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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



SEP 8 1972

PROCUREMENT SECTION  
CURRENT SERIAL RECORDS



ANIMAL AND PLANT HEALTH INSPECTION SERVICE  
PLANT PROTECTION AND QUARANTINE PROGRAMS  
ECONOMIC INSECT SURVEY AND DETECTION 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 problem on sweet corn in some Eastern and Central States. Parasitism of GREENBUG increased in several Midwestern States. SPOTTED ALFALFA APHID serious threat to alfalfa in Arkansas Valley of Colorado. (pp. 554-555).

WESTERN CORN ROOTWORM generally heavier on corn in Nebraska than past several years. (p. 556).

BOLL WEEVIL and BOLLWORMS increased in several cotton-producing States. (pp. 558-560).

VARIEGATED CUTWORM threat to potatoes in central Maine. (p. 560).  
BEAN APHID built up on beans throughout Michigan. (p. 561).  
ORIENTAL FRUIT MOTH increased on peaches in southwestern Oregon.  
FALL WEBWORM damaged pecans in Rolling Plains and Southeast areas of Texas. (p. 562).

DOUGLAS FIR TUSSOCK MOTH serious on firs over 130,000 acres in northeast Oregon; extends into southeast Washington. VARIABLE OAKLEAF CATERPILLAR expected to be heavy over much of Ozark region of Missouri this season. (pp. 562, 563).

Detection

● A REDUVIID BUG reported for the first time in Hawaii. This is a new United States record, but is not known to occur in the continental U.S. (p. 567).

For new county records see page 561.

Special Reports

Distribution of Spotted Alfalfa Aphid. Map. (p. 570).

Reports in this issue are for the week ending August 18 unless otherwise indicated.

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### WEATHER OF THE WEEK ENDING AUGUST 21

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

PRECIPITATION: Thundershowers spotted warm humid areas in the South. These areas extended from the southern Great Plains to the middle and southern Atlantic coast. In general, these showers were mostly light. Other thundershowers, some locally heavy, occurred in connection with fronts. These were over the northern Great Plains and eastward to the Great Lakes. A tornado near Chrisholm in northeastern Minnesota Wednesday injured 1 person, destroyed a barn, killed a horse, and leveled trees. Several tornadoes touched down in Ohio Thursday afternoon. One of the storms destroyed several dwellings in northeastern Ohio. Another unroofed some barns and broke windows a few miles north of Mansfield. A tornado took off tops of some trees at Green Bottom, West Virginia, Thursday afternoon. Severe thunderstorms hit Wisconsin and Michigan late Friday and early Saturday. Other thunderstorms struck Minnesota Sunday. Areas in the Rochester vicinity received hail with heavy showers. Hail as large as golf balls and water measured 3 feet in depth at Plainview. Heavy thunderstorm activity also occurred in spots in the South. A thunderstorm accompanied by winds gusting to 60 m.p.h. dumped almost an inch of rain in an hour at Atlanta, Georgia, Sunday. Other thunderstorms occurred in the Pacific Northwest, the Rocky Mountains, and from the Ohio River Valley to southern New England. Weather of the week continued on page 566.

## SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - MAINE - Continued problem on corn; mostly light or noneconomic, with one field severely damaged. Late corn or corn not yet tasseling most likely to be damaged. Infestations heaviest in western and central areas. Larvae severely defoliated 14 acres of grass hayland near Belfast, Waldo County. Damage light to moderate in nearby grass field. In 14-acre field, about 70 percent of larvae dead; no treatment had been made in this field. Mortality due to disease. (Gall, Aug. 11). NEBRASKA - Light on irrigated corn in Dawson County. Present in most fields, but damage not economic; near full grown. (Campbell et al., Aug. 11). KANSAS - Caused 25 percent foliar loss in Stevens County cornfield; larvae, mostly fourth instar, averaged 2.5 per plant, mostly behind sheaths of lower leaves. Most damage to leaves on lower halves of plants. Many pupated, some parasitized by tachina flies and wasps. Similar situation reported in Stafford County cornfield; percent parasitism high. P. unipuncta light in corn in Grant and Seward Counties. No treatment reported, period August 7-11. Current blacklight trap collections indicate significant moth flights in Finney and Republic Counties. (Bell). NEW MEXICO - Damaging irrigated pasture at Ocate, Mora County. (J. Durkin). ALABAMA - This species and Spodoptera frugiperda (fall armyworm) heavy in localized Coastal Bermuda grass fields in Macon, Talladega, and Chambers Counties. (Bowling et al.). GEORGIA - Light on millet in Meriwether County. (Godowns).

CORN EARWORM (Heliothis zea) - NEW JERSEY - Moths and eggs found on sweet corn for first time this season in Martinsville area of Somerset County. (Ins.-Dis. Newsltr.). MARYLAND - Ear infestations ranged 4-50 percent in sweet corn for processing in Caroline County. Generally increased in ears in all sections. (U. Md., Ent. Dept.). VIRGINIA - Light in corn in mountain counties of Augusta, Rockingham, Rockbridge, Botetourt, Roanoke, and Montgomery. Based on 10 fields sampled, 2 percent of ears infested. Infestation less than for this area in 1971 and less than current infestation in Coastal Plain area. (Allen). GEORGIA - Ranged 1-10 per row foot across peanut belt. (French). ARKANSAS - Increased but reached treatment level in very few soybean fields. Larvae in 19 of 25 fields in Desha, Lincoln, and Jefferson Counties; infestation above treatment level in 2 fields. Highest count 3.4 per row foot. Lighter in Grand Prairie area. Only few fields infested in northeast and east-central areas. Next 21 days critical for infestations in soybeans. (Boyer).

MISSOURI - Light, (mainly first and second-instar larvae) 3-14 per 100 heads, in compact headed varieties of sorghum in southwest area. Plants with 1-9 percent whorl feeding seen in late planted fields. (Craig). MINNESOTA - H. zea larvae infested corn throughout southwest, west-central, and central districts; 10+ percent of ears infested in 75 percent of fields in southwest district. Infestations spotty in central district; ranged up to 20 percent. Heaviest in west-central district where 50 percent of ears infested. Larvae problem to growers of canning or market sweet corn. (Minn. Pest Rpt.). NEBRASKA - Generally light statewide in field and sweet corn. Infested ears averaged less than 1 out of 10 in 13 fields of field corn checked in Lancaster, Seward, Butler, Merrick, and Howard Counties. (Berogan). KANSAS - Infested 95 percent of late corn ears in Linn County. Larvae usually absent but occasionally very light in sorghum heads in southeast district.

None found in soybeans. Averaged 2 larvae per 10 sweeps in 10-inch alfalfa in Elk County. (Bell). OKLAHOMA - Heliothis zea moderate in grain sorghum in Kay County. (Okla. Coop. Sur.). NEW MEXICO - Heavy on corn at Santa Fe, Santa Fe County; larvae in 80 percent of ears. (N.M. Coop. Rpt.). UTAH - Infestations of sweet corn ears ranged 0-3 percent in Cache and Box Elder Counties, 0-5 percent in Weber County. (Knowlton). CALIFORNIA - Larvae, mostly first and second instar, increased in sweet and field corn. Larvae in alfalfa in Kern County. (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - MAINE - Continued to increase on corn; severe in 7 fields. Fungus very apparent; counts showed 90 percent of aphids dead in fields infested earlier. (Gall). NEW HAMPSHIRE - Built up on tassels of sweet corn. (Bowman, Aug. 17). MARYLAND - Heavy populations on corn declining due to parasitism and predation. (U. Md., Ent. Dept.). VIRGINIA - Infestations in corn in mountain counties of Augusta, Rockingham, Roanoke, and Botetourt under control; probably due to predators. (Allen). KANSAS - Some grain and forage sorghum treated for heavy whorl infestations near Walnut, Butler County. Surveys in area revealed some moderate to heavy whorl infestations in late planted sorghum, but infestations declining rapidly as crop reaches boot stage. (Bell). ARIZONA - Increased in Yuma County grain sorghum. (McHenry).

GREENBUG (Schizaphis graminum) - NEBRASKA - Ranged 150-300 per lower leaf in 4 sorghum fields in Red Willow and Frontier Counties; indicates slight increase. Parasitism increased; 1-20 percent of aphids mummified. (Campbell, Aug. 9). KANSAS - Decreased in sorghum generally in southwest district where parasitism by Lysiphlebus testaceipes (a braconid) continued to increase. Few economic S. graminum infestations in southwest district. Parasitism increased in west-central and northwest districts. (Bell, Aug. 11). Currently very light or nonexistent in sorghum throughout State. Ranged zero to maximum of 12 live aphids per plant in sorghum surveyed in west-central and northwest districts; parasitism by L. testaceipes ranged 70-100 percent. In southeast district, up to 30 S. graminum per sorghum plant found in Butler County; none or trace infestations seen on sorghum in Elk, Cherokee, Crawford, and Bourbon Counties. (Bell).

ARKANSAS - No S. graminum found in most northeast and east-central area sorghum; very low counts in Independence County. Rains and high humidity important in reducing infestations that were very heavy in some areas 28 days ago. (Boyer, Aug. 11). OKLAHOMA - Heavy in sorghum in Caddo and Washita Counties; heavy parasitism reported. Predators and parasites reduced numbers to light in Beaver County sorghum during the past 14 days. (Okla. Coop. Sur.). TEXAS - Heaviest on sorghum in scattered fields in Knox, Hardeman, and Jones Counties. Light in Martin and Midland Counties, moderate to heavy in Pecos and Reeves Counties, all in Trans-Pecos area. Decreasing in most sorghum in South and High Plains. In most fields in Lubbock area, braconid parasites all but eliminated greenbug infestations. Greenbug generally declined on High Plains due to parasites. S. graminum lighter over area than for past several years. Beneficial species aided in keeping infestations under control. (Boring et al., Aug. 11). NEW MEXICO - Populations remain medium to heavy on all stages of sorghum in Curry and Roosevelt Counties. (N.M. Coop. Rpt.).



POTATO LEAFHOPPER (Empoasca fabae)- OHIO - Adults and nymphs ranged 0.5-3 per sweep in hay fields in Preble, Clark, Fayette, Butler, and Union Counties and in mixed clover and timothy in Clermont, Montgomery, and Fayette Counties. Yellowing of hay evident in Clark, Fayette, and Union Counties. (Fox). INDIANA - Economic, about 50 per sweep, in one central district alfalfa field. Alfalfa mostly newly cut or short regrowth, ranged up to 20 inches. (Meyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Some significant infestations found in alfalfa in Sedgwick and Reno Counties; heaviest infestations caused very little leaf shedding. Hippodamia convergens (convergent lady beetle) usually heavy in heavier infested fields; appear to be exerting much control. T. maculata ranged 200-2,500 per 10 sweeps in 5 fields of 8 to 12-inch alfalfa in Sedgwick County, 150-1,500 per 10 sweeps in 3 fields of 5 to 10-inch alfalfa in Reno County. (Bell). COLORADO - Increased in most areas of Arkansas Valley; ranged 0-3,000 per 100 sweeps. Serious threat to new stands of alfalfa already planted or those to be planted. (Schweissing). NEVADA - Ranged 40-50 per sweep in seed alfalfa. Heavy buildup of predators, 5-6 per plant and 20-30 per sweep, in Dixie Valley, Pershing County. (Lauderdale).

TOBACCO HORNWORM (Manduca sexta) - OHIO - Damage light on less than 10 percent of tobacco plants checked in Preble and Butler Counties. Damage ranged light to moderate on 60 percent of plants checked in Brown County. (Fox).

#### CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Stalk and ear infestations increased steadily in field and sweet corn on Eastern Shore. (U. Md., Ent. Dept.). DELAWARE - Adults in blacklight traps averaged 9 per night at 5 locations in Sussex County. (Burbutis, Kelsey). NEW HAMPSHIRE - First brood pupated. Some moths in flight. (Bowman, Aug. 17). MICHIGAN - Adult activity increased generally. When comparing this second generation emergence to past years, it appears to be right on time. (Sauer). WISCONSIN - Blacklight trap catches indicate heavy moth activity in some areas, no significant increases in other areas. Egg masses exceed one per 10 plants in few fields of sweet corn in Waushara and Green Counties. Some treatment underway August 15 in Columbia, Green Lake, and Waushara Counties. Large acreages of sweet corn sprayed in Ozaukee and Sheboygan Counties. (Wis. Ins. Sur.). IOWA - Second-brood adult emergence peaked. Flight much lighter than in 1971. Egg masses found on 10 percent of plants; infestation of 30 percent of plants expected. Larval hatch and survival high. Light damage by second brood expected. (Iowa Ins. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Reduced stands of late-planted sorghum across southern area. (French, Aug. 11).

SORGHUM WEBWORM (Celama sorghiella) - KENTUCKY - Averaged one per sorghum head in Todd County. (Barnett, Raney). MISSOURI - Ranged 1-5 larvae per head in early planted, compact headed varieties of sorghum. (Craig).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - KANSAS - Most larvae in corn in west-central and northwest districts in late instars and have entered ears. Percent plants infested, 3 fields per county: Scott 0-20, Wichita 16-60, Greeley 0-100, Wallace 4-24, Thomas 0-12, Sherman 12-32. Generally, economic infestations more prevalent this year than in 1971. (Bell).

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Increased on sorghum in Trans-Pecos and Panhandle areas. Damage ranged light to moderate in isolated sorghum in Pecos County. (Neeb et al., Aug. 11).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - MISSOURI - Light in southwest area. Adults seen in Oregon County. This is a new county record. (Craig). NEBRASKA - Adults of this corn pest ranged 2-9 per plant in 12 cornfields in Red Willow, Frontier, and Lincoln Counties. Pollination complete in most fields, silk feeding light. (Campbell, Aug. 9). Adults averaged 2 per corn plant in 65 fields in Dawson County; 19 fields lodged. Population heavier than in 1971. (Pruess, Mayo, Aug. 11). Current infestations ranged 0-20 per plant in 13 cornfields in Lancaster, Seward, Butler, Merrick, and Howard Counties and 0-8 per plant in 9 fields in southern areas. Populations generally heavier in 1972 than last several years. (Keith, Berogan). SOUTH DAKOTA - Present in 200-acre cornfield near Oral, Fall River County. Averaged 1 adult per stalk in portions of field; averaged 4 adults per stalk in more heavily infested areas of field. (Jones). MICHIGAN - Adults taken from field corn at Schoolcraft Township, Kalamazoo County, August 14 by R.B. Bailey. Determined by D.K. Young. This is a new county record. (Sauer).

INDIANA - D. virgifera adults taken in Benton County August 4 by R. Elliott and in Pulaski County August 8 by P. Lehker on corn grown for grain. These are new county records. Benton County is southernmost record of this pest in State. Surveys indicate counts up to 2 per plant in western Kosciusko County where pest not taken in 1971 and at only one site in 1970. (Turpin, Aug. 11). Specimen taken in Miami County by P. Lehker on August 16, 1972. This is a new county record. (Lehker).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - INDIANA - Twenty-five plants in each of 47 cornfields checked for this species. Adults averaged 0.65 (ranged 0-86) per 25 plants in 16 fields in west-central district; averaged 0.29 (ranged 0-30) per 25 stalks in 18 fields in central district; averaged 0.53 (ranged 0-82) per stalk in 13 fields in east-central district. (Meyer). NEW JERSEY - Adults ranged 8-10 per plant on field corn in Hunterdon and Warren Counties where corn followed corn. (Ins.-Dis. Newsltr.).

CONCHUELA (Chlorochroa ligata) - TEXAS - Still infested sorghum in Knox, Haskell, McCulloch, and Tom Green Counties in Rolling Plains. Heavy, ranged 4-5 per head in several fields; ranged 30-60 per head in many heads where heavy populations concentrated in areas of field. Present in scattered fields over South Plains; heaviest in Crosby County. Damaging in some fields near Plainview and Tulia in southern High Plains. (Boring et al., Aug. 11).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Infested sorghum in Knox, McCulloch, Tom Green, and Jones Counties; 1-2 midges per head in blooming sorghum. Light in Hall County. Midge emergence continued light on South Plains. (Boring et al., Aug. 11).

ARKANSAS - Contarinia sorghicola increase continued, but most sorghum blooming and past damage. (Boyer, Aug. 11). TENNESSEE - Damaged late sorghum in western area. (Locke).

BANKS GRASS MITE (Oligonychus pratensis) - TEXAS - Light on grain sorghum in Midland County. Activity moderate to heavy in El Paso County. Still infesting sorghum in several counties around Potter County. (Neeb, Clymer, Aug. 11). OKLAHOMA - Heavy on sorghum in Caddo County. (Okla. Coop. Sur.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - COLORADO - Light to moderate on corn on Western Slope; occurred mostly on lower leaves. (Bulla).

#### TURF, PASTURES, RANGELAND

BLUEGRASS BILLBUG (Sphenophorus parvulus) - NEBRASKA - In commercial bluegrass sod planting near Omaha, Douglas County, 74 adults, 7 larvae and 2 pupae taken in sample of 5 square feet. (Kindler).

FALL ARMYWORM (Spodoptera frugiperda) - GEORGIA - Very heavy on brown-top millet in Meriwether County. (Godowns).

TWOLINED SPITTLEBUG (Prosapia bicincta) - GEORGIA - Heavy on Coastal Bermuda grass pastures in Madison County. (Welborn).

#### FORAGE LEGUMES

ALFALFA LEAF BLOTCH-MINER (Agromyza frontella) - MASSACHUSETTS - Mined 26 percent of leaflets in untreated, mature alfalfa stand in Hampshire County. In nearby treated stand, only 12.5 percent of leaflets mined. (Capinera). NEW HAMPSHIRE - Caused no significant loss to second-cutting alfalfa. (Bowman, Aug. 17). MAINE - Infestation ranged 10-20 percent in alfalfa. (Gall).

ALFALFA WEEVIL (Hypera postica) - OREGON - Larvae collected in large alfalfa field 4.5 miles north-northwest of Junction City, Lane County; 10 taken June 16 and 8 taken June 22. This is a new county record. (Ritcher). COLORADO - Larvae increased on alfalfa in many areas of Arkansas Valley, ranged 0-800 per 100 sweeps; damage negligible in most cases. (Schweissing). OHIO - Larval counts may increase in northern two-thirds of State during September but no economic damage to alfalfa expected. Mature adults have been collected in Knox, Wayne, Wood, Hancock, Allen, and Pickaway Counties. Egg counts 14 per square foot in Pickaway County and 71 per square foot in Hancock County. (Flessel).

PEA LEAF WEEVIL (Sitona lineatus) - WASHINGTON - Adults heavily damaged alfalfa and late-planted garden peas at Pullman, Whitman County. (Telford).

PEA APHID (Acyrtosiphon pisum) - COLORADO - Populations in alfalfa varied in Arkansas Valley, ranged 0-3,500 per 100 sweeps. Damage not evident in fields checked. (Schweissing). NEVADA - Ranged 15-25 per sweep on alfalfa, heavily parasitized by Aphidius sp., in northwest Humboldt County. (Martinelli, Rowe).

ARMYWORMS - WASHINGTON - Unspecified species reported on seed alfalfa north of Pasco, Franklin County, in CEIR 22(30):477 determined as Amathes c-nigrum (spotted cutworm), Spodoptera

exigua (beet armyworm), and Peridroma saucia (variegated cutworm); bulk of infestation confirmed as Mamestra configurata (bertha armyworm). Determined by M.R. Gardner and R.E. Somerby. (Johansen).

GRASSHOPPERS - WISCONSIN - Populations unchanged. Absence of first instars in alfalfa indicates prolonged hatch of Melanoplus femurrubrum completed. Diseased specimen exhibiting symptoms resembling Empusa grylli (a fungus) observed in roadside grass in southern Dane County. Decrease in grasshopper numbers, due to unknown causes, noted in one area of Dane County. Damage by M. femurrubrum currently of little concern due to lush growth of alfalfa. (Wis. Ins. Sur.).

#### SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adults present in many Eastern Shore fields but feeding and egg laying noneconomic to date. Expected to increase during late August. (U. Md., Ent. Dept.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ALABAMA - Adults heavy and leaf feeding evident in 2 Wilcox County soybean fields August 10. Occasionally found in Sumter and Butler Counties. (Henderson, Farquhar).

GREEN CLOVERWORM (Plathypena scabra) - KENTUCKY - Larvae per 360 row feet of soybeans averaged 12 in Caldwell County, 61 in Hickman County. (Barnett, Raney).

#### PEANUTS

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Ranged light to moderate in dryland and irrigated peanuts in Caddo County. (Okla. Coop. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Increased rapidly in peanuts in Cross Timbers area near Stephenville. Small larvae in fields in Gorman and De Leon areas. Continued heavy in sandy, dryland areas. (Hoelscher).

GRANULATE CUTWORM (Feltia subterranea) - ALABAMA - Heavy in many peanut fields in several southeast counties. (Walton et al.).

#### COTTON

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Punctured squares ranged 4-97 percent. Second-generation "hatchout" expected by August 27 in older cotton. Migration to lightly infested and noninfested fields underway. Control with ground equipment very difficult in rank cotton. Conditions remain ideal for further increase. (Locke). SOUTH CAROLINA - Larval infestations in Florence area ranged 0-3 percent in treated plots, 4-18 percent in control plots. Adults per acre ranged 0-1,452 in treated plots, 1,867-4,900 in control plots. Populations remained low throughout area. Infestations increased rapidly in some fields due to emergence of second-generation adults. (Taft et al., Aug. 16). GEORGIA - Increased over southern area. (Womack, Barry, Aug. 11). Up to 100 percent weevil punctured squares in some fields in southern part of State where controls ended; 0-8 percent punctured squares in Crisp and Wilcox Counties. (Barry, Womack). ALABAMA -

Anthrenus grandis still heavy throughout south and central areas; generally 10-70 percent square infestation. Square damage 10-80 percent in most northern fields, including mountain area. Controls applied in most fields in extreme northern area. Controls delayed by rainy weather. Heavy weevil "hatchouts" in northern cotton producing area during early August, resulted in very heavy populations in most fields. Most fields under control. Weevils in south and central areas feeding and laying eggs in bolls. (McQueen). LOUISIANA - Increase will continue for remainder of season. (Tynes, Aug. 14). In Madison Parish, punctured squares found in 78 of 80 plots. Ranged 1-35 (averaged 7.2) percent in 78 plots. Punctured squares found in 3 of 4 fields; ranged 2-35 percent in infested fields. In Tensas Parish, punctured squares 2 percent in one field in area that received diapause control in fall 1971. Infestation ranged 6-47 (averaged 18) percent in 4 fields in untreated area. (Cleveland et al.).

ARKANSAS - A. grandis infestations showed marked increase in northeast areas. (Kimbrough). OKLAHOMA - Infestations ranged 10-30 percent in Washita and Caddo Counties, 5-22 percent in Bryan County, 2-25 percent in Muskogee County, 4-22 percent in Wagoner County; averaged 10 percent in Marshall County. Reported light to moderate in Garvin County. Ranged 0-3 percent in Tipton area, Tillman County. (Okla. Coop. Sur.).

BOLLWORMS (Heliothis spp.) - TENNESSEE - H. zea increased rapidly over western area. Egg and larval counts ranged 1-8 per 100 terminals in late cotton. Further increase expected. Eggs found down in plants as well as on the terminals. (Locke). SOUTH CAROLINA - Heliothis spp. moth activity and egg laying continued to increase in Florence area. Larval damage increased to near total crop destruction in few unprotected fields. Larval infestation ranged 1-18 percent in treated plots, 4-39 percent in control plots. (Taft et al., Aug 16). GEORGIA - Counts per 100 terminals by county: Crisp 11-62 eggs, 1-6 larvae; Wilcox 18-163 eggs, 2-11 larvae. (Nix, Hudson). Egg laying still heavy in southern areas with larval damaged bolls in some areas. (Womack, Barry). LOUISIANA - Activity increased Statewide. Eggs and larvae abundant; applications should be kept on schedule. (Tynes, Aug. 14). In Madison Parish, damaged squares found in 66 of 80 plots; ranged 1-8 (averaged 3.4) percent in infested plots. Damaged squares found in 3 of 4 fields; infestation 6 percent in each infested field. In Tensas Parish, damaged squares found in 3 of 5 fields; infestation 3 percent in one field, 1 percent in each of 2 fields. (Cleveland et al.).

ARKANSAS - H. zea moths ranged 100-280 per night in light traps at Pickens, Desha County. Moths less than 30 per 0.5 mile of sugarline. Heliothis spp. eggs up to 80 and larvae up to 84 per 100 terminals in southeast area. These counts correlate with moth catches at Pickens. (Boyer, Lincoln, Aug. 11). H. zea moths peaked in light trap in Desha County August 6 when 724 moths taken. (Holloway). Moths continued active in southeast; increased in areas farther north. At Marianna, Lee County, 43 moths taken in light trap August 6 and 75 taken August 9. Only 7 moths on cotton and 4 on soybeans observed night of August 8 on 0.5 mile

sugarline in Lee County. (Sterling). OKLAHOMA - H. zea percent damaged square counts by county ranged 5-40 in Bryan, 1-12 in Muskogee, 1-10 in Wagoner. Eggs ranged 0-78 per 100 terminals in Bryan County, 0-9 in Muskogee County, 1-6 in Wagoner County. Larvae ranged 0-13 per 100 terminals in Bryan County, 0-5 in Muskogee County, 1-6 in Wagoner County. Damaged squares averaged 8 percent in Marshall County, less than 1 percent in Tillman County. Reported light in Washita, Caddo, and Garvin Counties. (Okla. Coop. Sur.). ARIZONA - H. zea light with very little damage in Graham County. (Pearson, Sears). CALIFORNIA - H. zea moved into cotton fields rapidly in Kern County. Counts ranged 8-25 per 100 plants generally; ranged 35-50 per 100 plants locally. Moth flights peaked about August 7. (Cal. Coop. Rpt.).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Heavy influxes into cotton resulted from alfalfa hay cutting near cotton fields. Many bolls show black spotting. Problems occurred from Tulare County south. (Cal. Coop. Rpt.).

#### TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Adults averaged 6 per plant in Caldwell County, 10 in Christian County. Averaged 1.2 per leaf in Grant County, 1.1 in Harrison County, and 1.3 in Henry County. Tobacco showed minor damage in Fayette, Owen, and Nicholas Counties. Light damage observed in Scott County, light to medium in Robertson County. Population light this year, but began to increase slowly past 7 days. This slow increase expected to continue until harvest. (Barnett).

GRASSHOPPERS - KENTUCKY - Caused minor damage to tobacco in Nicholas and Nelson Counties. Damage evenly distributed over fields, not confined to borders. (Barnett).

#### MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - NEBRASKA - Larvae, second instar to full grown, ranged 5-25 per sunflower head in several fields near Schuyler, Colfax County. (Keith, Kantor, Aug. 9). IOWA - Infested up to 95 percent of heads in Polk County sunflower field. Larvae ranged 3-13 (averaged 7) per head. (Iowa Ins. Sur., Aug. 11).

#### POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MAINE - Larvae and second-generation adults reported in plots on Aroostook Farm in Aroostook County. Small populations in many other potato fields throughout central area. (Gall, Aug. 11). NEW HAMPSHIRE - Adults and larvae caused heavy damage at Dover on unsprayed egg plants. Potatoes in same plot destroyed previously, tomato loss expected. (Bowman). MARYLAND - New generation of larvae damaged tomatoes at several locations in Harford County. (U. Md., Ent. Dept.).

VARIEGATED CUTWORM (Peridroma saucia) - MAINE - Continued threat in many central area potato fields. Larvae ranged up to full grown. Few dead larvae found in unsprayed fields. Growers should continue to check fields for larvae and damage to potatoes. (Gall, Aug: 11).

GREEN PEACH APHID (Myzus persicae) - MAINE - Winged aphids and aphids with wing pads continued very common in potato fields in Aroostook County. Leaf roll noted on scattered plants; growers should keep watch on fields. (Gall).

## BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - WEST VIRGINIA - Adults and larvae caused 90 percent damage to unsprayed green beans in Fayette and Kanawaha Counties. (Hacker).

BEAN APHID (Aphis fabae) - MICHIGAN - Built up on all types of beans in all areas of State. Growers advised to check fields and take necessary action. (Sauer).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Ranged light to heavy on peas and lima beans in southwest area. (Rogers et al., Aug. 11).

EUROPEAN CORN BORER (Ostrinia nubilalis) - GEORGIA - Damaged peas in Spalding County. (Dupree). Ranged light to moderate on peas in southwest area. (Wheeler, French, Aug. 11).

## DETECTION

New State Record - A REDUVIID BUG (Ectomocoris biguttulus) - HAWAII - Oahu. (p. 567). This is also a new United States record, but the species is not known to occur in the continental U.S.

New County Records - ALFALFA WEEVIL (Hypera postica) OREGON - Lane (p. 557). ELM LEAF BEETLE (Pyrrhalta luteola) NEW MEXICO - Harding (p. 563). MIMOSA WEBWORM (Homadaula anisocentra) OKLAHOMA - Marshall (p. 563). SPRUCE BUD SCALE (Physokermes piceae) OREGON - Marion, Polk (p. 562). WESTERN CORN ROOTWORM (Diabrotica virgifera) MISSOURI - Oregon. MICHIGAN - Kalamazoo. INDIANA - Benton, Pulaski, Miami (p. 556).

## CORRECTIONS

CEIR 22(30):481 - New State Records - "ALFALFA LEAF BLOTCH-MINER (Agromyza fontella) ..." should read "... (Agromyza frontella)"

CEIR 22(31):499 - FORAGE LEGUMES - "PEA LEAF WEEVIL (Sitona lineata) ..." should read "... (Sitona lineatus) ..."

CEIR 22(32):529 - Line 9: "... I. julis emerged. (Sauer)." should read "... T. julis emerged. (Sauer)."

CEIR 22(32):529 - GRASSHOPPERS - Line 16: "... and I. strenua at Carson City, ..." should read "... T. strenua at Carson City, ..."

CEIR 22(32):530 - GYPSY MOTH (Porthetria dispar) - TENNESSEE - "... camp ground at Regean Forge, ..." should read "... camp ground at Pigeon Forge, ..."

## DECIDUOUS FRUITS AND NUTS

REDHUMPED CATERPILLAR (Schizura concinna) - WASHINGTON - Heavy defoliation of unsprayed apples and crab apples still reported in Pullman, Whitman County; also, infesting chokecherry. Larval growth about completed, some early instars seen. (Harwood).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - OREGON - Increased in Jackson County peach orchards. Up to 120 adults per pheromone trap in 2 days. Flagging injury evident and larval damaged peaches easily found. (Berry, Larson).

CODLING MOTH (Laspeyresia pomonella) - COLORADO - Emergence continued in all areas with large numbers taken in Mesa County area. Catches ranged 10-30 per pheromone trap per day in some heavier infested areas. (Bulla). MASSACHUSETTS - Moths averaged 1.5 per trap in sprayed orchard, 1 per trap in abandoned orchard in Hampshire County. (Capinera, Aug. 11).

APPLE MAGGOT (Rhagoletis pomonella) - MICHIGAN - Emergence peaked, egg laying continued. Oviposition and larval blemish or deformed fruit easily seen in abandoned and poorly managed orchards. Larvae found in infested fruit, especially early varieties. (Sauer).

EUROPEAN RED MITE (Panonychus ulmi) - MASSACHUSETTS - Average per leaf on untreated Red Delicious and McIntosh varieties respectively in Hampshire County: Eggs 85 and 89; adults 33 each. (Blyth).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Increased in unsprayed orchards in Washington, Wilcox, Houston, Geneva, Covington, and Henry Counties. (McQueen). TEXAS - Continued damaging pecans in Wilbarger and Wichita Counties in Rolling Plains, and in Brazos, Grimes, Waller, and Fort Bend Counties in Southeast. (Boring, Green, Aug. 11).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Moderate to heavy on pecans in Pecos, Reeves, Ward, Winkler, Midland, and Glasscock Counties. (Neeb, Aug. 11).

## ORNAMENTALS

SPRUCE BUD SCALE (Physokermes piceae) - OREGON - Moderate on specimen Black Hills spruce in Salem, Marion County. Tree imported 15 years ago. Young scales mostly on undersides of needles. Also found on large Colorado Blue spruce in West Salem, Polk County. These are new county records. (Westcott, Long).

GARDEN SYMPHYLAN (Scutigera immaculata) - OREGON - Caused severe damage to 4-acre planting of rhododendron in Portland area, Multnomah County. Controls applied. (Nicolaison).

## FOREST AND SHADE TREES

DOUGLAS FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) - OREGON - Reached epidemic levels on about 130,000 acres of fir in parts of Grant, Umatilla, Union, and Wallowa Counties, extending into Washington. Tree mortality seen in local areas. Larvae severe problem to logging operations, many loggers experienced severe reactions from urticating hairs of larvae. Pupation occurred and



some emergence seen. (Dolph, Gresbrink). WASHINGTON - Larvae caused serious damage to some white fir, tamarack, and other forest plants at Dayton, Columbia County. (Sunderland, Telford). Late larvae, prepupae, and pupae found on spruce at Puyallup, Pierce County. Severe defoliation reported. (Collman).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - WEST VIRGINIA - Adults, pupae, and larvae taken from pitch pine, 175-200 trees destroyed or dying because of pest in association with blue stain fungus. This is first record of insect in State since 1882. Collected August 18, 1972, in Kanawha State Forest, Kanawha County, by J.D. Hacker. Determined by A.E. Cole and J.D. Hacker. (Hacker).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEW MEXICO - Medium to heavy on elm trees in Grant and Sierra Counties. Many trees completely defoliated, appear dead. Damaged elm trees in Roy and Mosquera, Harding County. This is a new county record. (Hare).

LARGER ELM LEAF BEETLE (Monocesta coryli) - GEORGIA - Caused up to 100 percent defoliation of elms in Greene, Lincoln, Wilkes, Jasper, Spalding, Oglethorpe, Madison, and Clarke Counties. Appears heavier in lowlands than in highlands. (Smith).

ALABAMA - Larvae practically defoliated numerous large elms along 2 major creeks in Chambers and Lee Counties. (McQueen).

VARIABLE OAKLEAF CATERPILLAR (Heterocampa manteo) - MISSOURI - Adults appeared at lights in central part of State. Main flight expected in 7-14 days. Larvae expected to be heavy over much of central Ozark region this season. Controls recommended only on young ornamental oak plantings. (Craig).

MIMOSA WEBWORM (Homadaula anisocentra) - OKLAHOMA - Second-generation adults seen at lights in Payne County. Heavy in Oklahoma County. Larvae infested 60 percent of mimosa trees checked in Marshall County. This is a new county record. (Okla. Coop. Sur.).

WALKINGSTICK (Diaperomera femorata) - MISSOURI - Nymphs heavy on shade trees in Lake of the Ozarks region. (Munson).

#### MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 3,405 confirmed cases reported in continental U.S. during period August 6-12 as follows: Texas 3,253; New Mexico 62; Arizona 70; California 1; Oklahoma 18; Arkansas 1. Screwworm cases reported from 215 Texas counties this period compared to 211 counties last period. Total of 1,000 cases confirmed in Mexico August 6-12. Number of sterile flies released in U.S. this period totaled 168,860,000 as follows: Texas 146,940,000; New Mexico 5,260,000; Arizona 15,010,000; California 850,000; Arkansas 800,000. Total of 27,796,000 sterile flies released in Mexico. (Anim. Health).

FACE FLY (Musca autumnalis) - PENNSYLVANIA - Averaged 15 per cow on 25 Holsteins and 30 per cow on 40 Jerseys on pasture in Jamestown, Mercer County. (Ode). OHIO - Averaged 25+ per face on Guernsey and Black Angus cattle in Preble and Brown Counties, 13 in Fayette County; on Holsteins, 18 in Stark and 12 in Wayne Counties. (Fox, Heller). KENTUCKY - Average by county per head of cattle: 21.3 on various breeds in Owen County, 28 on Holsteins in Scott County, 12.4 on Herefords in Nelson County, 2.8 on

various breeds in Larue County, 22.6 on various breeds in Henry County, 19.3 on various breeds in Robertson County, 25.6 on Charolais in Harrison County. (Barnett). WISCONSIN - Light to moderate on cattle in most counties; heavy in Richland County. (Wis. Ins. Sur.). SOUTH DAKOTA - Counts per head on untreated cattle in northern Moody County August 5: Cows 5-30 (averaged 20), calves 0-12 (averaged 6), bulls 20 per head; counts August 10 ranged 7-25 (averaged 9) on cows, 0-8 (averaged 5) on calves, with 15 per head on bulls. (DeFosse). NEBRASKA - Increased on canyon and river valley herds in Keith and Lincoln Counties. Ranged 16-17 per face on untreated animals, 7-8 per face where dust bags used. (Campbell, Aug. 11). UTAH - Annoyed horses and cattle in many Cache, Box Elder, and Weber County localities. (Knowlton).

HORN FLY (Haematobia irritans) - OHIO - Counts low, 2-3 per side, on 10-20 percent of Holstein cows examined in Stark and Wayne Counties. On beef cattle, ranged 45-250+ per side in Fayette County, averaged 80 per side in Brown County. (Fox). FLORIDA - Light, averaged 34 per animal, on dairy cows at Gainesville, Alachua County. (Fla. Coop. Sur.). WISCONSIN - Light to moderate on treated dairy cattle in all areas. (Wis. Ins. Sur.). SOUTH DAKOTA - Counts per side on untreated cattle in northern Moody County August 5: Cows 300-900 (averaged 600), calves 2-20 (averaged 10), bulls 125 per head; counts August 10 ranged 200-650 (averaged 500) on cows, 1-10 (averaged 6) on calves, with 900 per side on bulls. (DeFosse). NEBRASKA - Ranged 500-2,000 per head on several untreated range herds in Keith and Lincoln Counties. (Keith, Aug. 11). OKLAHOMA - Ranged 200-300 per head on cattle in Marshall County. Heavy in Garvin County and moderate in Pawnee County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Ranged 15-20 per leg on untreated feedlot animals in Keith and Lincoln Counties. (Campbell, McEvoy, Aug. 11). WISCONSIN - No annoyance to cattle in Outagamie County, light in Chippewa County, moderate in Rock County, severe in Columbia County. Controls underway in all areas. Annoyance to man reported from Vilas, Walworth, Jefferson, Fond du Lac, and Bayfield Counties. (Wis. Ins. Sur.).

MOSQUITOES - MINNESOTA - Annoyance acute in Hennepin, Anoka, Scott, Dakota, Ramsey, and Washington Counties due to hot, humid weather which promoted mosquito flight. (Minn. Pest Rpt.). WISCONSIN - Biting increased past 14 days. Problem populations reported in Walworth, Calumet, Richland, Washburn, Dane, and Trempealeau Counties. Populations light in Vilas County, probably due to cooler temperatures. (Wis. Ins. Sur.). NEBRASKA - Aedes vexans ranged 100-150 per head on river bottom herds pastured in Keith and Lincoln Counties. (Campbell, McEvoy, Aug. 11). UTAH - Mosquitoes very annoying at Brigham City, Corinne, Locomotive Springs, and other localities in Box Elder County. (Knowlton, Lindsay).

#### BENEFICIAL INSECTS

LADY BEETLES - KANSAS - Stethorus sp. adults averaged 4 per leaf on ornamental sumac infested with spider mites; larvae and pupae present. Spider mites reduced to low level by this predator. Hippodamia convergens adults ranged 2-60 per 10 sweeps in alfalfa infested with Therioaphis maculata (spotted alfalfa aphid) in

Segdwick and Reno Counties; H. convergens larvae ranged 0-70 per 10 sweeps. (Bell, Aug. 11).

GREEN LACEWINGS (Chrysopa spp.) - OKLAHOMA - Eggs averaged 100,000 per acre in cotton checked in Tillman County, 1 per leaf in Wagoner County. Heavy in sorghum in Beaver County. (Okla. Coop. Sur.).

#### FEDERAL AND STATE PLANT PROTECTION PROGRAMS

COMSTOCK MEALYBUG (Pseudococcus comstocki) - CALIFORNIA - Treatment within Porterville, Tulare County, and in commercial citrus progressing. Survey negative in Exeter and Lindsay areas. Mortality 100 percent on mulberry in Lindsay area after second control application on 205 properties. (Cal. Coop. Rpt.).

EUROPEAN CRANE FLY (Tipula paludosa) - WASHINGTON - Pupae first found August 8 at Lynden, Whatcom County. More extensive sampling August 9 at same locality showed 6 percent pupation, remainder larvae. (Jackson).

GRASSHOPPERS - NEBRASKA - Melanoplus spp. heavy, ranged 7-30 per square yard, in field margins and roadside ditches at scattered locations in Seward and Merrick Counties. (Berogan). NEW MEXICO - Grasshoppers noneconomic on rangeland in Grant and Hidalgo Counties. Surveys incomplete in Dona Ana, Luna, and Sierra Counties. (Hare). UTAH - Infestations spotty in many range areas in Box Elder County; moved into some alfalfa in Fielding area. (Knowlton, Lindsay). NEVADA - M. sanguinipes and M. bivittatus, third instar to adult, ranged 5-6 per square yard along margins, at Happy Camp, Humboldt County. (Martinelli, Rowe). WASHINGTON - Heavy outbreak, near 100 per square yard, on about 15,000 acres in Spokane County. M. sanguinipes, M. bivittatus, Melanoplus spp., Cannula pellucida, and other banded-winged species dominant. Apparently hatched on scabland and range areas and flew in to damage small grains and forage crops. (Kelsey, Telford).

GYPSY MOTH (Porthetria dispar) - MARYLAND - Six egg masses and 5 pupae taken in Cecil County. Confirmed by R. Altman and D. Raine. Numerous male moths trapped earlier in infested area. (U. Md., Ent. Dept.). WEST VIRGINIA - Male moths taken in sex-lure traps by A.E. Tustin as follows: Berkeley and Hampshire Counties August 9, determined by E.L. Todd; Jefferson County August 10, determined by D.M. Weisman. (Hacker). Until further survey and investigations are completed to verify the nature of these situations, they will be considered as regulatory incidents. (PP). OHIO - Seven male moths taken in sex-lure traps behind travel trailer and mobile home storage and sales yard in Lorain County. Determined by E.L. Todd. Scouting for egg masses underway. (Roach). Until further survey and investigations are completed to verify the nature of this situation, it will be considered as a regulatory incident. (PP).

JAPANESE BEETLE (Popillia japonica) - PENNSYLVANIA - Total of 1,282 adults collected in 16 bait traps in one locality at State College, Centre County. (Adams). Adults caused serious damage to various ornamentals in Darlington, Beaver County. (Carter). Adult infestation noted on 4 to 5-foot corn in Jamestown, Mercer County. (Ode). WEST VIRGINIA - Adult damage generally light this season;

some reports of heavy damage to unsprayed gardens and ornamental plants. (Hacker). VIRGINIA - Light to medium on corn silks in Augusta, Rockingham, and Rockbridge Counties. Damage seems less than in past years. (Allen).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Increased controls applied to many fields in Graham County. (Pearson, Sears). Infestations mostly under 5 percent in treated fields in Yuma Valley, Yuma County. (McHenry).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA- No active infestations in core area or buffer zone in Siskiyou County. All known infested areas have received 3 treatments; 2 additional treatments schedules for core area. Results of program considered good. Treatment and survey continued at San Jose, Santa Clara County; live specimens still present. (Cal. Coop. Rpt.).

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Weather of the week continued from page 552.

TEMPERATURE: Persistent southerly flow of moist tropical air kept maximum temperatures in the 90s over most of mid-America. The mercury at Bismarck, North Dakota, reached 100 degrees Tuesday and Philip, South Dakota, recorded 101 degrees Thursday. The 90-degree heat spread eastward and by Thursday covered all of Indiana and western Ohio. High humidity made sweltering heat more uncomfortable. Nighttime temperatures remained in the high 60s and 70s. While hot humid weather persisted over the Great Plains and Deep South, cool air slipping down from Canada brought early autumn weather to the Northeast with maximums in the 60's and low 70's from Maryland to Maine by Thursday. Torrid weather continued in the southwestern deserts with maximums exceeding 100 degrees on most afternoons. Onshore ocean breezes in the Pacific Northwest kept daytime temperatures along the coast in the 60's. Inland areas in the Northwest were comfortably warm. Tropical heat persisted over much of mid-America over the weekend. Maximums generally reached the high 80's and low 90's. Minneapolis, Minnesota, registered 97 degrees Sunday afternoon. High humidity made heat feel more uncomfortable. Cooler air from Canada caused a relatively pleasant weekend in the Northeast. Temperatures averaged below normal west of the Rocky Mountains, over the southern Rockies and high Plains of Texas, and along the Atlantic coast. Parts of California averaged 6 to 10 degrees cooler than normal. In contrast, much of the northern Great Plains averaged 6 to 10 degrees warmer than normal.

New State Record - Five specimens of a REDUVID BUG (Ectomocoris biguttulus Stal) taken on 3 occasions in light traps at Hickam Air Force Base, Oahu. Two on August 20, 1971, one during November 1971, and 2 additional specimens on August 1, 1972. Distribution includes southeast Asia. Determined by R.C. Froeschner. (Shiroma).

Corn - CORN EARWORM (Heliothis zea) severe in 6 acres of sweet corn at Pupukeya, Oahu; 100 percent of mature ears with 1+ larvae. Trace in 2 acres of same crop at Waialua; less than 5 percent of ears with early instar larvae. Intensive chemical control practiced in both plantings. (Kawamura).

General Vegetables - BEET ARMYWORM (Spodoptera exigua) and CABBAGE LOOPER (Trichoplusia ni) larvae light to moderate in 2 acres of broccoli at Waialua, Oahu; damage light. All stages of GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) light on young terminal leaves in 0.25 acre of greenhouse tomato at Pupukeya, Oahu. Larval mines of LEAFMINER FLIES (Liriomyza spp.) moderate in older leaves; BROAD MITE (Polyphagotarsonemus latus) generally trace, sporadic, and heavy on few isolated plants. (Kawamura).

Fruits and Nuts - COCONUT LEAFROLLER (Hedylepta blackburni) remained severe on about 1,000 coconut trees used to landscape resort area at Kahuku, Oahu; all except young terminal fronds appear free from damage. Trace number of a hymenopterous parasite cocoon noted in few fluted pinnae. TAHITIAN COCONUT WEEVIL (Diocalandra taitensis) larvae and adults moderate on fronds of coconut trees in residential area at Kailua, Oahu; damage light to moderate. (Kawamura).

Ornamentals - WESTERN FLOWER THRIPS (Frankliniella occidentalis) nymphs and adults light to moderate in flower heads in 0.5 acre of chrysanthemum at Kahaluu, Oahu; approximately 10-15 percent of flowers severely affected. (Kawamura).

Beneficial Insects - Large numbers of a TRICHOGRAMMATID (Oligosita sp.) emerged from eggs of Elimaea punctifera (a tettigoniid) collected from anthuriums at Hilo, Hawaii, during November and December 1971. This is believed to be first report in Hawaii of an Oligosita emerging from eggs of a tettigoniid. (Matayoshi).

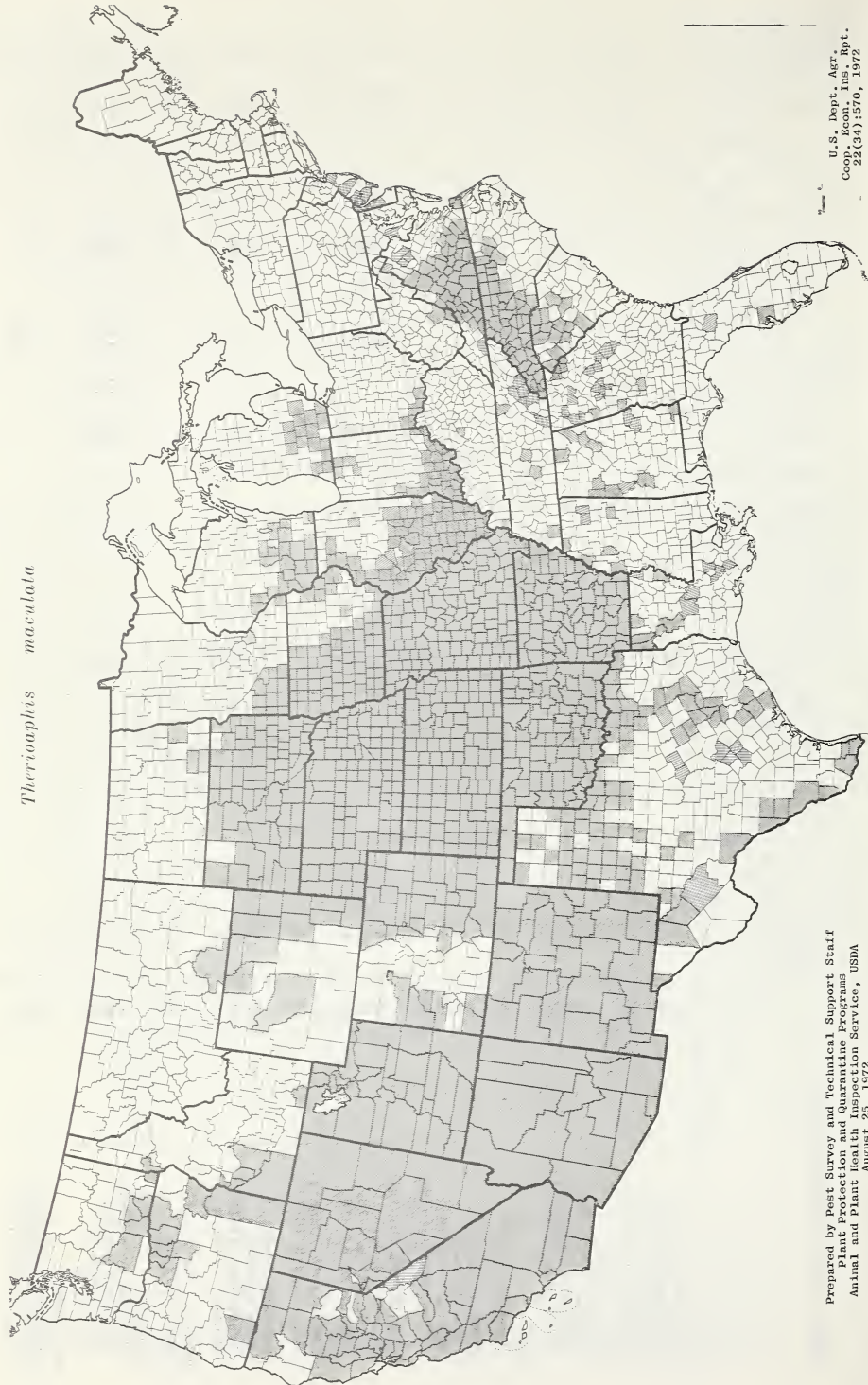
Miscellaneous Pests - GIANT AFRICAN SNAIL (Achatina fulica) - On Hawaii, second of 3 planned aerial drops of snail bait made at Kona. Total of 10,000 pounds of bait applied over area of about 60 acres. On Kauai, one large specimen found at Koloa, about 3 miles north of Poipu infestation; poison bait applied at this and surrounding residences. Surveillance continued at Poipu and Wahiawa, with light hand baiting at Wahiawa. Aerial drops of snail bait planned for coming winter season at Poipu. (Yoshioka, Sugawa).





# Distribution of Spotted Alfalfa Aphid

*Therioaphis maculata*



Prepared by Pest Survey and Technical Support Staff  
Plant Protection and Quarantine Programs  
Animal and Plant Health Inspection Service, USDA  
August 25, 1972

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