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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PROTECTION DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PROTECTION DIVISION

ECONOMIC INSECT SURVEY AND DETECTION

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

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

SPOTTED ALFALFA APHID becoming heavy on alfalfa in southern New Mexico. (p. 400).

BLACK CUTWORM damaged much corn in Iowa and major pest of corn in Illinois. Other CUTWORMS damaged corn in Nebraska. (p. 400).

ALFALFA WEEVIL required no controls by most growers in Maryland for third consecutive year. (p. 402).

COLORADO POTATO BEETLE outbreak worst ever on potatoes in Cache County and still serious in other areas of Utah. (p. 405).

A LEAF BLOTCH MINER a threat to blueberries in New Jersey. (p. 407).

SPRUCE BUDWORM expected to cause heavy defoliation in northeast Minnesota. (p. 408).

HORN FLY economic on livestock in west-central North Dakota. (p. 409).

DEER FLIES, HORSE FLIES, and STABLE FLY annoying to man and livestock in several States. (p. 410).

EUROPEAN CRANE FLY very heavy in lawns in limited area of Washington. GRASS BUGS damaging crested wheatgrass in Utah. JAPANESE BEETLE adults appearing in several States; expect populations to approach destructive numbers in next 14 days in South Carolina. (p. 412).

Detection

● An ADELGID reported for first time from Hawaii is a new Western Hemisphere record. (p. 413).

● A SARCOPHAGID FLY reported for the first time from Arizona. This species previously reported from Columbia, Costa Rica, and Peru. Economic importance not known. This is a new North American record. (p. 414).

New State records include a DARKLING BEETLE from Idaho (p. 410); a DERMANYSSID MITE from Hawaii (p. 413); a HARVESTER ANT from Idaho (p. 401); HOLLYHOCK WEEVIL from Delaware (p. 408); a LACE BUG from Pennsylvania (p. 408); and a LEAFHOPPER from California (p. 407).

For new county records see page 414.

Special Reports

Distribution of Vegetable Weevil. Map. (p. 416).

Reports in this issue are for week ending June 12 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING JUNE 15

HIGHLIGHTS: Cool weather predominated in the West. Numerous severe storms occurred in the central Great Plains.

TEMPERATURE: Mild temperatures prevailed over most of the West early in the week followed by marked cooling which produced below-normal weekly means. Sub-freezing temperatures occurred in northeastern Nevada Thursday morning. The Great Basin and central Rocky Mountains averaged 6° to 8° below normal. Temperatures averaged 6° to 8° warmer than normal over parts of the northern Great Plains and near or slightly above normal over the southern Great Plains. The Northeast was sunny and warm until Thursday. Weekly temperatures averaged above normal in spite of the cool weekend. Mild days and cool nights produced below-normal average temperatures in the Southeast.

PRECIPITATION: Most parts of the Nation were sunny and dry. Widely scattered showers fell in the Central and East. Heavy snow fell above about 7,000 feet in the northern and central Rockies in the latter part of the week. Frazer, Colorado, received 7 inches of snow Thursday forenoon. Violent weather became widespread over mid-American in the latter half of the week. Scattered tornadoes, large hail, high winds, and drenching rains brought destruction to some localities. Hailstones approached the size of baseballs south of Huron, South Dakota, on Sunday. Rains exceeding 8 inches flooded small streams in central Kansas. Tornadoes occurred in several Central States. Strong winds raised clouds of dust in most agricultural areas of Arizona. Rains in the East became more general over the weekend. Totals ranged widely from light sprinkles to an inch or two but most localities received less than 1 inch. (Summary supplied by Environmental Data Service, ESSA.)

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - KANSAS - Late instars moving from bromegrass fields where vegetation destroyed in Riley County. Parasitism 25-30 percent. Some fields still have 4-5 unparasitized small larvae per square foot. (Simpson). NEBRASKA - Larvae ranged 4-8 per square foot at 3 eastern locations. (Roselle). IOWA - Light, 1 per square foot, in bromegrass pastures in Guthrie County. Light trap collections June 1-8: Castana, Monona County, 62; Le Mars, Plymouth County, 12; and Kanawha, Hancock County, 155. (Iowa Ins. Sur.). MINNESOTA - Larvae light in Dakota, Goodhue, Hennepin, Carver, McLeod, and Wright Counties. Highest count 2 per square foot in reed canary grass in Carver County. Light in oats, grassy ditches, and alfalfa. Most in second instar, few third to fifth. Light trap collections heavy at Crookston, Polk County. (Minn. Pest Rpt.). WISCONSIN - Larvae 1-2 per 10 sweeps in nearly all alfalfa in southwest and few feeding on corn. (Wis. Ins. Sur.). MICHIGAN - Larvae reported in St. Joseph County. (Ruppel, June 8). ILLINOIS - Threat declining; larvae near full growth and diseases and parasites effective. Some migration into corn. (Sur. Bull.). INDIANA - First-generation larvae still in widely scattered but limited areas; some needed treatments. Larvae clipped heads from barley at Vincennes, Knox County. Damaged replanted corn on land previously in sod in northwest district. (Matthew). VIRGINIA - Medium on corn in Rockingham County June 3. (Craun). NEW JERSEY - Larval outbreaks in several wheatfields in Somerset County. (Ins.-Dis. Newsltr.).

ARMY CUTWORM (Chorizagrotis auxiliaris) - IDAHO - Larvae destroyed 180 acres of sweetclover at Preston, Franklin County, June 5. (Tovey et al.). NEVADA - Some spotted damage to alfalfa in Orovada area, Humboldt County. Larvae ranged 3-8 per crown in damaged areas. (Lundahl, Peters). NORTH DAKOTA - Larvae, up to 1 per square foot, damaged 5 acres of sugarbeets near Dwight in Richland County. Larvae second instar to full grown. (McBride).

ASTER LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Increasing and variable between fields. Counts in small grain and alfalfa ranged as follows: Southwest 20-200, west-central 0-600, central 40-1,000, southeast 20-800. Flax almost too short to sweep but 70 per 100 sweeps in one field in Lac qui Parle County. (Minn. Pest Rpt.). WISCONSIN - Ranged 7-20 per 100 sweeps of oats. (Wis. Ins. Sur.).

CORN EARWORM (Heliothis zea) - GEORGIA - Larvae heavy in corn whorls in Burke County. (Miller, June 6). ALABAMA - Moth flights and egg laying almost continuous in garden sweet corn in south and central areas. (Bagby et al.). ARKANSAS - Moths on corn whorls in southeast area. (Wall). DELAWARE - First adults of season in blacklight traps in Kent and Sussex Counties June 3. (Burbutis et al.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Appearing in whorls of young grain sorghum in Luna, Hidalgo, and Grant Counties. Buildup heavier in some areas than in others. (N.M. Coop. Rpt.). OKLAHOMA - Ranged 100-500 per sorghum plant in Jackson, Tillman, Bryan, Craig, Pawnee, and Kingfisher Counties. (Okla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Very light on grain sorghum in Hidalgo, Luna, and Grant Counties. (Campbell). OKLAHOMA - Up to 150 per plant on grain sorghum at Tipton, Tillman County, and 10-15 per plant in other areas of Tillman and Jackson Counties. Ranged 10-50 per plant in scattered fields in Payne County. Moderate in Craig County. (Okla. Coop. Sur.). COLORADO - Appearing on sorghum in Yuma (southern area), Kit Carson, and Cheyenne Counties. Counts and damage very light. (Johnson). KANSAS - Averaged 1 per 100 sorghum plants in Riley, Ellsworth, Marion, and McPherson Counties. Ranged 1-3 per new sorghum plant in Greeley, Gray, and Ellis Counties. (Simpson). WISCONSIN - Surveys negative. (Wis. Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - ILLINOIS - Nymphs and adults numerous in some alfalfa fields. (Sur. Bull.).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Adults ranged 4-12 per 100 sweeps in Bijou Hill area, Morgan County. Ranged 0-10 per 100 sweeps of potatoes in untreated fields in Gilcrest, Weld County. (Johnson, Urano).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Becoming heavy on alfalfa in Chaves, Eddy, and Dona Ana Counties. Some controls applied. (N.M. Coop. Rpt.). Remains light in Sandoval and Bernalillo Counties. (Heninger). KANSAS - Noneconomic on alfalfa in Sedgwick, Harvey, Butler, Cowley, Chautauqua, Labette, Montgomery, Neosho, and Wilson Counties. (Redding).

TOBACCO BUDWORM (Heliothis virescens) - FLORIDA - Damaged 2-7 percent of pods on 320 acres of beans at Live Oak, Suwannee County. (Massimino, Strayer).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MISSOURI - Egg masses ranged 10-20 per 100 corn plants in Saline and Lafayette Counties. (Thomas). Leaf feeding averaged 80 percent on early planted corn in southwest area; larvae mostly second instar. (Munson). Leaf feeding averaged 65 percent in southeast area. (Craig). IOWA - Pupation 100 percent at Ankeny, 86 percent emerged. Overwintered larvae in cages 51 percent parasitized by Macrocentrus grandii (a braconid); highest parasitism rate recorded at this station. Egg masses 8 per 100 plants at Ankeny; 20 per 100 plants on early sweet corn at Storm Lake June 10. (Iowa Ins. Sur.). ILLINOIS - Emergence 92-100 percent in southern three-fourths of State. Egg laying on all plants checked south of U.S. Highway 40 in south area. Found in every field surveyed in rest of State. (Ill. Ins. Rpt.). INDIANA - Eggs on corn in Wells County. (Meyer). MINNESOTA - Percent pupation as follows: Southwest 43, west-central 5, central 50. (Minn. Pest Rpt.). WISCONSIN - Surveys of field corn negative for egg masses; cornstalk dissections at site in southern Lafayette County indicated 60 percent emergence and 40 percent in pupal stage. In same field, 20 percent of pupae parasitized by Sympiesis viridula (a eulophid wasp). (Wis. Ins. Sur.). NEW HAMPSHIRE - Eggs on corn at Dover, Strafford County. (Fisher). MASSACHUSETTS - Eggs numerous on corn seedlings in Plymouth County. (Jensen). PENNSYLVANIA - First adult of season in light trap in Dauphin County May 26. (Simons, Quinter). NEW JERSEY - Injury noted to tassels of sweet corn in southern counties. Most growers applying controls. (Ins.-Dis. Newsltr.). DELAWARE - First and second instars in early planted field corn, and third and fourth instars very numerous in early sweet corn in Sussex County. Adult flights remain heavy in all areas. (Burbutis et al.). MARYLAND - Moths less than 2 per night in Queen Annes and Worcester County light traps. First and second instars in southern areas and on Eastern Shore. Infestations ranged 10-45 percent in early corn on Eastern Shore and 1-5 percent in southern areas. Infested stalks averaged less than 2 percent in Frederick, Howard, Carroll, and Baltimore Counties. (U. Md., Ent. Dept.). GEORGIA - Heavy on corn tassels in Houston County. (Whelchel, June 6).

BLACK CUTWORM (Agrotis ipsilon) - IOWA - Damaged corn in 40 counties. About half of reports indicate larvae feeding below ground level. Instars third to last. (Iowa Ins. Sur.). ILLINOIS - Still major insect on corn. Larvae nearing full growth and damage should decline. (Sur. Bull.). NEW HAMPSHIRE - One moth of this species, 9 A. volubilis and 14 Amathes c-nigrum (spotted cutworm) collected in blacklight trap at Lee, Strafford County. (Morse).

NOCTUID MOTHS - NEBRASKA - Feltia subgothica (dingy cutworm), Agrotis ipsilon (black cutworm), and Euxoa messoria (dark-sided cutworm) larvae still damaging corn in eastern third of State. Second and third planting in some counties damaged where soil insecticides not used. Corn up to 14 inches high killed. (Roselle). PENNSYLVANIA - Collected 410 Amathes c-nigrum moths in ultraviolet light trap near Auburn, Schuylkill County, June 5. (Quinter).

STOMBLER MOTH (Heliothis stombleri) - CALIFORNIA - First adult (female) of season collected in light trap at Five Points, Fresno County, May 31. Male trapped north of Tehachapi Mountains week ending May 12. (Cal. Coop. Rpt.).

CORN ROOTWORMS (*Diabrotica* spp.) - OHIO - First instars of *D. longicornis* (northern corn rootworm) hatching in Wyandot County. Larval populations expected to range 20-40 per plant. (Musick). ILLINOIS - Hatch continuing. Peak larval numbers expected in early to mid-July. (Sur. Bull.).

SMALL GRAINS

BROWN WHEAT MITE (*Petrobia latens*) - NEVADA - Damage heavy to 640 acres of wheat at Lovelock, Pershing County. Treatments planned. (Ferraro, Martinelli).

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - VIRGINIA - Damaged wheat, bored into stalks, in Richmond, Caroline, Charles City, King and Queen, and Charlotte Counties. (Allen, Freund).

WHEAT STEM SAWFLY (*Cephus cinctus*) - WISCONSIN - Collected from Manitowoc County June 9, 1962. Determined by D.R. Smith. This is a new county record. (Wis. Ins. Sur.).

WHEAT STEM MAGGOT (*Meromyza americana*) - NEBRASKA - Infested 5-10 percent of stems in some central area fields. (Weihing).

ENGLISH GRAIN APHID (*Macrosiphum avenae*) - WISCONSIN - Increased to 50 per 100 sweeps in oats in Trempealeau, La Crosse, Vernon, Crawford, and Columbia Counties. Up to 15 per sweep in some fields. Some red leaf apparent. (Wis. Ins. Sur.).

TURF, PASTURES, RANGELAND

A HARVESTER ANT (*Pogonomyza salinus*) - IDAHO - Collected in Curlew Valley, Oneida County, September 1, 1969, by G.F. Knowlton. Identified by G.C. Wheeler. This is a new State record. (Gittins).

A DELPHACID PLANTHOPPER (*Delphacodes propinqua*) - ARIZONA - Averaged 35 per 100 sweeps of Bermuda grass seed fields in Gila Valley, Yuma County. (Ariz. Coop. Sur.).

A GROUND PEARL (*Margarodes meridionalis*) - ARIZONA - Crawlers active in Tifgreen lawns in many areas of Salt River Valley, Maricopa County. Treatments recommended. (Ariz. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (*Hypera postica*) - WASHINGTON - Larvae 2-3 per sweep in alfalfa seed fields near Walla Walla, Walla Walla County. (Johansen, Eves). IDAHO - Adults 15 and larvae 4 per 10 sweeps of alfalfa; tip damage light. Coccinellid adults 12 per 10 sweeps at Fort Hall, Bingham County. (Kunkel, Sutherland). Alfalfa weevil adults 12 and larvae 1 per 10 sweeps of alfalfa. Coccinellid adults averaged 3 per 10 sweeps in one field, and 8 in another at Rigby, Jefferson County. (Gooch, Sutherland). *H. postica* larvae ranged 10-20 per sweep 10 days after treatment in alfalfa seed field near Fruitland, Payette County. Some seed fields ranged 30-50 per sweep prior to treatments near Homedale, Owyhee County. (Waters). UTAH - Larvae 20+ per sweep on untreated alfalfa in Delta area of Millard County. Damage apparent in untreated fields. Damage light where controls applied. Larvae ranged 35-40 per sweep at Ogden, Weber County. (Davis, Knowlton, June 12). WYOMING - Adults ranged 0-4 per 10 sweeps of alfalfa in Carbon, Sweetwater, Uinta, Lincoln, and Teton Counties. Larvae in 2 fields in Carbon County. Larvae ranged 9-180 per 10 sweeps of alfalfa in Park, Big Horn, and Washakie Counties. Little damage to date. Appears first cutting will not be heavily damaged in Big Horn Basin area. (Parshall). COLORADO - Larvae ranged 30-900 per 100 sweeps; damage light to moderate in Morgan, Logan, Kit Carson, and Sedgwick Counties. First cutting underway in most areas and controls recommended on stubble. Still heavy, 500-900 per 100 sweeps, in Weld, Boulder, and Larimer Counties. (Johnson, Urano). NEW MEXICO - Larvae 850 per 25 sweeps in 2 of 3 alfalfa fields in Corrales, Sandoval County. Fields severely defoliated. (Heninger). ARKANSAS - Still light in north area. Larvae ranged 30-35 in 100

sweeps in Washington County. (Dumas, Boyer). OKLAHOMA - Counts per 100 sweeps of alfalfa averaged 8 larvae near Loco, Stephens County, and 2 adults near Waurika, Jefferson County. These are new county records. (Okla. Coop. Sur.). SOUTH DAKOTA - Development slow at Spearfish, Lawrence County. Adults up to 50 per 100 sweeps in untreated alfalfa and larvae 50-2,000. Most first and second instars. (Rezek, Walstrom). NORTH DAKOTA - Larvae ranged up to 46 (averaged 16), adults up to 72 (averaged 10) per 100 sweeps of irrigated alfalfa in Yellowstone River Valley in McKenzie County. Larvae in first and second instars. Alfalfa will be cut before populations reach economic levels. (Brandvik). WISCONSIN - Damage erratic and all fields surveyed showed feeding damage but not enough to affect crop. About 30 percent of plants fed upon but leaf surface area not totally consumed. Surveys negative in Trempealeau, La Crosse, and Vernon Counties; averaged 2 per 100 sweeps in Crawford County field. About 2,600 parasites released in Rock County; principally Microctonus aethiops, M. colesi, and Bathyplectes curculionis. (Wis. Ins. Sur.). ILLINOIS - Noneconomic, ranged 20-90 per 100 sweeps in northwest, east, west, and west-southwest sections. (Sur. Bull.). INDIANA - Larvae ranged 0-30 per sweep of alfalfa in north district. Some damage on most terminals of first crop. Cutting in progress or recently completed in half of fields noted. (Meyer). VIRGINIA - Larvae practically gone in Frederick and Orange Counties, still light to moderate on alfalfa in Page County. (Allen). MARYLAND - Adults averaged less than 1 per 10 sweeps throughout State. Larval injury remains light to moderate in Frederick, Howard, Prince Georges, Dorchester, and Baltimore Counties. Few growers applied sprays to stubble as preventive measure. Most growers needed no controls for third consecutive year. (U. Md., Ent. Dept.). MASSACHUSETTS - Damaged 95 percent of tips in 3 fields in Berkshire County surveyed June 10. Larvae 1,408 and adults 10 per 100 sweeps in one field. (Miller). VERMONT - Light in Rutland, Windsor, and Chittenden Counties. Adult numbers appear to be declining slightly. Larvae, mostly second or third instar, averaged 5 per sweep at Shoreham, Addison County. Damage light, about 10-20 percent of tips. Treatment of forage or stubble may not be necessary. (Nielsen, June 9).

PEA APHID (Acyrtosiphon pisum) - IDAHO - Light in alfalfa north of Moscow, Latah County, to Canadian border. Lady beetles, big-eyed bugs, and nabids general throughout region. (Portman). Pea aphid ranged 100-300 per sweep in alfalfa seed field near Homedale, Owyhee County. (Waters). WASHINGTON - This species and Macrosiphum creelii up to 600 per sweep in alfalfa seed fields in Yakima Valley. (Johansen, Eves). NEVADA - Ranged 8-12 per sweep in alfalfa seed fields in Reese River Valley, Lander County. (Lundahl, Peters). UTAH - Moderate to damaging on Millard County alfalfa, but recently declined. (Davis, Hall). NEW MEXICO - Remains heavy on alfalfa in many areas. (N.M. Coop. Rpt.). OKLAHOMA - Heavy on Mayes County alfalfa, moderate in Murray County. Averaged 450 per 10 sweeps in Jefferson County. Ranged 5-150 per 10 sweeps in McClain, Garvin, Stephens, and Tillman Counties. (Okla. Coop. Sur.). COLORADO - Light, ranged 1,000-2,000 per 100 sweeps of alfalfa in Morgan, Logan, Sedgwick, and Kit Carson Counties. (Johnson). WYOMING - Ranged 0-800 per 10 sweeps of alfalfa in Carbon, Sweetwater, Uinta, Lincoln, Teton, Park, Washakie, and Big Horn Counties. Heaviest in Washakie County. (Parshall). ARKANSAS - Ranged 500-1,000 in 100 sweeps on north area alfalfa. No parasitism. (Boyer). VIRGINIA - Very light on alfalfa in Frederick, Page, Orange, Montgomery, and Shenandoah Counties. (Allen). MASSACHUSETTS - Adults and nymphs 146 per 100 sweeps in Berkshire County field. (Miller).

WEBWORMS (Loxostege spp.) - KANSAS - L. commixtalis (alfalfa webworm) caused light damage to alfalfa in Neosho, Labette, Chautauqua, and Montgomery Counties. Averages per 100 sweeps by county: Neosho 60, Labette 150, Montgomery 175, and Chautauqua 30. (Simpson). OKLAHOMA - Loxostege spp. larvae 1-4 per 10 sweeps in most alfalfa in several south-central and southwest counties. (Okla. Coop. Sur.). WYOMING - L. sticticalis (beet webworm) adults active in alfalfa in Washakie, Park, and Big Horn Counties. (Parshall).

ALFALFA CATERPILLAR (*Colias eurytheme*) - UTAH - Larvae 1-2 per 10 sweeps on alfalfa in Cache and Salt Lake Counties. (Knowlton). WYOMING - Larvae averaged 1 per 10 sweeps of alfalfa in Big Horn County field. (Parshall). COLORADO - Larvae ranged 30-40 per 100 sweeps of alfalfa at Fort Morgan, Morgan County. (Johnson). OKLAHOMA - Up to 5 per 10 sweeps of Stephens County alfalfa. Occasional larvae in most central and south-central fields. (Okla. Coop. Sur.).

RED-BACKED CUTWORM (*Euxoa ochrogaster*) - IDAHO - Several hundred acres of alfalfa treated at Hansen, Twin Falls County, to stop damage. (Sutherland).

LYGUS BUGS (*Lygus* spp.) - WASHINGTON - *L. hesperus* and *L. elisus* up to 20 nymphs and 2 adults per sweep in alfalfa seed field near Zillah, Yakima County. (Johansen, Eves). NEVADA - Nymphs and adults ranged 10-15 per sweep in Reese River Valley, Lander County, alfalfa seed fields. (Lundahl, Peters). UTAH - Light, 1 in 5 sweeps of alfalfa at Delta, Millard County. (Davis). NEW MEXICO - Ranged light to heavy on alfalfa; 50+ per 25 sweeps in some areas. (Mathews). COLORADO - Adults ranged 200-250 per 100 sweeps of alfalfa in one field in Kit Carson County. Ranged 50-100 per 100 sweeps in northeast area. (Johnson). WYOMING - Adults 0-4 per 10 sweeps of alfalfa in Carbon, Sweetwater, Uinta, Lincoln, and Teton Counties; adults and nymphs 3-25 in Washakie, Big Horn, and Park Counties. (Parshall).

TARNISHED PLANT BUG (*Lygus lineolaris*) - MASSACHUSETTS - Adults 32 and larvae 150 per 100 sweeps in Berkshire County field. (Miller). OKLAHOMA - Mostly adults ranged 4-12 per 10 sweeps of alfalfa in McClain, Garvin, Stephens, Jefferson, and Tillman Counties. (Okla. Coop. Sur.).

ALFALFA PLANT BUG (*Adelphocoris lineolatus*) - WISCONSIN - Nymphs dominant, 30 per sweep, in most southern area alfalfa and one field in Green County. Maturation slow. (Wis. Ins. Sur.). INDIANA - Averaged 2 adults or nymphs, mostly latter, per sweep. Most abundant of plant bugs on alfalfa. (Meyer).

MEADOW SPITTLEBUG (*Philaenus spumarius*) - MARYLAND - Adults ranged 10-30 per sweep in unsprayed red clover and alfalfa in Frederick, Baltimore, Howard, and Prince Georges Counties. (U. Md., Ent. Dept.). WISCONSIN - Adults appearing in alfalfa. (Wis. Ins. Sur.). IDAHO - Second and third instar nymphs general in alfalfa, grassfields, and rangelands. Controls applied in most alfalfa and grassfields of Kootenai County and needed in some Boundary and Bonner County fields. (Portman).

SOYBEANS

BEAN LEAF BEETLE (*Cerotoma trifurcata*) - MARYLAND - Adults ranged 1-2 per row yard in 50 acres of soybeans near Naylor, Prince Georges County. (U. Md., Ent. Dept.). MINNESOTA - Damage to marginal rows of soybeans noticeable throughout southwest district. Movement into fields noted in some areas. (Minn. Pest Rpt.).

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - SOUTH CAROLINA - Building up on young plants. Leaf loss averaged 15 percent in some fields, primarily in coastal counties. (Thomas, June 10).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - TEXAS - In McLennan and Falls Counties, weevils in 2 of 54 treated fields averaged 2 (maximum 125) per acre. Averaged 15 (maximum 500) per acre in 4 of 30 untreated fields. Collected 4 weevils in wing traps near hibernation sites, total to date 127. (Cowan et al.). OKLAHOMA - Wing trap catches indicate weevils heavy in some areas in several southwest counties during past 14 days. (Okla. Coop. Sur.). LOUISIANA - In Madison Parish, collected 54 weevils from 222 wing traps; total to date 1,658. (Cleveland et al.). ARKANSAS - Collected 2 weevils on 45 pheromone-baited wing traps in Lafayette and Miller Counties. Collected 5 on 5 traps at Morrilton and 1 on 5 traps at Plummerville, Conway County. (Lamb et al.). TENNESSEE - Found 2 adults in terminal buds in McNairy

County and 1 in Fayette County. Emergence from hibernation should have peaked. (Locke). MISSISSIPPI - Two boll weevils found in 2 of 37 fields in delta counties (Sharkey and Washington). Weevil punctures 7 percent in 1 field of squaring cotton. No weevils in wing traps in Washington County; totaled 212 on this date in 1969. (Pfrimmer et al.). Infestation averaged 1 percent in 15 Attala County fields. (Sartor). ALABAMA - Weevil emergence from winter hibernation generally light statewide. None reported north of Jefferson County where 65 percent of total acres planted. Weevils increased in extreme south area although not as heavy as during past 3-5 years. (McQueen). GEORGIA - Collected 7 weevils in 21 wing traps in Randolph County (Womack), 3 in 4 traps in Spalding County week ending June 6 (Beckham). For Boll Weevil on High Plains see page 411.

BOLLWORMS (Heliothis spp.) - TEXAS - In McLennan and Falls Counties, eggs and/or larvae collected on native hosts; 23 larvae previously collected from native hosts identified H. zea; 1 identified H. virescens. Total on all hosts, 234 H. zea and 27 H. virescens. (Cowan et al.). LOUISIANA - Collected 20 H. zea and 9 H. virescens in blacklight trap in Madison Parish week ending June 4. Currently 38 H. zea and 3 H. virescens in light trap. Eggs in 8 of 11 plots ranged 26-52 per acre. (Cleveland et al.). ARKANSAS - Eggs as high as 17 per 100 terminals in Jefferson County. (Wall). TENNESSEE - H. zea eggs few in older cotton. Some small larvae feeding in terminal buds. Unusual for time of year. (Locke). MISSISSIPPI - H. zea and H. virescens larvae averaged 4.3 per 100 row feet in 27 fields in Washington County. Oviposition in Sharkey and Rankin Counties. (Sartor). In delta counties larvae in 3 of 37 fields and eggs in 23. (Pfrimmer et al.). ALABAMA - Eggs ranged 3-20 and small larvae 1-6 per 100 terminals in south and central areas. Beneficial insects reduced numbers below economic levels. Moth flights and egg laying by H. zea occurring in south area. (McQueen). GEORGIA - Eggs ranged 0-20 (average 9) per 100 terminals in 14 fields in south area week ending June 6. (Womack). SOUTH CAROLINA - Damage in Marlboro County. (Flowers, Nettles, June 10).

SALT-MARSH CATERPILLAR (Estigmene acrea) - TEXAS - Heavy in isolated areas on range grass in margins of cotton fields in Garza and Borden Counties. Seedling cotton heavily damaged along some field margins. (Rummel, Clymer).

THRIPS - NEW MEXICO - Curling leaves on cotton in Dona Ana, Chaves, and Eddy Counties. Some fields next to alfalfa show more damage. (N.M. Coop. Rpt.). TEXAS - Moderate to heavy in Briscoe, Crosby, Floyd, and Hale Counties. Light in Swisher, Lubbock, Bailey, Deaf Smith, and Terry Counties. Populations spotted with only light injury in most of heavier infested fields. (Rummel, Clymer). OKLAHOMA - Ranged 0-5 per small plant in Jackson and Jefferson Counties. Light in Bryan and Garvin Counties. (Okla. Coop. Sur.). TENNESSEE - Injury light to heavy in late cotton in west area. (Locke). MISSISSIPPI - Light to moderate in Lee, Chickasaw, and Yazoo Counties. Damage heavy in some fields in Tishomingo and Sharkey Counties. (Sartor). ALABAMA - Not serious statewide. Several damaging infestations in Colbert and Madison Counties on 4 to 8-leaf cotton. (Holloway et al.).

SUGARBEETS

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - NORTH DAKOTA - Adults on 1 out of 20 plants in irrigated fields in McKenzie and Williams Counties. Not known to be economic in this area. (Brandvik). In Walsh and Pembina Counties about 95 percent pupated. First flies of season June 5. (Kaatz).

SPINACH LEAF MINER (Pegomya hyoscyami) - WYOMING - Eggs and few larvae in Park, Washakie, and Big Horn Counties. (Parshall).

BET WEBWORM (Loxostege sticticalis) - WYOMING - Adults active in sugarbeet fields of Washakie, Park, and Big Horn Counties. (Parshall).

WESTERN BLACK FLEA BEETLE (Phyllotreta pusilla) - NORTH DAKOTA - Shotholing evident on sugarbeets in McKenzie County. Up to 100 percent of plants had 1-8 shotholes per leaf. (Brandvik).

MISCELLANEOUS FIELD CROPS

A FLEA BEETLE (Longitarsus waterhousei) - WASHINGTON - Larval damage about 25 percent in 25 acres of peppermint June 4 in Clark County. (Shanks).

A SCARAB (Euphoria sepulchralis) - FLORIDA - Adults heavy on sunflower blooms at Dover, Hillsborough County. (Simmons, June 4).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - WASHINGTON - Egg masses 5-6 per volunteer potato plant in corn and grain June 5 at Quincy, Grant County. (Landis). IDAHO - Fields at Preston, Franklin County, generally infested. (Thornley). Egg clusters ranged 2-5 and adults 2-16 per 10 row feet (Carpenter); adults at Fort Hall, Bingham County, June 5 (Garner). UTAH - Worst outbreak ever on potatoes in Cache County to State line. Still serious in Weber, Davis, and parts of Box Elder Counties. (Knowlton et al., June 12). NEW JERSEY - Larvae caused light to moderate injury in many central and southern counties. (Ins.-Dis. Newsltr.). ALABAMA - Larvae light in field of tomatoes in Blount County. Controls planned. (Smith).

POTATO FLEA BEETLE (Epitrix cucumeris) - TENNESSEE - Moderate damage to potatoes and tomatoes continues across State. (Gordon). WISCONSIN - Feeding damage to potato and tomato plants extensive but declining. (Wis. Ins. Sur.).

BEANS AND PEAS

PEA APHID (Acyrtosiphon pisum) - WISCONSIN - Increasing, up to 20 per sweep in early peas in Columbia County. (Wis. Ins. Sur.).

COLE CROPS

GARDEN FLEAHOPPER (Halticus bracteatus) - FLORIDA - Adults severe on 90 percent of 300 turnip plants at Brandon, Hillsborough County. (Simmons).

CUCURBITS

SEED-CORN MAGGOT (Hylemya platura) - IDAHO - Caused 80 percent loss on cantaloup plants in Arena Valley near Parma, Canyon County. Loss of seedling watermelons in nearby field less than 5 percent. (Waters).

MELON APHID (Aphis gossypii) - CALIFORNIA - Adults 20 per leaf on cucumbers at Chula Vista, San Diego County. (Cal. Coop. Rpt.).

STRAWBERRY SPIDER MITE (Tetranychus turkestanii) - ARIZONA - As many as 250 per leaf on some cantaloup at Yuma, Yuma County. Infestations not generalized. (Ariz. Coop. Sur.).

GENERAL VEGETABLES

GOLDEN TORTOISE BEETLE (Metriona bicolor) - MARYLAND - Damage ranged 30-80 percent to newly set sweetpotato plants in several fields in Hebron and Salisbury areas of Wicomico County. Controls required in 10 acres near Hebron. (U. Md., Ent. Dept.).

SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) - UTAH - This species numerous on asparagus and C. asparagi (asparagus beetle) light at Ogden and Roy, Weber County. (Knowlton, Davis).

A SCARAB (Euphoria sepulchralis) - FLORIDA - Adults heavy on okra pods at Dover, Hillsborough County. (Simmons, June 4).

SPINACH LEAF MINER (Pegomya hyoscyami) - MASSACHUSETTS - Larvae mining Swiss chard in Essex County. (Jensen).

DECIDUOUS FRUITS AND NUTS

ORIENTAL FRUIT MOTH (Grapholitha molesta) - WASHINGTON - First moths of first summer generation captured June 5 in several Yakima County locations. (Johnson). UTAH - Passed peak of flight. Population centered in Pleasant Grove area, with small numbers taken as far away as Orem, Utah County. (Davis, Barlow). TENNESSEE - Second-generation larvae damaged peach twigs in Knox County. (Williams, June 5). OHIO - Infested peach twigs in Sandusky County. (Roach).

CODLING MOTH (Laspeyresia pomonella) - WASHINGTON - Adults peaked in sex lure traps (40 males in one trap) May 25 at Tieton, Yakima County. (Johnson, Hastings). UTAH - Passed peak of first flight; scattered flight still occurring in Utah and Cache Counties. (Davis, Barlow). WISCONSIN - Flight well underway. (Wis. Ins. Sur.). MICHIGAN - First moths emerged May 28 at Belding, Ionia County. First fruit entry May 31 in southwest area. (Thompson). NEW JERSEY - Catch of 8 moths June 2-9 in baited jar in Gloucester County. (Ins.-Dis. Newsltr.).

LESSER PEACH TREE BORER (Synanthedon pictipes) - MICHIGAN - Moths in flight in abandoned peach and plum orchard June 4 near Kalamazoo, Kalamazoo County. (Thompson).

PLUM CURCULIO (Conotrachelus nenuphar) - NEW JERSEY - Find of 15 adults in 12 minutes on June 9 in Glassboro County. (Ins.-Dis. Newsltr.). OHIO - Damaged plums in Hamilton County. (Roach). WISCONSIN - First adults in blacklight traps. Scars on small apples present for some time. (Wis. Ins. Sur.).

BLACK CHERRY FRUIT FLY (Rhagoletis fausta) - MICHIGAN - Adults emerged June 5 at abandoned orchard in Jackson County. Adults recovered from emergence cages maintained in northeast Grand Rapids, Kent County. (Lovitt).

A PERIODICAL CICADA (Magicicada sp.) - WEST VIRGINIA - Adults emerged in Mineral County May 24. Adults heavy. Flagging showing on apples in Hardy, Hampshire, Morgan, Berkeley, and Jefferson Counties June 3. (W. Va. Ins. Sur.).

PEAR PSYLLA (Psylla pyricola) - UTAH - Adults numerous in infested Weber County orchards. Most of first generation fully grown. No eggs. Found at Roy, Weber County, and at south Willard, Box Elder County, a spread of at least 10 miles from previously known infested orchards. Box Elder County is a new county record. (Davis, Knowlton).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - MASSACHUSETTS - Adult injury on about 2 percent of small apples in treated orchard in Plymouth County. (Jensen).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - WASHINGTON - First crawlers June 9 at Buena, Yakima County, one day earlier than last year. (Johnson).

GREEN PEACH APHID (Myzus persicae) - UTAH - Damage unusually severe in Utah County peach orchards this spring. Foliage still badly yellowed and curled. (Davis, June 12). NEW MEXICO - Heavy on peach trees in Dona Ana County. (Campbell). MICHIGAN - Problem increasing in many peach orchards. (Thompson, June 8).

APPLE APHID (Aphis pomi) - UTAH - Unusually numerous in all Utah County orchards examined. Very numerous on some apple trees at Brigham City, Box Elder County. (Davis, Knowlton).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Cool damp weather delayed hatch in some areas. Eggs still present as late as June 9. Moderate in Garvin and Murray Counties. (Okla. Coop. Sur.).

BLACK-MARGINED APHID (Monellia costalis) - NEW MEXICO - Generally heavy on pecan trees in Luna, Dona Ana, and Otero Counties. Some growers treating. (N.M. Coop. Rpt.).

CITRUS

Citrus Insect Situation in Florida - End of May - CITRUS RUST MITE (*Phyllocoptruta oleivora*) infested 54 (norm 44) percent of groves; economic in 33 (norm 27) percent. Decreased to moderate level on leaves but still above normal. Increase expected at mid-June. Fruit infestation above normal and increasing rapidly. Highest districts west, central, south, and east. CITRUS RED MITE (*Panonychus citri*) in 60 (norm 57) percent of groves; economic in 27 (norm 32) percent. Increased. At moderate level and near normal for May. Additional increase expected in June followed by decrease in July. Highest districts west and east. TEXAS CITRUS MITE (*Eutetranychus banksi*) in 37 (norm 59) percent of groves; economic in 17 (norm 38) percent. Remained much below normal and in low range despite increase. Not expected to reach high level this summer although few heavy infestations will occur. Highest district south. SIX-SPOTTED MITE (*Eotetranychus sexmaculatus*) in 14 (norm 14) percent of groves; economic in 5 (norm 2) percent. Near annual peak and about normal in magnitude. Will decrease in July. GLOVER SCALE (*Lepidosaphes gloverii*) in 90 (norm 84) percent of groves; economic in 17 (norm 28) percent. Entered high range and close to average level for May. Further increase expected. Highest districts south and east. PURPLE SCALE (*L. beckii*) in 80 (norm 81) percent of groves; economic in 6 (norm 12) percent. Will remain at moderate level and near normal abundance. Highest district north. YELLOW SCALE (*Aonidiella citrina*) in 61 (norm 66) percent; economic in 8 (norm 11) percent. Slightly below normal and at moderate level. Little change predicted. Highest district north. CHAFF SCALE (*Parlatoria pergandii*) in 45 (norm 69) percent of groves; economic in 2 (norm 15) percent. BLACK SCALE (*Saissetia oleae*) in 18 (norm 48) percent of groves; economic in 5 (norm 26) percent. These 2 scales will remain subnormal and low in all districts. An ARMORED SCALE (*Unaspis citri*) infested 25 percent of groves; moderate to heavy in 12 percent. Increased; higher than in any prior month. WHITEFLIES in 75 percent (norm 61) percent of groves; economic in 47 (norm 19) percent. Highest for any month in 19 years of record. Further increase expected. MEALYBUGS in 40 (norm 54) percent of groves; economic in 4 (norm 12) percent. Will increase rapidly through June. (W.A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

ORANGE-DOG (*Papilio cresphontes*) - ARIZONA - Adults flying in and around trees in Salt River Valley, Maricopa County. Larvae appearing on foliage at Yuma, Yuma County. (Ariz. Coop. Sur.).

OTHER TROP. & SUBTROP. FRUITS

A LEAFHOPPER (*Idona minuenda*) - CALIFORNIA - Collected on Brazil peppertree (*Schinus terebinthifolia*), at Pomona, Los Angeles County. Collected by A. Phelps and E. Paddock January 12, 1970. Determined by J.P. Kramer. This is a new State record. Brazil peppertree is not a recorded host. Collected very near commercial avocado plantings. (Cal. Coop. Rpt.).

SMALL FRUITS

SUGAR-BEET WIREWORM (*Limoniuss californicus*) - IDAHO - Heavy in 15 acres of grapes in new vineyard in Canyon County. Many plants dying. (Homan).

WESTERN TUSSOCK MOTH (*Hemerocampa vetusta*) - NEVADA - Larvae, migrating from defoliated bitterbrush and desert peach (*Prunus andersoni*), heavily damaged strawberries in Washoe Valley, Washoe County. (Nev. Coop. Rpt.).

A PSYCHID MOTH (*Apterona crenulella*) - NEVADA - Larvae heavily damaged strawberry plants at Carson City, Ormsby County. (Marshall).

A LEAF BLOTCH MINER (*Gracillaria vacciniella*) - NEW JERSEY - Unusually abundant in few blueberry areas. Never damaged cultivated blueberries in State but threat this year. (Ins.-Dis. Newsltr.).

ORNAMENTALS

A LACE BUG (Stephanitis takeyai) - PENNSYLVANIA - Heavy on Pieris japonica near Harrisburg, Dauphin County. Collected by Slesman June 4, 1970. Determined by E.E. Simons. This is a new State record. (Gesell).

HOLLYHOCK WEEVIL (Apion longirostre) - DELAWARE - Adults very common on hollyhock buds at Newark, New Castle County. Collected and determined by P.P. Burbutis June 11, 1970. This is a new State record. (Burbutis et al.).

BAGWORM (Thyridopteryx ephemeraeformis) - TENNESSEE - Damage continues to increase across State. (Gordon).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - MINNESOTA - Heavy. Will cause heavy defoliation throughout most of northeast area. Third and fourth instars defoliated 15-20 percent of new growth by June 10. (Minn. Pest Rpt.).

OLETHREUTID MOTHS (Rhyacionia spp.) - KANSAS - R. frustrana (Nantucket pine tip moth) infested 50 percent of branches on mugho pine in Sedgwick County nursery. (Redding). MISSOURI - R. frustrana adult emergence underway in Barton and Lawrence Counties. (Kearby). OHIO - R. buoliana (European pine shoot moth) pupation in progress in Union County. (Roach).

PINE BARK APHID (Pineus strobi) - WEST VIRGINIA - Severely damaged 5 percent of Scotch pine Christmas tree plantation in Greenbrier County. (W. Va. Ins. Sur.).

A CONIFER SAWFLY (Neodiprion pratti pratti) - WEST VIRGINIA - Larvae collected on Virginia pine for new county records as follows: Wood and Jackson May 20; Putnam and Mason May 21; Pocahontas and Randolph May 26; Braxton, Upshur, Clay, and Roane May 27. (W. Va. Ins. Sur.).

GEOMETRID MOTHS - MARYLAND - Erannis tiliaria (linden looper) stripped 80-90 percent of foliage from 5-square-mile area on east slope of Catoctin Mountains. Completely controlled by naturally occurring disease with symptoms of nuclear polyhedrosis virus. (U. Md., Ent. Dept.). SOUTH DAKOTA - Paleacrita vernata (spring cankerworm) injury on shelterbelts and other trees in Bennett, Faulk, and Deuel Counties. (Kantack). NEBRASKA - P. vernata defoliated elms in Scotts-bluff County. (Hagen).

OAK LEAF TIER (Croesia semipurpurana) - WEST VIRGINIA - Larvae of this species and Pseudexentera cressoniana (an olethreutid moth) pupating in southern Pocahontas County. Larvae still in higher elevations June 10. These insects and severe frost seriously damaged oaks over a wide range in county. (W. Va. Ins. Sur.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - MINNESOTA - Larvae 1-1.5 inches long. Defoliation apparent from Ray to Loman in International Falls area of Koochiching County. Larvae migrating across U.S. Highway 53 at Ericksburg and State Highway 11 at Loman. Some migration even though food supplies not exhausted. Defoliation as high as 70 percent on aspen in some areas. (Minn. Pest Rpt.).

SADDLED PROMINENT (Heterocampa guttivitta) - NEW HAMPSHIRE - Trapped 1,734 moths in blacklight trap May 23 to June 1 at Ossipee, Carroll County, area of potential defoliation. (Mason). Trapped 5,547 moths at Ossipee June 1-4. (Blickle).

FALL WEBWORM (Hyphantria cunea) - TENNESSEE - Light numbers becoming widespread. Damage light in many areas. (Gordon). NEW HAMPSHIRE - Collected 4 moths in blacklight trap at Lee, Strafford County. (Morse).

ELM LEAF BEETLE (Pyrrhalta luteola) - IDAHO - First larval feeding of season June 2 in Gooding County. (Koester). First eggs April 29 and first larvae June 5 at Parma, Canyon County. (Scott). COLORADO - Larval feeding heavy on Mesa County elm. Controls recommended. (Sisson). KANSAS - First-generation larvae migrating down trunks; about 10 percent pupation in Riley County. (Simpson). NEBRASKA - Damage heavy along streams in Boyd County. (Gustafson).

CHRYSOMELID BEETLES - TENNESSEE - Adults and immatures of Chrysomela scripta complex (cottonwood leaf beetles) continue extensive damage to native willows and elder bushes across State. (Cagle, Gordon). KANSAS - Calligrapha scalaris (elm calligrapha) destroyed 50 percent of leaves on some American elms in Sedgwick and Harvey Counties. Larvae nearly full grown. (Redding).

PERIODICAL CICADAS (Magicicada spp.) - WEST VIRGINIA - Magicicada sp. adults emerged in Mineral County May 24. Adults heavy. Flagging on oaks in Hardy, Hampshire, Morgan, Berkeley, and Jefferson Counties June 3. (W. Va. Ins. Sur.). VIRGINIA - M. septendecim heavy and widespread throughout Shenandoah, Warren, and Frederick Counties. Should cause "fired" branches and twigs later in season. (Allen). TENNESSEE - M. septendecim egg laying damage heavy in Sullivan, Washington, and Greene Counties. (Williams, June 5).

AN APHID (Myzocallis boernerii) - CALIFORNIA - Infested oaks in courthouse yard at San Bernardino, San Bernardino County. Collected by P. Prescott in 1970. This is a new county record. (Cal. Coop. Rpt.).

MAN AND ANIMALS

SCREW-WORM (Cochliomyia hominivorax) - Total of 4 cases reported in U.S. June 7-13 as follows: TEXAS - El Paso, Crane; ARIZONA - Santa Cruz, Yuma. Total of 43 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Baja California 1, Sonora 31, Chihuahua 10, Nuevo Leon 1. Total of 19 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 34,998,000; New Mexico 1,120,000; Arizona 8,380,000; California 460,000; Mexico 115,050,000. (Anim. Health Div.).

HORN FLY (Haematobia irritans) - IDAHO - Annoying, averaged 100 per head at Gooding, Gooding County. (Koester). OKLAHOMA - Averaged 400 per head of cattle in Payne County. Moderate in Craig, Cleveland, and Garvin Counties. (Okla. Coop. Sur.). MISSISSIPPI - Counts per head by county: Attala 35 on 250 head, Rankin 200 on 150, Hinds 100 on 408, and Tishomingo 50 on 125 head. (Sartor). MISSOURI - Adults on 2 untreated herds ranged 3-80 (averaged 16.5) and 50-450 (averaged 233.6) in Boone County. (Thomas). NORTH DAKOTA - Built up to economic levels in west-central counties. Ranged 300-1,000 (averaged 500) per yearling heifer in Dunn County. (Brandvik). WISCONSIN - Lightly annoyed cattle in Columbia and St. Croix Counties. (Wis. Ins. Sur.). SOUTH CAROLINA - Appearing over State. (Kissam, June 10). MARYLAND - Adults 60-200 per head on 20 steers near Westminster, Carroll County. (U. Md., Ent. Dept.). VERMONT - Ranged 50-75 per head at Hinesburg, Chittenden County. (Nielsen, June 9).

FACE FLY (Musca autumnalis) - MISSOURI - Adults on 2 untreated herds ranged 0-50 (averaged 9.6) and 8-50 (averaged 15.9) in Boone County. (Thomas). WISCONSIN - Lightly annoying cattle in Columbia and St. Croix Counties. (Wis. Ins. Sur.). SOUTH CAROLINA - Beginning to build up in Iconee County. (Kissam, June 10). VIRGINIA - Adults averaged 5 per cow on about 30 cattle in Albemarle County. (Allen). MARYLAND - Ranged 5-30 per head on cattle in Frederick, Montgomery, and Baltimore Counties. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - GEORGIA - Larvae breeding in turkey, horse, swine, beef, and poultry operations over State. (Nolan, June 5). SOUTH CAROLINA - Seemed to be worst this spring than observer could remember. Especially bad around poultry, cattle, and hog feedlot operations. (Kissam, June 10).

STABLE FLY (Stomoxys calcitrans) - GEORGIA - Adults averaged 8 per horse in De Kalb County. (Snoddy, Nolan, June 6). WISCONSIN - Slightly to moderately annoyed dairy cattle in Chippewa, Calumet, and Columbia Counties. No significant biting elsewhere. Some spraying in Chippewa and Clark Counties. (Wis. Ins. Sur.).

MOSQUITOES - NEVADA - Aedes melanimon adults heavy in Reese River Valley, Lander County. (Lundahl, Peters). UTAH - Annoying from Wellsville to Lewiston in Cache County, and in several Box Elder County farm areas. (Knowlton et al.). MINNESOTA - A. vexans 87.5 percent of 4,146 females collected in light traps at Minneapolis and St. Paul week ending June 5; A. cinereus 5 percent. A. vexans in 78 percent of larval collections; A. cinereus in 5 percent. Of 113 mosquitoes in evening bite collections (15-minute periods), A. cinereus 49, A. vexans 33, and A. stimulans 13. Of 310 collected in 5-minute daytime biting collections, A. vexans 116, A. cinereus 68, A. stimulans 53, and A. sticticus 30. Heavy brood emerged on schedule June 5-8. Light trap collections increased sharply June 8-12. Will peak about June 14. Should begin to decline week of June 15. Biting heavily in Carver, western Hennepin, McLeod, and Wright Counties. (Minn. Pest Rpt.). WISCONSIN - Hot weather accelerated development and biting, particularly in wooded lowlands. Some biting in upland areas and some at midday. Most intense biting at about 9:00 p.m. In Black River bottoms of Trempealeau and La Crosse Counties, evening biting severe enough to discourage very dedicated fishermen. Heavy in Walworth, Winnebago, Richland, and Racine Counties. (Wis. Ins. Sur.).

DEER FLIES - OKLAHOMA - Chrysops spp. 0.5-1 per head of cattle in Payne and Noble Counties. (Okla. Coop. Sur.). MINNESOTA - First reports of Chrysops sp. from west of Minneapolis and St. Paul. (Minn. Pest Rpt.). WISCONSIN - Numerous. Biting humans in southern counties. (Wis. Ins. Sur.). INDIANA - Mostly C. callidus or C. niger in north-central and northeast districts. (Meyer). OHIO - Becoming numerous and annoying throughout State. Heavy in wooded areas in Muskingum and Geauga Counties. (Roach). VIRGINIA - Chrysops sp. adults very annoying along Pamunkey River near West Point, King William County. (Davis). Annoying man and wildlife in woods surrounding Blacksburg, Montgomery County. (Allen). DELAWARE - Second Neochrysops globosus specimen (female) found in State. Swept from field of daisies along Christiana River near Newark, New Castle County, by D.S. Lesiewicz June 26, 1969. Determined by E.P. Catts. (Burbutis et al.). VERMONT - Chrysops cuclux, C. indus, and other species annoying livestock. (Nielsen, June 9).

HORSE FLIES - VERMONT - Hybomitra lasiophthalma abundant and annoying cattle, 20-25 per head and 3-4 per teat, and horses at Hinesburg, Chittenden County. (Nielsen, June 9). MISSISSIPPI - Tabanus spp. 8 per head on 250 animals in Attala County and 10 per head on 50 animals in Tishomingo County. (Sartor). OKLAHOMA - Tabanus spp. 1-4 per head on cattle in Payne and Noble Counties. (Okla. Coop. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - WISCONSIN - Heavy in Clark, Dunn, Vilas, and Chippewa Counties. Problem as far south as Calumet, Fond du Lac, and Columbia Counties. (Wis. Ins. Sur.). NEBRASKA - Numerous in recreation areas of Box Butte and Lancaster Counties. (Andersen, Roselle).

STORED PRODUCTS

A DARKLING BEETLE (Tribolium brevicornis) - IDAHO - Collected from Megachile rotundata (alfalfa leafcutter bee) nest at Caldwell, Canyon County, by H. Homan May 8, 1970. Determined by T.J. Spilman. This is a new State record. Also collected from Nez Perce County May 18, Idaho County May 21, and Boundary County June 4. These are new county records. (Portman et al.).

BENEFICIAL INSECTS

LADY BEETLES - ARKANSAS - Hippodamia convergens (convergent lady beetle) increased greatly on northwest area alfalfa. Adults 200-300 in 100 sweeps in Washington County; no larvae. Adults probably moved recently to alfalfa from maturing small grain and other spring vegetation. (Boyer). OKLAHOMA - H. convergens adults 2-15 per 10 sweeps of alfalfa in McClain, Garvin, Stephens, Jefferson, and Tillman Counties. Larvae common in more southern counties. (Okla. Coop. Sur.). WYOMING - Unspecified adults 0-5 per 10 sweeps of alfalfa in Carbon, Sweetwater, Uinta, Lincoln, Teton, Park, Washakie, and Big Horn Counties. Heaviest in Washakie County. (Parshall).

CHINESE MANTID (Tenodera aridifolia sinensis) - SOUTH CAROLINA - Egg cases from York County. This is a new county record. (Nettles, June 10).

A FLOWER BUG (Orius insidiosus) - OKLAHOMA - Adults 5-20 per 10 sweeps of alfalfa in several central, south-central, and southwest counties. (Okla. Coop. Sur.).

DAMSEL BUGS (Nabis spp.) - WYOMING - Adults averaged 3 per 10 sweeps of alfalfa in Park, Big Horn, and Washakie Counties. (Parshall). MASSACHUSETTS - Most plentiful beneficial insects, 5 in 100 sweeps of alfalfa, in Berkshire County field. (Jensen).

ALKALI BEE (Nomia melanderi) - IDAHO - Males first emerged June 6 near Homedale, Owyhee County. (Waters). WASHINGTON - Pupating May 30 at north Sunnyside, Yakima Valley. Emergence of males and first few females starting to renest during hot weather June 2-6 in Franklin and Walla Walla County nesting sites; 5,000 cubic-foot soil cores of larvae moved into new or renovated nest sites during April and May. (Menke et al.).

ALFALFA LEAFCUTTER BEE (Megachile rotundata) - IDAHO - First emerged June 2 at Marsing, Owyhee County. (Wilson). First emerged under natural conditions June 5 in Canyon County. Cool spring could delay general emergence 5-10 days later than in prior years. (Waters).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Overwintered adults increased on wing traps below Caprock, few caught above Caprock in Floyd County, and one in seedling cotton in Kent County. Four overwintered adults on wing traps in Andrews County for first confirmed evidence of established infestations in this area. Very light during October of 1968 and in 1969 in Andrews County. These infestations potential threat to cotton in South Plains and in New Mexico. (Rummel, Clymer). For Boll Weevil in other areas see page 403.

CEREAL LEAF BEETLE (Oulema melanopus) - Larvae light on oats on farms for following new county records. All determined by R.E. White. VIRGINIA - Collected at Deerfield, Augusta County, by M.A. Saucier June 10. ILLINOIS - In Banner Township, Effingham County, by R.H. Vaughan June 1. In Sargent Township, Douglas County, by Bradford June 4. In Wilson Township, De Witt County, on June 9. (PPD). INDIANA - Larvae 2-3 per oat stem at New Carlisle, St. Joseph County. (Shade). This level of infestation approached only in southeastern corner of northeast district with up to 80 per sweep. Larvae reached 40 per linear foot in one field and averaged 14 per linear foot in another. Northeast district averaged 16 per sweep compared with 7 per sweep in north-central district excluding above heavily infested areas. No fields infested enough to warrant treatment (Meyer) except in New Carlisle area (Shade). OHIO - Egg deposition completed. Most in third to fourth instar in central area. Some pupation. (Treece). WEST VIRGINIA - Adults 1 per 100 sweeps of oats in Hardy County June 1. One larva in visual survey on Johnson grass in Hampshire County June 4. (W. Va. Ins. Sur.).

EUROPEAN CRANE FLY (Tipula paludosa) - WASHINGTON - Very heavy, as high as 60 larvae per square foot, in lawn at Blaine airfield, Birch Bay, Whatcom County. (Landis).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - WASHINGTON - First adults June 1 at Puyallup, Pierce County. (Barstow).

GIANT AFRICAN SNAIL (Achatina fulica) - FLORIDA - Counts on 22 properties May 4 to June 8 in generally infested area of Miami, Dade County, revealed: Live 171, dead 477, and estivating 17. (PPD).

GRASS BUGS - UTAH - Labops hesperius averaged 500 per square foot at Blubber Creek, Garfield County, on crested wheatgrass. Active elsewhere at higher altitudes on range grasses. Sprays applied to 1,400 acres of crested wheatgrass at Alton, Kane County, and 160 acres in Heward Canyon, Garfield County. (Judd, Knowlton). Irbisia sp., 10 per square foot, damaged crested wheatgrass northeast of Cove Fort, Millard County. (Judd). WYOMING - L. hesperius infested about 500 acres of crested wheatgrass near Cheyenne, Laramie County. (Spackman).

GRASSHOPPERS - NEW MEXICO - Ranged 12-45 per 25 sweeps of Sandoval County alfalfa. (Heninger). WASHINGTON - Melanoplus sanguinipes and Aulocara elliotti first to fourth instars up to 30-40 per square yard in Okanogan County. Mostly Camnula pellucida and M. sanguinipes heavy on 16,000-20,000 acres west of Tonasket, Okanogan County; treatment needed. (Nonini, Jackson). WYOMING - Early species of range grasshoppers continuing to hatch and some late species starting to hatch at Glendo, Platte County. All totaled 34 per 100 square feet. Ageneotettix deorum (12.5) and Amphitornus coloradus (7) dominant. (Pfadt). NEBRASKA - Brachystola magna 2-3 per square yard on 400 acres of rangeland in Greeley County. (Nielsen). MINNESOTA - General hatch of M. bivittatus started in east-central, southeast, and central districts; up to 10 per square yard in alfalfa. M. femurrubrum eggs in eyespot to early segmentation stage in these districts. Light hatch of M. bivittatus in east Otter Tail County; most eggs segmented. (Minn. Pest Rpt.).

GYPSY MOTH (Porthetria dispar) - RHODE ISLAND - Larval damage observed June 1 in Providence, Kent, and Washington Counties. (Relli, Field).

JAPANESE BEETLE (Popillia japonica) - ALABAMA - Feeding and mating on elderberry, wild grape, roses, sycamore and wisteria at Anniston, Calhoun County. (Green et al.). TENNESSEE - First adults of year in Hamby Valley, Monroe County. (PPD). SOUTH CAROLINA - First of season and earliest ever noted in State in Oconee County May 31. (Baxter, Nettles). First report in Pickens County June 1 on roses. Appeared in apple orchard in same county weekend of June 7. Predict population will approach destructive numbers next 2 weeks. (Kissam). WEST VIRGINIA - First adults of season June 7 in Kanawha County. (W. Va. Ins. Sur.). MARYLAND - First of season in Prince Georges County. (U. Md., Ent. Dept.). NEW HAMPSHIRE - Larvae 20 per square foot in golf course at Hillsboro County. No pupae June 4. (Conklin).

PINK BOLLWORM (Pectinophora gossypiella) - Sterile moth releases June 5-11. CALIFORNIA - Coachella Valley 4,074,500, total to date 45,978,750; Kern County 1,200,000, total to date 9,971,700. ARIZONA - Redington, Pima County, 89,800; total to date 427,300. In Coachella Valley, 134 rosetted blooms found in 8 fields; 124 were in 3 cotton fields totaling 160 acres. (PPD). NEW MEXICO - Two adults in hexalure traps in south Dona Ana County. (N.M. Coop. Rpt.).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - Survey in Sacramento, Placer, El Dorado, and Yolo Counties negative. Last live collection of this pest in these areas in 1968. (Cal. Coop. Rpt.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - GEORGIA - Light in peanuts week ending June 6 in Decatur County (Wheeler) and in Macon County (Lanier). ALABAMA - First adults of season collected on wild daisy in Jefferson County June 2. Adults collected June 4 in Houston and Mobile Counties. Peak emergence expected July 1-15. (Green, Gardenhire).

HAWAII INSECT REPORT

New Western Hemisphere Record - An ADELGID (Pineus pini (Macquart)) heavy on 50 Pinus pinaster trees at Waikii, Hawaii. Collected by S. Kobayashi in April 1970. Determined by M. Inouye. First occurrence of family Adelgidae in State. (Davis). Eradication attempts continue through chemical applications. (Kawamura).

New State Record - Specimens of a DERMANYSSID MITE (Ophionyssus natricis) collected May 17, 1970, by C.K. Yasuda from boa constrictor found in hotel room at Waikiki, Oahu. Determined by F.J. Radovsky. This blood-sucking mite is a serious pest in reptile collections and a vector of a bacterial agent (Aeromonas hydrophila), which causes a frequently fatal hemorrhagic septicemia in snakes. (Radovsky). Seldom found on wild reptiles, mite has been taken from lizards, and once from a rat and from man. (PPD).

Fruits and Nuts - COCONUT SCALE (Aspidiotus destructor) generally trace to light on coconut trees and in papaya fields in windward Oahu, and on coconut trees at Keehi Lagoon Park, Oahu. Remains moderate on fronds of 25 coconut trees at Koko Head, Oahu; larvae of a LADY BEETLE (Telsimia nitida) moderate on some infested pinnae. COCONUT LEAF ROLLER (Hedylepta blackburni) larvae light on 3 of 12 coconut trees examined at Keehi Lagoon Park; negligible on most coconut trees in windward Oahu. (Au, Kawamura).

Forest and Shade Trees - KOA BUG (Coleotichus blackburniae) egg cluster, completely parasitized by a SCELIONID WASP (Trissolcus basalis), collected from Acacia koa at Manoa, Oahu, by C. Oda. (Mau).

Beneficial Insects - A PUNCTURE-VINE STEM WEEVIL (Microlarinus lypriformis) affected 82 percent of 100 Tribulus terrestris internodes on Maui. Negative in 30 internodes of same weed species examined at Puunene. Damaged 95 percent of 100 T. cistoides internodes examined at Kahului; negative in similar sampling of same host at Waikapu and Kihei. (Miyahira).

Miscellaneous Pests - Total of 646 GIANT AFRICAN SNAIL (Achatina fulica) specimens (mostly juveniles) destroyed at Poipu, Kauai, and 14 at Wahiawa during May. Poison bait applications continue in both areas. Many dead snails in treated areas at Kona, Hawaii, where light infestations discovered last month. (Sugawa, Yoshioka). CLUSTER FLY (Pollenia rudis) adults heavy in pastures at Kahua Ranch, Hawaii; residents reported no activity (to coincide with Kahua Ranch activity) at Volcano. (Yoshioka).

DETECTION

New Western Hemisphere Record - An ADELGID (Pineus pini (Macquart)) HAWAII - Hawaii Island (p. 413).

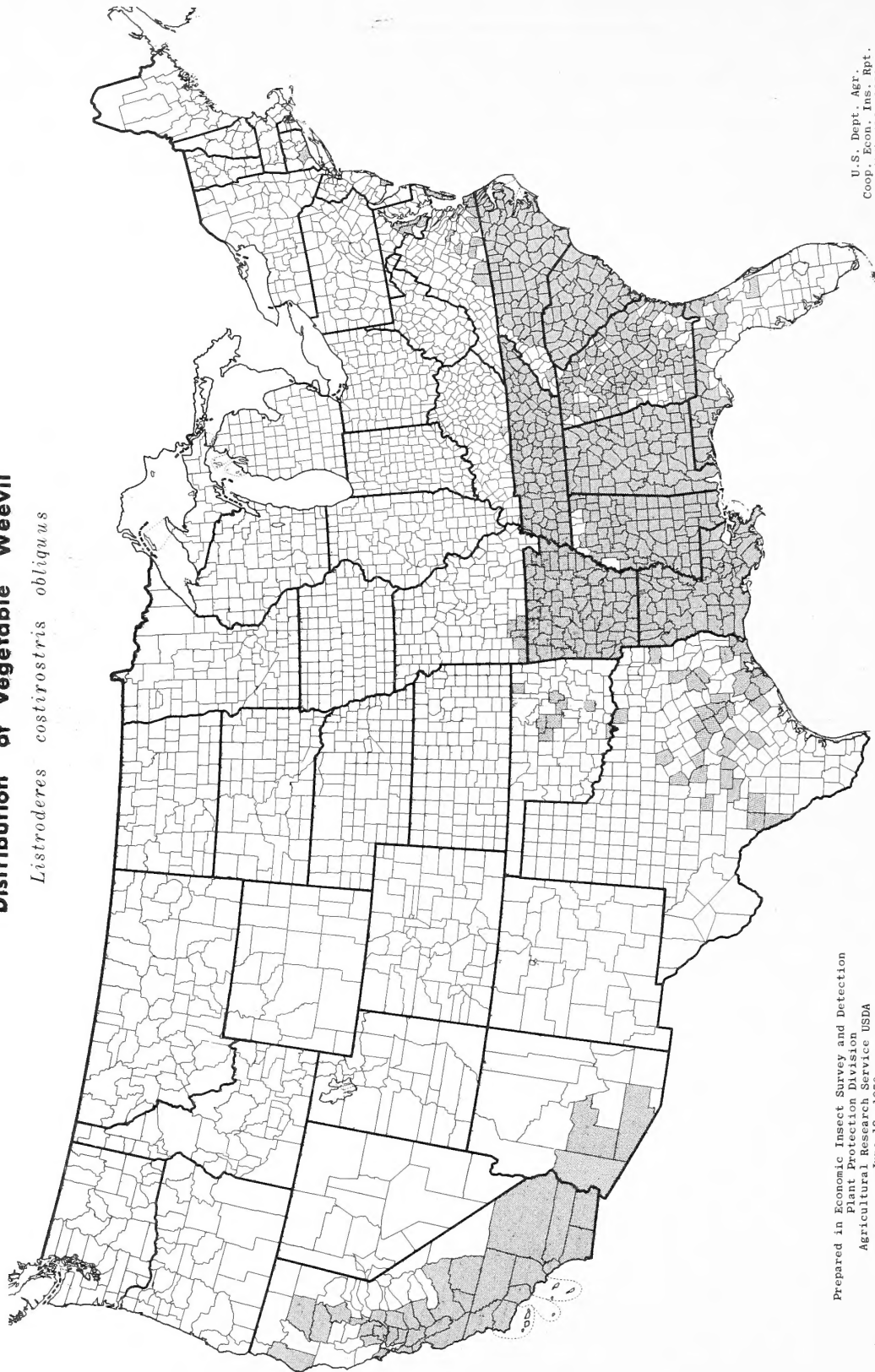
New North American Record - A SARCOPHAGID FLY (Oxysarcodexia australis (Aldrich)) - ARIZONA - Two flies taken in McPhail fruit fly traps in citrus groves at Yuma, Yuma County. Collected by L.K. Winks February 25, 1970. Determined by R.J. Gagne. Previously known from Peru, Columbia, and Costa Rica. (Ariz. Coop. Sur.). Economic significance is not known. (PPD).

New State Records - A DARKLING BEETLE (Tribolium brevicornis) IDAHO - Canyon County (p. 410). A DERMANYSSID MITE (Ophionyssus natricis) HAWAII - Oahu Island (p. 413). A HARVESTER ANT (Pogonomyrex salinus) IDAHO - Oneida County (p. 401). HOLLYHOCK WEEVIL (Apion longirostre) DELAWARE - New Castle County (p. 408). A LACE BUG (Stephanitis takeyai) PENNSYLVANIA - Dauphin County (p. 408). A LEAFHOPPER (Idona minuenda) CALIFORNIA - Los Angeles County (p. 407).

New County Records - ALFALFA WEEVIL (Hypera postica) OKLAHOMA - Jefferson, Stephens (p. 402). An APHID (Myzocallis boernerii) CALIFORNIA - San Bernardino (p. 409). CEREAL LEAF BEETLE (Oulema melanopus) ILLINOIS - De Witt, Douglas, Effingham; VIRGINIA - Augusta (p. 411). CHINESE MANTID (Tenodera aridifolia sinensis) SOUTH CAROLINA - York (p. 411). A CONIFER SAWFLY (Neodiprion pratti pratti) WEST VIRGINIA - Braxton, Clay, Jackson, Mason, Pocahontas, Putnam, Randolph, Roane, Upshur, Wood (p. 408). A DARKLING BEETLE (Tribolium brevicornis) IDAHO - Boundary, Idaho, Nez Perce (p. 410). PEAR PSYLLA (Psylla pyricola) UTAH - Box Elder (p. 406). WHEAT STEM SAWFLY (Cephus cinctus) WISCONSIN - Manitowoc (p. 401).

Distribution of Vegetable Weevil

Listroderes costirostris obliquus

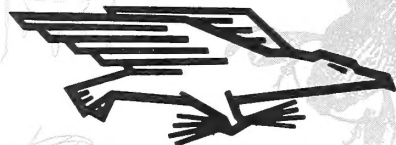


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