Monellia costalis increasing on pecans in Payne County. Moderate to heavy in Cleveland County. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Adult emergence continuing, with 70 per day taken in traps. Walnut fruit about 2 weeks advanced; with increased emergence, treatment underway in many locations. (Cal. Coop. Rpt.).

CITRUS

Citrus Insect Situation in Florida - Mid-July - CITRUS RUST MITE (Phyllocoptruta oleivora) infested 57 percent of groves (norm 59 percent); 34 percent economic (norm 35 percent). Population about average for July and appears near summer peak. No downward trend expected until mid-August. Highest districts west and south. TEXAS CITRUS MITE (Eutetranychus banksi) infested 65 percent of groves (norm 72 percent); 46 percent economic (norm 46 percent). Population slightly below average and expected to peak in late July near current level. Highest districts west, east, central and south. CITRUS RED MITE (Panonychus citri) infested 60 percent of groves (norm 76 percent); 35 percent economic (norm 44 percent). Below normal summer abundance, will increase through July, then decrease. Highest districts north and east. BLACK SCALE (Saissetia oleae) infested 92 percent of groves (norm 68 percent); 81 percent economic (norm 46 percent). Population continued increase beyond previous highs and is now at highest level in 15 years of survey. Although decrease expected after July, adults will be plentiful through August. New generation crawlers will be numerous on leaves, twigs and fruit. All districts high. GLOVER SCALE (Lepidosaphes gloverii) infested 88 percent of groves; 32 percent economic. Population diminishing but still above average and in high range. Decrease expected. Highest districts south, east and central. PURPLE SCALE (L. beckii) infested 70 percent of groves; 7 percent economic. Currently below normal abundance and will decrease further. Highest district south. CHAFF SCALE (Parlatoria pergandii) infested 66 percent

of groves; 14 percent economic. Population normal and at moderate level; decrease expected. Highest districts south and east. YELLOW SCALE (Aonidiella citrina) infested 73 percent of groves; 16 percent economic. Population above average but decreasing. Highest districts central and east. MEALYBUGS infested 86 percent of groves; 47 percent economic. Population continued increase beyond July 1, which is unusual, and is approaching record high level of June, 1964. Decrease expected in August. All districts high. WHITEFLIES infested 53 percent of groves; 18 percent economic. Population slightly below normal and at moderate level; decrease expected. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

COCCIDS - CALIFORNIA - Possibly Pulvinaria citricola medium on citrus trees locally in Alameda County. (Cal. Coop. Rpt.). ARIZONA - Aonidiella aurantii found on sour orange in Tucson area; moderate to heavy on lower portions of tree. (Ariz. Coop. Sur.).

YUMA SPIDER MITE (Eotetranychus yumensis) - ARIZONA - Damaging populations continue on citrus in Yuma County. Some treated groves contained moderate numbers after treatment. (Ariz. Coop. Sur., July 15).

SMALL FRUITS

ROOT WEEVILS - OREGON - Sciopithes obscurus, Trachyploeus bifoveolatus and Nemocestes spp. caused substantial damage to numerous strawberry fields in Washington and Columbia Counties. (Every).

GRAPE ROOT BORER (Vitacea polistiformis) - FLORIDA - Larvae infesting Lake Emerald grape (Vitis sp.) at St. Petersburg, Pinellas County. (Forsyth, July 7).

STRAWBERRY LEAF ROLLER (Ancyliis comptana fragariae) - OREGON - Present in many Washington County strawberry fields; control necessary in some young plantings. (Every).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - First egg laying, leading to second-brood larvae, observed in southwest area. (Carpenter).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Peak moth flight July 13 at East Wareham; small larvae common in cranberries and starting to pupate in blueberries in southeast area. Moderate activity expected next 2 weeks. (Tomlinson).

RED-NECKED CANE BORER (Agrilus ruficollis) - WISCONSIN - Many reports of cane damage from homeowners in Kenosha County. (Wis. Ins. Sur.).

BLUEBERRY MAGGOT (Rhagoletis mendax) - NEW JERSEY - Adult flight continues strong in wild blueberry, but suppressed in fields receiving regular treatments. Adult movement to cultivated blueberries expected soon. (Ins.-Dis. Newsltr.). MASSACHUSETTS - Near peak abundance; average 50 per sticky trap in Middleboro, Plymouth County, week of July 20. (Tomlinson).

SPIDER MITES (Tetranychus spp.) - WISCONSIN - Reached damaging levels on backyard and garden raspberry plantings. (Wis. Ins. Sur.).

ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - GEORGIA - Heavy on arborvitae in Twiggs County. (Pritchett). ILLINOIS - Causing severe browning to evergreens and deciduous trees in southern two-thirds of State. (White). KANSAS - Young larvae appearing on isolated cedars in Manhattan; control applied in some instances. (Smith).

A CECIDOMYIID MIDGE (Thecodiplosis cockerelli) - COLORADO - Widespread on ornamental varieties of pinyon pine in Larimer, Boulder and Denver Counties. Not yet taken on native pinyon pine. (Thatcher).

CUBAN-LAUREL THRIPS (Gynaikothrips ficorum) - FLORIDA - Moderate on 200 Ficus retusa plants in nursery at Pembroke, Polk County. (Schmidt, June 22).

RHODODENDRON LACE BUG (Stephanitis rhododendri) - NEW HAMPSHIRE - Nymphs of second generation active statewide. (Mason, July 11).

SOFT SCALES - MICHIGAN - Lecanium fletcheri crawlers active on yew foliage and twigs in many Lower Peninsula counties. (Wallner). FLORIDA - Saissetia coffeae moderate to severe on Cryptocoryne sp. (an aquatic plant) in water gardens at Winter Haven, Polk County. (Eisenschank, July 18).

TEA SCALE (Fiorinia theae) - FLORIDA - Continues problem on camellia. Severe in 3 nurseries in Polk County. (McLeod, July 18).

MEXICAN MEALYBUG (Phenacoccus gossypii) - FLORIDA - Severe on leaves of Acalypha hispida (chenille) in nursery at Jacksonville, Duval County. (King, July 13).

SPRUCE NEEDLE MINER (Taniva albolineana) - IOWA - Damaging spruce at Burlington; terminals mined and webbed. (Iowa Ins. Inf., July 19).

MITES - UTAH - Damaging conifers in Cache County. (Burtenshaw, Knowlton). FLORIDA - Tetranychus urticae infesting 70 percent of 500 Australian umbrella trees (Brassaia actinophylla) in nursery at Pembroke, Polk County. (Schmidt, June 22).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Situation better than for past several years; however, drought could change situation rapidly. Few spots observed in Beaufort and Martin Counties. Numerous small areas showing in upper Piedmont for first time this summer. Beetles active in 10-20 percent of these spots. Few found in Granville and Vance Counties. (For. Pest Newsltr., July 10). VIRGINIA - Infestations not yet serious. Active in Mathews County, but less prominent than last year. Active in several spots in Charles City, Chesterfield and King William Counties. Only 3 active spots reported on Eastern Shore. New infestation in Fluvanna County; numerous in Buckingham and Cumberland Counties. Light in scattered areas of Halifax County; no new infestations in Nottoway County. (Va. For. Pest Sur. Rpt., June Sum.).

BARK BEETLES (Dendroctonus spp.) - VIRGINIA - Active in few loblolly and Virginia pines at locations in Richmond, King George and Westmoreland Counties. Active in white pine in Floyd, Rockbridge and Bath Counties. (Va. For. Pest Sur. Rpt., June Sum.).

ENGRAVER BEETLES (Ips spp.) - VIRGINIA - Ips avulsus killed 4 loblolly pines in single Brunswick County location. Ips spp. active in few trees in Richmond County. Activity noted in Patrick, Albemarle and Fairfax Counties. (Va. For. Pest Sur. Rpt., June Sum.).

JACK-PINE BUDWORM (Choristoneura pinus) - WISCONSIN - Pupation nearly complete July 13 in Vilas County. Parasitism of larvae and pupae appeared light. (Wis. Ins. Sur.).

PINE WEBWORM (Tetralopha robustella) - VIRGINIA - Active on loblolly pine in Rockbridge County and on shortleaf pine in Wise and Scott Counties. (Va. For. Pest Sur. Rpt., June Sum.).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - RHODE ISLAND - Injury typical of this insect observed on pitch pine in roadside plantings in Exeter, Washington County. (Mathewson).

WHITE-PINE SAWFLY (Neodiprion pinetum) - WISCONSIN - Nearly full-grown larvae defoliated two trees and feeding in small white pine plantation in Dane County. (Wis. Ins. Sur.).

LARCH SAWFLY (Pristiphora erichsoni) - RHODE ISLAND - Caused extensive defoliation of 5-acre plot in State park in Westerly, Washington County. (Veilleux). WISCONSIN - Defoliation zero to moderately heavy in northeastern area. Heavy defoliation occurring in northwestern Shawano County. (Wis. Ins. Sur.).

PINE SPITTLEBUG (Aphrophora parallela) - MINNESOTA - Adult populations high again this year, especially in Scotch pine. (For. Pest Newsltr., July 19).

A THRIPS (Gnophothrips piniphilus) - MICHIGAN - Probably this species causing major feeding injury to pines in Muskegon and Wexford Counties. (Wallner).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Heavy in Upton County and moderate in Reagan County. (Lindsey). OKLAHOMA - Moderate to heavy across most of State. Second-generation larvae feeding in northeast area. (Okla. Coop. Sur.). ARKANSAS - All stages observed on Chinese elm in Lee County; however, adults more numerous than other stages. Egg laying expected to increase. (Boyer). MISSOURI - Second-generation pupation underway in Jasper County; few adults emerged. (Houser). UTAH - Damage more extensive than normal in Salt Lake County. (Knowlton, July 18).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - NORTH DAKOTA - Adult and larval populations causing light damage to willow at Minot. Moderate populations and damage found on cottonwood at Taylor. (Brandvik).

LOCUST BORER (Megacyllene robiniae) - UTAH - Severe in Salt Lake City and Granite areas of Salt Lake County. (Knowlton, July 18).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - MISSOURI - First-generation adults emerging in Boone County July 7. (Williams).

FALL WEBWORM (Hyphantria cunea) - ARKANSAS - Webs appearing in Washington County. (Boyer). KANSAS - Few small webs observed in Montgomery, Labette, Cherokee, Crawford and Elk Counties. (Simpson). MISSOURI - Light on preferred hosts over southwestern quadrant of State; 1-2 webs on occasional tree. Infestation expected to be much lighter than in past few years. (Houser). OHIO - First larval activity observed in wild chokecherry in Franklin County. (Campbell, Rose).

GREEN-STRIPED MAPLEWORM (Anisota rubicunda) - MISSOURI - Larvae defoliated isolated plantings of soft maple in Miller and Lawrence Counties; pupation complete. (Houser).

MIMOSA WEBWORM (Homadaula albizziae) - ILLINOIS - Causing light to severe browning of honeylocust throughout central area. (White).

AILANTHUS WEBWORM (Atteva aurea) - ILLINOIS - Webbing leaves of ailanthus trees in west-southwest district. (White).

WALNUT CATERPILLAR (Datana integerrima) - VIRGINIA - Larvae heavy on walnut trees in Bedford County. (Isakson, Boone). ILLINOIS - Defoliating walnut in many areas. (White).

COCCIDS- DELAWARE - Melanaspis obscura crawlers present on pin oaks in New Castle County. (Burbutis, Davis). OHIO - Pulvinaria innumerabilis infestations abundant

this year in north central area. A major infestation of soft maples occurred throughout Greater Cleveland area. (Rose et al.). TEXAS - Icerya purchasi damaging silver maple trees near Texarkana, Bowie County. (Hamman).

A LYGAEID BUG (Kleidocerys resedae) - NEW HAMPSHIRE - Numerous on birch at Keene. (Conklin, July 11).

MAN AND ANIMALS

HORN FLY (Haematobia irritans) - GEORGIA - Heavy on beef cattle in Hancock County. (Nolan). ARKANSAS - Numbers low during dry period but increased with recent rains; 150-200 per head on heifers and dry cows in Franklin County. (Roberts). OKLAHOMA - Heavy numbers continue to annoy horses in Payne County. (Okla. Coop. Sur.). MISSOURI - Adults 75-300 per animal on cattle in south central and southwestern areas. (Houser, Peters). SOUTH DAKOTA - On cattle, counts per side as follows by county: Charles Mix 100-200; Hutchinson 75-150; Lake and Moody 10-30. (Jones). NORTH DAKOTA - Up to 500 (average 230) per animal in Nelson County; up to 400 (average 200) per animal in McHenry County; and up to 200 (average 100) per animal in Barnes County. (Brandvik). WYOMING - Increasing on cattle in Laramie, Goshen and Platte Counties; 50-200 per animal. (Marks). UTAH - Populations increasing with increased annoyance to cattle in northern part of State. (Knowlton, July 18).

FACE FLY (Musca autumnalis) - VERMONT - Ranged 35-45 per animal in bright sun in Addison County. (Nielsen, July 18). OHIO - Normal on dairy cattle in Knox County; 10 per face. (Rose). SOUTH DAKOTA - Low on herds in southeastern area. In Charles Mix County up to 5 per side. (Jones, Kantack). NORTH DAKOTA - Remains low in most areas. Averaged 1 per animal in Barnes County. (Brandvik).

HOUSE FLY (Musca domestica) - UTAH - Problem around most dairy barns in Salt Lake County. (Knowlton, July 18).

STABLE FLY (Stomoxys calcitrans) - UTAH - Increasing about dairies in Salt Lake County. (Knowlton, July 18).

HORSE FLIES - VERMONT - Populations high and extremely annoying in all areas. (Nielsen, July 18). GEORGIA - Severe on cattle in Hancock County. Causing loss of large amounts of blood. (Nolan, Snoddy). MISSOURI - Adults 1-2 per animal on cattle in south central area. (Peters).

DEER FLIES (Chrysops spp.) - WISCONSIN - Continue principal pest of man and animals especially in northern areas. Irritation caused some loss in milk production in Pepin County. (Wis. Ins. Sur.).

MOSQUITOES - GEORGIA - Annoying to man and dogs in late afternoon in Clarke County. (Nolan). OHIO - Culex pipiens most common species collected around Toledo. Aedes vexans somewhat lower. (Brockway). IOWA - Light traps in Ames showed reduction of numbers by 66 percent following an aerial spray application, July 4. Aedes trivittatus and A. vexans dominant species. (Iowa Ins. Inf., July 19). KANSAS - A. vexans most numerous species in light trap collections July 15-21. (Simpson). MINNESOTA - During week ending July 16, 16 light traps collected 34,000 females, compared with 11,000 previous week. Over 20,000 Mansonia perturbans taken; 19,000 in one trap in northern Anoka County. Aedes vexans and Anopheles walkeri also abundant. (Minn. Ins. Rpt.).

FLEAS - CONNECTICUT - Becoming very troublesome in homes with pets as daytime temperatures remain above normal. (Johnson).

LONE STAR TICK (Amblyomma americanum) - GEORGIA - Continues heavy, with 125 per animal on untreated herds in Hancock County; moderate on man and dogs, and few on cats in same area. (Nolan, Snoddy).

AMERICAN DOG TICK (Dermacentor variabilis) - GEORGIA - Heavy on dogs in Hancock County. (Nolan). RHODE ISLAND - Greatly diminished in State. (Mathewson).

HOUSEHOLDS AND STRUCTURES

EARWIGS - NEW JERSEY - Entering homes in central and northern counties. (Ins.-Dis. Newsltr.). CONNECTICUT - Forficula auricularia abundant outdoors and entering homes in many towns along Long Island Sound; numerous in inland towns. Situation rather general. (Johnson).

A COREID BUG (Jadera haematoloma) - OKLAHOMA - Entering homes from nearby china-berry trees in Blaine and Harper Counties. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

Beneficial Insects in Cotton - LOUISIANA - Heavy population of predators present in untreated fields. (Tynes, July 18). CALIFORNIA - Populations remain moderate to high in Imperial County fields. (Campbell, July 15). Abundant in many Kern County fields; big-eyed bugs and lacewings increasing rapidly. (Black, July 14).

Beneficial Insects in Arkansas - Nabis spp. and Geocoris spp. most common species in older soybeans in southeast and east central areas. Nymphs large percentage of Nabis spp. population. (Boyer). Beneficial insects numerous in cotton. Numbers often drop sharply in mid-July. Chrysopa spp., lady beetles, Nabis spp. and big-eyed bugs important in cotton. (Ark. Ins. Sur.).

LADY BEETLES - ILLINOIS - Various species, 0-20 adults and 0-10 larvae per 100 sweeps in alfalfa in central district. (White). WYOMING - Several species numerous in alfalfa, small grain and corn fields in Laramie, Goshen and Platte Counties. (Marks).

A MELYRID BEETLE (Collops quadrimaculatus) - KANSAS - Ranged 100-150 per 10 sweeps in two alfalfa fields in Cowley County. Therioaphis maculata and lady beetles also high in these fields. (Simpson).

DAMSEL BUGS - ILLINOIS - Vary 0-220 per 100 sweeps in alfalfa fields in central district. (White). WYOMING - These and Chrysopa spp. numerous in alfalfa, small grain and corn fields in Laramie, Goshen and Platte Counties. (Marks).

A PERILAMPID WASP (Perilampus chrysopae) - DELAWARE - Adults collected in sweepings from alfalfa and lima beans at Ellendale, Sussex County, July 28, 1964, and at Houston, Kent County, August 22, 1965. Collectors P. P. Burbutis and L. P. Kelsey. Det. by B. D. Burks. Collection at Ellendale is new State record; Houston collection new record for Kent County. (Burbutis)

CICADA KILLER (Sphecius speciosus) - MICHIGAN - First seasonal adults reported in Ingham County. (Wells).

PREDACEOUS PHYTOSEIID MITES (Typhlodromus spp.) - OREGON - Active in Milton-Freewater orchards; holding Tetranychus mcdanieli in check in many orchards. (Every).

FEDERAL-STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - CALIFORNIA - Approximately 1,000 acres of barley and rangeland in wildlife refuge treated in Tulelake area, Siskiyou County. (Cal. Coop. Rpt.). ARIZONA - Schistocerca shoshone heavy and damaging range grass and other vegetation in Wikieup area, Mohave County. (Ariz. Coop. Sur.). NEW MEXICO - Damaging fields adjacent to pastureland and damaging plantings around homes in Curry County. (Crystal). Melanoplus spp. heavy on irrigated pastures and crops in Guadalupe

County. (Durkin). UTAH - Very numerous in Cove and Smithfield foothills area of Cache County. Egg laying observed in 13,000-acre outbreak area near Moab, Grand County. Controls applied to 20,000 acres of rangeland in Uintah, Garfield and Iron Counties. (Thornley, Knowlton). Generally lower than during 1965. (Knowlton, July 18). OKLAHOMA - Moderate to heavy, in many rangeland areas. Melanoplus spp. damaging crops and some flowers. In past 2 weeks 22,000 acres of range and crop land in Kiowa and Comanche Counties sprayed. Dominant species Phlibostroma quadrimaculatum, Ageneotettix deorum and Boopedon nubilum, with others present. Control 90-95 percent effective. (Okla. Coop. Sur.). KANSAS - In Crawford, Bourbon and Woodson Counties, 10-15 per square yard in roadsides and alfalfa; light to severe on border rows of corn, sorghum and soybeans. M. differentialis dominant. (Simpson). NEBRASKA - Heavy in rangeland in parts of Sioux and Morrill Counties. (Burton, Hagen). MISSOURI - Adults and nymphs 15-20 per square yard in crops and pastures in margins and 5-10 in fields in southwest; light to moderate in most areas. Mostly third to fifth-instar. (Houser). ILLINOIS - Melanoplus spp. nymphs 0-80 per 100 sweeps in alfalfa and up to 9 per square yard in roadsides in central district; no appreciable damage. (White). WISCONSIN - Increasing slowly; 5 per 10 sweeps common in alfalfa. M. femurrubrum and M. differentialis dominant. (Wis. Ins. Sur.). MINNESOTA - Populations varied, most infestations light. Highest counts found in Chippewa County 25-30 M. femurrubrum per square yard. First to third-instar dominant. (Minn. Ins. Rpt.). NORTH DAKOTA - Remain low in rangeland in Billings, Golden Valley, and McKenzie Counties; 0-8 per square yard. A. deorum, Cordillacris occipitalis, M. femurrubrum and others main species; first through fourth instars. (Scholl, Stoltenow).

CEREAL LEAF BEETLE (Oulema melanopus) - MICHIGAN - High percentage of field population entered aestivation. (Turner).

EUROPEAN CHAFER (Amphimallon majalis) - PENNSYLVANIA - First flight of season observed June 8 in treated area at Harbor Creek Township. On June 21, specimens recovered from blacklight trap at Sayre, Bradford County; during last week of June, specimens trapped and netted at Allentown, Lehigh County, and at Pittston, Luzerne County. These new county records. (PPC East. Reg., June Rpt.). OHIO - First adult flights of season in east Cleveland June 22. (PPC Cent. Reg., June Rpt.).

JAPANESE BEETLE (Popillia japonica) - DELAWARE - Adults common on soybeans in some areas of northern Sussex County; injury noticeable. (Burbutis, Davis). VERMONT - Feeding on roses, grapes and crab apple, Burlington area. (Nielsen, July 18). OHIO - High population and accompanying damage to roses and other host plants at Westerville, Franklin County. (Barth). INDIANA - Adults feeding on soybeans in Kosciusko County. This first field crop damage reported in area. (Huber). MICHIGAN - Five adults taken from traps in Detroit area. Only other collection to date, in Calhoun County, was small infestation reported near golf course 5 miles north of Battle Creek. Few adults feeding on vegetation. (Turner).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Infestations generally light but increase in punctured squares noticeable below the Cap Rock; most of these egg-laying punctures. (Parker, Hanna, July 14).

BOLL WEEVIL COMPLEX (Anthonomus grandis complex) - ARIZONA - Larvae found in field south of Stanfield, Pinal County. (Ariz. Coop. Sur., July 15).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Bloom inspections in southern Dona Ana County reveal light larval infestations on cotton. Heavier in southern Eddy County; populations progressively lighter northward in Pecos Valley. (Garcia). In Luna County 4 larvae found in 275 blooms east of Deming; some fields with no larvae. (Hare, Waltman). ARIZONA - New infestations found in Maricopa County. Damaged bolls and infested blooms found in many areas. Infestation in Rainbow Valley produced bolls with up to 5 exit holes. In Mesa area, 3-4 larvae frequently found in single boll. (Ariz. Coop. Sur.).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - Adults, larvae and pupae observed at infestation site in Calhoun County. Traps being installed in Calhoun, Eaton and Jackson Counties. (Turner). Infestation in northern NEW ENGLAND area extremely light with no reports of extensive defoliation. In southern NEW HAMPSHIRE and VERMONT, parasites, predators and wilt disease reduced heavy infestation of 1964 and 1965 to non-existence. Fall Mountain in Walpole, and Red Hill in Meredith, New Hampshire, two areas of annual defoliation, extremely green and lush with no noticeable defoliation. (PPC East. Reg., June Rpt.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Chemical Control Zone - Total of 48,183 trees inspected on 2,465 properties in States of Sonora, Baja California, Nuevo Leon and Tamaulipas. Light infestations found on 13 trees on 4 properties in Municipio Hualahuises, Nuevo Leon, and 2 trees on 2 properties in Municipio Matamoros, Tamaulipas. Total of 3,503 trees on 160 properties sprayed; initial application on 226 trees on 88 properties in Matamoros and 1,191 trees on 3 properties in Hualahuises; second application on 155 trees on 29 properties in Matamoros and 1,933 trees on 40 properties in Hualahuises. Biological Control Zone - Inspection of 8,957 trees on 27 properties in Municipios Mainero, Villagran, Hidalgo, Guemez and Padilla, Tamaulipas, revealed 853 lightly infested trees on 10 properties. Total of 573 trees on 4 properties sprayed in Municipios Mainero and Hidalgo. (PPC Mex. Reg., June Rpt.). TEXAS - Intensive surveys in Brownsville, Cameron County, and Laredo, Webb County, negative. Properties inspected in Hidalgo and Zavala Counties also negative. (PPC South. Reg., June Rpt.).

MEXICAN FRUIT FLY (Anastrepha ludens) - MEXICO - Total of 2,849 inspections of 710 McPhail traps on 703 properties in Municipios Tecate, Ensenada and Tijuana, Baja California, yielded 1,977 irradiated flies as follows: Ensenada 2, Tecate 5 and Tijuana 1,970. Total of 6 native flies (5 females and 1 male) captured in Tijuana. Females reported as non-mated. (PPC Mex. Reg., June Rpt.).

CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Larva collected from avocado (Persea americana) at Fort Lauderdale, Broward County. (Shirah, July 15). Larva and pupa found in fruit of limeberry (Triphasia trifolia) on ground at nursery in West Hollywood, Broward County. (Hickman, July 7). These new host records. (Fla. Coop. Sur.). Favored hosts, Surinam-cherry, peaches and roseapple, now past fruiting period; principal hosts in coming weeks cattley and common guavas and calamondin. Northernmost record now Rockledge, Brevard County, where adults taken from sticky board trap July 19. (Kendrick).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - ALABAMA - Surveys revealed new infestations in Blount, Cullman, Etowa, Fayette, Franklin, Limestone, Marion, Morgan, Randolph and St. Clair Counties. ARKANSAS - Surveys in 11 counties negative except for 1 mound in Ashley County. FLORIDA - Surveys in parts of Marion, Orange, Seminole and Volusia Counties negative. Small extension of infested area found in Lake County. GEORGIA - No new infested areas found during delimiting surveys in 14 counties. Few active mounds found in Butts, Liberty and Richmond Counties. LOUISIANA - Extensions of infested area found in La Salle, Union, Vernon and Caddo Parishes. New infestation in Natchitoches Parish treated when found. MISSISSIPPI - Few active mounds found in Covington, Jefferson Davis and Pike Counties. New infestations found in Itawamba, Lee and Pontotoc Counties. Surveys negative in 8 counties. NORTH CAROLINA - Surveys in Cumberland and Onslow Counties negative. OKLAHOMA - Detection surveys in 15 counties negative. SOUTH CAROLINA - Extensions of infested area found in Columbia, Richland County, area. TENNESSEE - All surveys negative. TEXAS - One infested property found in Bexar County and 3 acres of reinfestation found in San Antonio. (PPC South. Reg., June Rpt.).

PEAR SAWFLY (Hoplocampa brevis) - NEW YORK - Collected in Scriba Township, Oswego County, June 3. This is new county record. (PPC East. Reg., June Rpt.).

SCREW-WORM (Cochliomyia hominivorax) - Total of 20 cases reported in U. S. July 17-23 as follows: TEXAS - Brewster 1, Pecos 1, Kerr 2, Bandera 1, Bexar 1, Atascosa 1, Live Oak 1, Duval 1, Jim Hogg 1, Brooks 2, Willacy 1.

ARIZONA - Yavapai 3, Graham 1. NEW MEXICO - Hidalgo 1, Eddy 1. CALIFORNIA - Riverside 1. Total of 158 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Baja California 4, Territorio sur de Baja California 7, Sonora 69, Chihuahua 32, Coahuila 1, Nuevo Leon 6, Tamaulipas 39. Total of 619 cases reported from Mexico south of Barrier Zone. Barrier Zone is area in which eradication operations carried out in effort to prevent establishment of self-sustaining populations in U. S. Sterile screw-worm flies released: Texas 17,106,250, Arizona 21,428,000, New Mexico 7,724,000, California 1,292,000, Mexico 78,064,000. (Anim. Health Div.).

INSECT DETECTION

New State Records

A WEEVIL (Cosmobarus americana) - OREGON - Collected from sugar beets at Ontario, Malheur County, August 5, 1965. Det. by R. E. Warner. (p. 728).

A PERILAMPID WASP (Perilampus chrysopae) - DELAWARE - Adults swept from alfalfa and lima beans at Ellendale, Sussex County, July 29, 1964. Det. by B. D. Burks. (p. 736).

New County and Island Records

A MINT FLEA BEETLE (Longitarsus waterhousei) - OREGON - Found for first time in Jefferson County. (p. 728).

A PERILAMPID WASP (Perilampus chrysopae) - DELAWARE - Collected for first time at Houston, Kent County, August 22, 1965. Det. by B. D. Burks. (p. 736).

EUROPEAN CHAFER (Amphimallon majalis) - PENNSYLVANIA - Specimens trapped and netted in Lehigh and Luzerne Counties last week of June. (p. 737).

PEAR SAWFLY (Hoplocampa brevis) - NEW YORK - Collected June 3, 1966, in Oswego County. (p. 738).

A GRASSHOPPER (Schistocerca vaga) - HAWAII - Single female collected on Kauai Island. (p. 740).

A SOFT SCALE (Coccus acutissimus) - HAWAII - Collected from Litchi chinensis on Maui and Hawaii Islands. (p. 740).

CORRECTIONS

CEIR 16(28):664 - PICKLEWORM (Diaphania nitidalis) should read Diaphania nitidalis.

CEIR 16(29):695 - A DELPHACID PLANTHOPPER (Dikraneura carneola) should read A CICADELLID (Dikraneura carneola).

CEIR 16(29):713 - New State Records - AN ERIOPHYID MITE (Aceria teucii) should read Aculus teucii.

CEIR 16(29):714 - Beneficial Insects - A CHRYSOMELID BEETLE (Diachus auratus) should be carried under Miscellaneous Insects.

HAWAII INSECT REPORT

Insects of Regional Significance - An adult female of a GRASSHOPPER (Schistocerca vaga) captured July 18 in Kalaheo, Kauai, on hibiscus plant. Initial survey in immediate vicinity negative. This is new island record. Previously found only on Oahu. (Au, Hiranaka). SOUTHERN GREEN STINK BUG (Nezara viridula var. smaragdula) adults light on corn and snap beans in Waianae, Oahu. (Yamamoto). All stages of a STINK BUG (Coptosoma xanthogramma) continue heavy on pigeon pea in Kaneohe and on Canavalia cathartica (maunaloa) in Nuuanu Valley, Honolulu, Oahu. (Kumabe, Shiroma).

General Vegetables - Adults of a MIRID BUG (Rhinacloa forticornis) medium on snap bean flowers in Makawao, Maui; 3 per flower. No damage observed. (Haw. Ins. Rpt.). Larvae and adults of a LEAF MINER FLY (Liriomyza sp.) heavy on 18 acres of watermelons in Waimanalo, Oahu. (Sato).

Fruits and Nuts - A MEALYBUG (Pseudococcus obscurus) generally under control in 200 acres of passion-fruit in Kahului, Maui. Approximately 30,000 specimens of Cryptolaemus montrouzieri released in orchard. P. obscurus population still heavy in few small areas but C. montrouzieri observed in these areas. (Miyahira). THREE-LINED POTATO BEETLE (Lema trilineata) larvae and adults heavy on Physalis peruviana (poha) in Waiakoa, Maui, at 3,100 feet; 1 larva or adult per leaf. (Miyahira). A SOFT SCALE (Coccus acutissimus) light on Litchi chinensis (litchi) in Pukalani, Maui; 1 adult per 10 leaves. Single specimen found on litchi in Hilo, Hawaii Island, June 16, 1966. No previous reports from Maui and Hawaii Islands; these new island records. First reported in State (Oahu) in 1920. (Chong).

Ornamentals - A WEEVIL (Brachyrhinus cribricollis) very light in flower growing areas of Kula, Maui, at 3,800 feet elevation; only one adult found in carnation blossom. Caused considerable damage to chrysanthemums in area in September 1965. Adults of a MIRID BUG (Rhinacloa forticornis) medium on carnation flowers in same area. Approximately 5 adults per blossom. (Haw. Ins. Rpt.).

Weather continued from page 718.

PRECIPITATION: Shower activity was rather general except in the Far West where an area where an area from California to Idaho and westward received little or no rain. Substantial showers came to eastern Arizona, New Mexico, and Colorado. From the Rockies eastward to the Atlantic, most areas received moderate to heavy showers. Though the showers were locally variable as usual, there seemed to be fewer areas missed than during the previous couple of weeks. A few spots in the Northeast drought area received generous amounts--4.39 inches at Chester, Massachusetts, is an example. Very dry conditions continued over southeastern Pennsylvania and vicinity. Torrential rains came to other scattered spots. Claiborne, Alabama, received 5.52 inches in 2 hours while other points in Mississippi and Alabama received 1 to 2 inches. However no rain has fallen in parts of Kentucky in 5 to 10 days. Goodland, Kansas, reported only 0.05 inch for the week while nearby Levant (25 mi. east) received 6.85 inches in 1 day. The gulf coast area received many heavy showers, e.g., 3.00 inches at Lake Charles, Louisiana, on Friday; also 1.97 inches at Mobile and 3.70 inches at Jacksonville Beach. (Summary supplied by Environmental Data Service, ESSA).

ADDITIONAL NOTES

VERMONT - POTATO LEAFHOPPER (Empoasca fabae) building up on forage crops; 4-5 per sweep. Yellowing noticeable in many fields. Also present on beans. Pupation of ALFALFA WEEVIL (Hypera postica) about complete; few adults still present. EUROPEAN RED MITE (Panonychus ulmi) built up rapidly; bronzing evident in some orchards. APPLE APHID (Aphis pomi) noticeable on terminals. APPLE MAGGOT (Rhagoletis pomonella) adult emergence continues. Blocks adjacent to abandoned or wild trees require protection. BIRCH LEAF MINER (Fenusa pusilla) egg laying continues. WOOLLY ALDER APHID (Prociphilus tessellatus) problem on soft maple. FLEAS annoying returning vacationers. EARWIGS continue problem in some areas. FACE FLY (Musca autumnalis) 40-50 per animal. BITING FLIES severe on pastured cattle. (MacCollom).

MARYLAND - ARMYWORM (Pseudaletia unipuncta) adults 20 per night in blacklight trap at Snow Hill week ending July 19. CORN EARWORM (Heliothis zea) light to moderate in ears and tassels of sweet corn in Queen Annes County. Small colonies of CORN LEAF APHID (Rhopalosiphum maidis) appearing in tassels and top leaves of more advanced corn in Dorchester County. POTATO LEAFHOPPER (Empoasca fabae) adults and nymphs very heavy in many alfalfa fields in central and eastern sections; over 100 per sweep in some fields. EUROPEAN CORN BORER (Ostrinia nubilalis) larvae heavy in whorls, stalks and tassels of early corn in Frederick and Worcester Counties. CORN FLEA BEETLE (Chaetocnema pulicaria) adults very heavy on field corn in whorl stage in northern Frederick County. SOUTHERN CORNSTALK BORER (Diatraea crambidoides) light in whorls of sweet corn near Queenstown, Queen Annes County. JAPANESE BEETLE (Popillia japonica) adults very destructive to silking corn near Snow Hill, Worcester County. Small Melanoplus spp. nymphs light to moderate on soybeans in Queen Annes County. BEAN LEAF BEETLE (Cerotoma trifurcata) adults causing light to moderate foliage injury to soybeans on Eastern Shore. POTATO LEAFHOPPER (Empoasca fabae) adults and nymphs evident on soybeans in Queen Annes and Talbot Counties. STRAWBERRY SPIDER MITE (Tetranychus atlanticus) conspicuous on border rows of several soybean fields on lower Eastern Shore. TARNISHED PLANT BUG (Lygus lineolaris) adults common on soybeans at Crumpton, Queen Annes County. Medium to heavy THRIPS populations continue to cause noticeable foliage injury to soybeans statewide. POTATO APHID (Macrosiphum euphorbiae) light to medium on tomatoes in Dorchester and Queen Annes Counties. BEAN APHID (Aphis fabae) heavy on lima beans at Churchill, Queen Annes County. Small CABBAGE LOOPER (Trichoplusia ni) larvae appearing on cabbage, kale and other cole crops in Caroline and Queen Annes Counties. IMPORTED CABBAGEWORM (Pieris rapae) butterflies laying eggs on collards and other cole crops in Caroline County. FLEA BEETLES (Phyllotreta spp.) heavy on cabbage at Kingstown, Queen Annes County. TWO-SPOTTED SPIDER MITE (Tetranychus urticae) building up generally and damaging foliage of cantaloups and watermelons on lower Eastern Shore. SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) larvae caused heavy injury to cucumber planting in Cecil County. STALK BORER (Papaipema nebris) damaging dahlias at Hollywood, St. Marys County. MIMOSA WEBWORM (Homadaula albizziae) very destructive to mimosa in Prince Georges County. FACE FLY (Musca autumnalis) 12 per face in 6 dairy herds in Frederick County. STABLE FLY (Stomoxys calcitrans) 3-35 per animal in 6 dairy herds in Frederick County. CICADA KILLER (Sphecius speciosus) very active near sandy areas of golf course near Laurel, Prince Georges County. (U. Md., Ent. Dept.).

NEVADA - Larvae of a NOCTUID MOTH (Heliothis sp.) heavy in alfalfa seed field in Hualipi Valley, Washoe County; larvae prefer buds and flowers and causing considerable damage by reducing amount of bloom. (Bechtel, Martinelli). PEA APHID (Acyrtosiphon pisum) 200-500 per sweep in 2 alfalfa seed fields in Hualipi Valley. Fields recently sprayed, but control poor. Light in other seed fields in same area. Varied 15-35 per sweep in hay fields in Fish Lake Valley. Occasional specimens found in Hualipi Valley alfalfa seed fields. (Bechtel et al.). A WEEVIL (Brachyrhinus meridionalis) damaging strawberries in Reno. A WHITEFLY (Aleuroplatus berbericolus) heavy on Oregon-grape in Reno. WEEVILS (Brachyrhinus sulcatus and B. meridionalis) severely damaging roses and latter species damaging dogwood, peony and privet in Reno. (Ting). APHIDS (Cinara spp.) light to heavy on Pinus monophylla, mostly above 6,000 feet on eastern slopes of White Mountains; general in Wassuk Range south of Lucky Boy Pass. Heavy on many single trees. (Bechtel, Martinelli).

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