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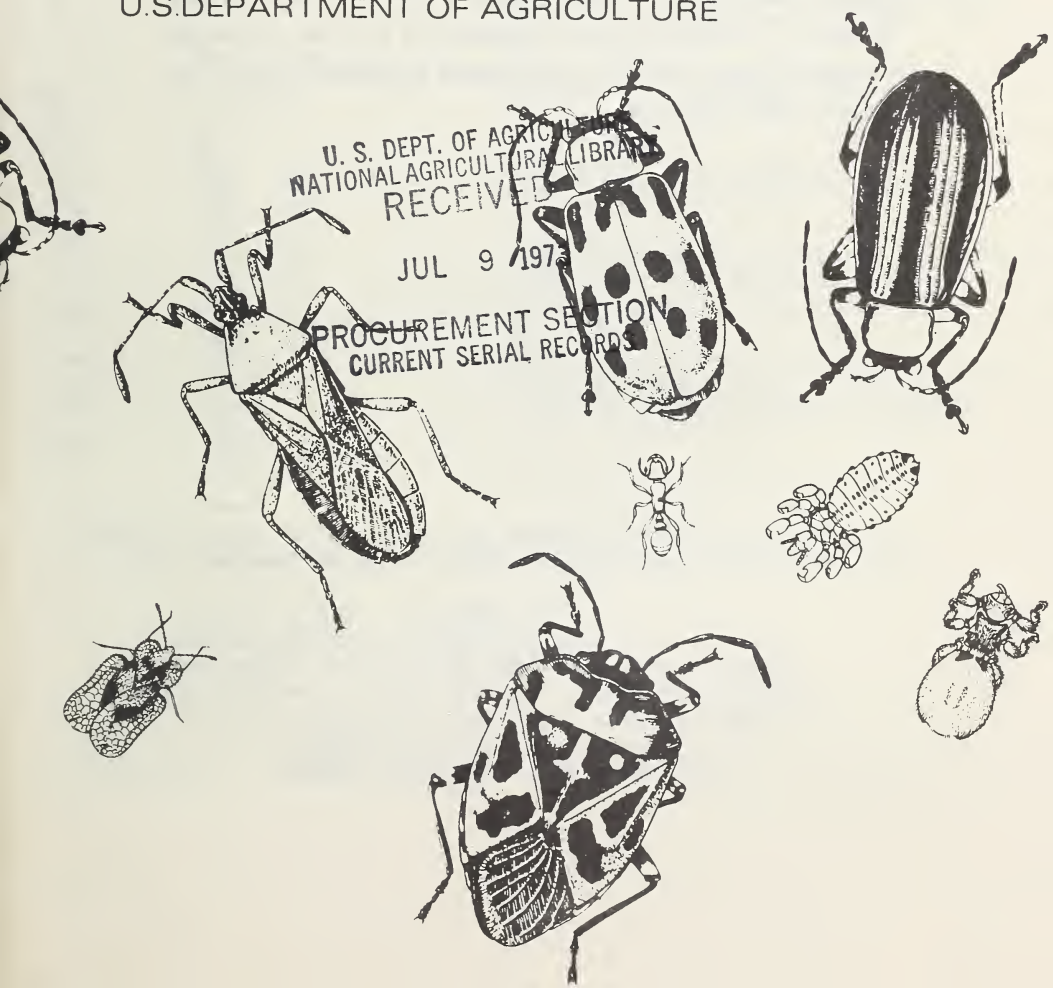
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Cooperative Economic Insect Report

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

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

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

ARMYWORM larval damage to grains and grasses reported in several areas, but no serious infestations reported. Some treatments applied. Light trap catches increased in Michigan (pp. 375, 390-391). GREENBUG populations kept at low levels by parasitism and heavy rains in several Plains States. (p. 376).

EUROPEAN CORN BORER moth emergence continued, egg masses and young larvae reported on corn in some areas; moth flight increased in Michigan. (pp. 377-378).

ALFALFA WEEVIL larvae generally heavy on alfalfa in southeast Colorado. Adults heavily damaged second-growth alfalfa in southern Illinois; infestations heavy in Michigan, above economic threshold in southwest and south-central Pennsylvania. (pp. 379-380).

BOLL WEEVIL adults in cotton terminals in southern Tennessee. First-generation BOLLWORMS on cotton in Mississippi. (p. 381).

SPRUCE BUDWORM again heavy in Michigan, large acreage treated in Maine. PINE BUTTERFLY heavy in Bitter Root Valley of Montana. (p. 384).

FACE FLY infestations on cattle heaviest of past 2 years in north-east Mississippi. Face fly and HORN FLY very heavy in southeast South Dakota. Horn fly heavy in north-central Texas. (pp. 386-387).

GRASSHOPPERS economic in northwest Minnesota and on rangeland in several Western States. First JAPANESE BEETLE adults of season reported in Tennessee and Maryland, emerge reported in North Carolina. (pp. 380, 388-389).

Detection

A GRASSHOPPER reported for first time from Nevada. (p. 389).

For new county records see page 389.

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

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WEATHER OF THE WEEK ENDING JUNE 18

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

PRECIPITATION: Highs pumped moist, damp air into the Eastern United States all week. While relatively large areas in the Corn Belt and the East received from 0.80 to 2.00 inches of rain. Areas as scattered as Iowa, Texas, Illinois, and Georgia received 2 inches or more. Areas in Texas and South Carolina received 6 to 9 inches. The West was dry by comparison. Most of California, parts of western Washington, Oregon, and Wyoming remained dry. A large section of the Montana drought area did get 0.80 to 2 inches of rain--not enough to break the drought but enough to benefit crops greatly. The Washington and Oregon drought area had from zero to 0.80 inches of rain. Monday, a Bermuda High dominated the weather picture over the eastern half of the Nation except for a Low which developed over south Georgia. The Low generated drenching thunderstorms over Georgia and the Carolinas. Charleston, South Carolina, received 9.30 inches of rain in the 24 hours ending 9 p.m. Monday. The rain continued into Tuesday causing considerable flooding. By 9 a.m. Tuesday, Charleston had received almost 17 inches of rain over a 5-day period. In the West, moist air from the same High brought heavy showers to the Texas gulf coast. Houston, Texas, received 5.19 inches of rain in the 24 hours ending 9 p.m. Monday. By 9 p.m. Tuesday 2.49 inches had fallen at San Antonio and 2.30 inches at Victoria, Texas, in 24 hours. Between Texas and the Carolinas, thundershowers continued through the Deep South on Tuesday. Lake Charles, Louisiana, for example, measured 2.50 inches. Over the Nations northern half a stationary front stretched from the Great Plains to the Great Lakes across northern New England to New Brunswick. Sioux City, Iowa, received 1.11 inches of rain Monday and thundershowers occurred from Nebraska to New England along the front. The weather was cool and clear behind the front. Wednesday, a High began to build behind the front pushing it slowly southeastward. Thursday, it stretched along the Ohio Valley east to the Atlantic. Weather of the week continued on page 392.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - OKLAHOMA - Heavily damaged small grains in Osage County and scattered fields in Roger Mills County. (Okla. Coop. Sur.). ARKANSAS - Heavy localized infestation found in fescue in Marion County week ending June 8. Complete loss noted in at least one field where good hay crop expected. Infestations reported in Benton County now under control. (Boyer). KANSAS - None found in brome grass examined in northern counties of northeast district; ranged absent to light generally in wheat checked in this area and in west-central, southwest, and east-central districts. Some significant infestations seen in rank, thick stands of wheat in Harvey County (up to 5 per drill row foot); no head feeding noted. Larvae averaged about one per row foot in one field of 80 percent downed wheat in Morris County with some beard feeding but no kernel feeding noted. (Bell).

MISSOURI - *P. unipuncta* moderate to heavy on fescue and orchard grass in south-central and southwest areas. Larvae on orchard grass in southwest area ranged 0-6 per square foot. Heavy infestations reported on 2,000+ acres of fescue in south-central area. Treatments applied. (Huggans, Thomas). ILLINOIS - Fed in whorls of 10 percent of 18-inch field corn in no-till plots in St. Clair County. (Ill. Ins. Rpt.). MICHIGAN - Adults increased at all blacklight stations June 10-11; ranged 60-70 per night. This increased activity 7-10 days later than normal and small grain problems should be minimal. (Sauer). OHIO - Several no-till cornfields in east-central area showed feeding damage. Peak activity expected week of June 18. Check all no-till corn after sod or rye for damage. (Musick). Damage remained at 20, 28, 65, and 75 percent in 4 Licking County fields where treatment recommended. (Blair).

MARYLAND - *P. unipuncta* infestations statewide continued well below normal in small grain and no-till corn. About 70 percent of Eastern Shore barley harvested with only 1 percent of acreage requiring sprays before harvest. Heaviest infestation in corn found near Price, Queen Annes County, where fourth instars averaged one per 200 plants on 40 acres. (U. Md., Ent. Dept.). VIRGINIA - Third instars abundant in low spots in many cornfields in Montgomery and Pulaski Counties. Corn up to 12 inches tall badly damaged in some spots; 50+ percent of no-till fields examined needed treatment. Sprays applied to 200 acres of corn. (Allen).

KENTUCKY - *P. unipuncta* caused minor damage to corn statewide. Damage heavier in no-till fields. Heaviest infestation in Hardin County, almost all plants infested with 3-4 larvae. Averaged one larva per 20 plants at one Nelson County location. Treatments applied at several Warren County locations. Caused light damage to wheat, oats, and barley in central and south-central areas. (Barnett et al.). TENNESSEE - Caused moderate to heavy damage to 25-acre field of corn in Washington County. Controls applied. (Quillin).

ASTER LEAFHOPPER (*Macrostelus fascifrons*) - WISCONSIN - Noticeable increase observed. Grassy fields in northeastern Sawyer County yielded about 2 per sweep; other grassy fields in northwest area yielded moderate populations. Averaged 6 per sweep in Waupaca County oatfield. Averaged 50 per 100 sweeps in Plainfield area and other eastern Waushara County areas. (Wis. Ins. Sur.). MICHIGAN -

Continued to move into State. Percent infectivity not known. (Sauer). MINNESOTA - Increased greatly in some districts, especially central and southwest; averaged 350 per 100 sweeps in these districts. Ranged 2,800-3,000 per 100 sweeps in one Scott County field. Feeding damage minimal, but species is vector of aster yellows. (Minn. Pest Rpt.).

CORN EARWORM (Heliothis zea) - IDAHO - First eggs of season noted June 13. Six eggs found on silks of 62 corn ears of Parma, Canyon County, corn. (Scott). ILLINOIS - Infested one per 25 tassels of sweet corn checked in St. Clair County. (Ill. Ins. Rpt.). NORTH CAROLINA - Damaged less than 5 percent of whorls in 50 corn plants checked in 25 fields along State Highway 50 in Duplin County between Raleigh and Kenansville. Damage in corn whorls usually very common in southern Coastal Plain during early June. (Hunt).

CORN LEAF APHID (Rhopalosiphum maidis) - KANSAS - Light infestations, usually involving 50 percent or less of whorls, found in sorghum in northeast and east-central districts. No reports received of significant infestations in sorghum in south-central, southwest, and west-central districts. (Bell). TEXAS - Light on sorghum in most areas. Still detected on grain sorghum in south-central areas; no economic infestations reported. Light in Blacklands in Hill and Navarro Counties. Noted feeding in whorls of sorghum in Hunt, Collins, Kaufman, and Dallas Counties. Moderate to heavy in several Knox County fields. In Trans-Pecos area light populations detected in Reeves, Andrews, and Glasscock Counties. Counties near Lubbock began to report light activity on sorghum. (Cole et al.).

GREENBUG (Schizaphis graminum) - TEXAS - Light in Blacklands area where only some colonies could be found in sorghum fields in Hill and Navarro Counties. Heavy rains and beneficial insects kept populations light in area. Light on grain sorghum in South Plains area near Lubbock. Averaged less than 5 per plant in fields checked in Amarillo area. (Hoelscher, et al.). OKLAHOMA - Heavy in young sorghum in Pawnee County and moderate to heavy in one field in Marshall County. Ranged 3-4 per plant in one field in Texas County but averaged 1 per 10 row feet in second field. (Okla. Coop. Sur.). KANSAS - Beating rains delayed buildups on seedling sorghum over much of State; only reports of damaging infestations involve Harvey and western Marion Counties. Significant parasitism by Lysiphlebus testaceipes (a braconid wasp) noted in one field of 7-inch infested (125 per plant) sorghum in Marion County and traces of parasitism noted in some fields in Washington, Marshall, and Nemaha Counties. Trace infestations noted in most green wheat fields checked in northeast, east-central, and southwest districts; heavy populations of lady beetles and sometimes green lacewing larvae noted in most fields will likely destroy most S. graminum before wheat ripens and greenbugs migrate to sorghum. Buildup of predators mostly due to presence of significant populations of Macrosiphum avenae (English grain aphid) infesting wheat heads, and not necessarily to heavy numbers of greenbug. (Bell).

NEBRASKA - S. graminum remained light in most Clay County sorghum; ranged 1-2 per 1 to 4-inch plant. Averaged 8.9 per plant in one field; plants not visibly damaged. Soil moisture good, sorghum growth rapid. Flights light in Clay County. Averaged less than one alate per trap at 2 locations. Light, ranged 12-14 per 50 sweeps, in 2 wheat fields in Clay County. (Gary et al.).

POTATO LEAFHOPPER (Empoasca fabae) - ILLINOIS - Moderate, averaged 12 adults and nymphs per sweep in Clinton County alfalfa. (Ill. Ins. Rpt.). OHIO - Adults ranged 1-3 per plant on 3-inch Clinton County soybeans. Unusually heavy for time of year in comparison to 1972. (Fox). MICHIGAN - First adults of season found June 4 in Ingham County alfalfa; counts very light. (Sauer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Appeared on scattered plants in Dixie Valley, Pershing County, alfalfa seed fields. Alates, alatoid nymphs, and nymphs present. (Munk, Ogawa). WASHINGTON - Specimen collected in yellow pan aphid tray May 6 at Pasco, Franklin County. (Powell).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Blacklight trap collections indicate significant moth flights in Brown and Republic Counties. Moth counts low in Finney County. Surveys, mainly in corn more attractive to moths, indicated the following, by county (height of corn in parentheses): Brown (16 inches) - 1 egg mass per 50 plants; Douglas (36 inches) - 40 percent of plants infested with larvae and 6 percent with egg masses; Johnson (26 inches) - 54 percent of plants infested and 20 percent with egg masses (moths flying in field) and (18 inches) 6 percent of plants infested and 2 percent with egg masses. No infestations noted in 6 to 12-inch corn in Riley and Nemaha Counties. Larval instars primarily first but some second. (Bell).

MISSOURI - O. nubilalis very light in corn in southwest and west-central areas. Percent plants showing leaf damage ranged 0-21 percent. Most corn in these areas planted too late for first-brood infestations. (Munson). IOWA - Adult emergence declined in central area. Percent of corn plants with eggs 1.5 and 2 percent of plants damaged in 20 Polk County fields. (DeWitt). MINNESOTA - Limited surveys indicate 22 percent pupation and 6 percent moth emergence in southwest district, 10-20 percent pupation and no emergence in central district. (Minn. Pest Rpt.).

ILLINOIS - O. nubilalis moth emergence 100 percent in Champaign County, eastern district; pupation 72 percent, moth emergence 28 percent in Ogle County, north-west district. Egg laying by overwintered females observed in several counties in southern half of State; egg masses averaged 80 and 120 per 100 plants in 30-inch corn in Mason and Pike Counties, respectively. Some hatch noted in Pike County. Egg masses averaged 26 per 100 plants in 2 fields of 50-inch sweet corn in St. Clair County; whorl feeding observed on 16 percent of plants, one fourth-instar larva found. (Ill. Ins. Rpt.). INDIANA - Egg masses ranged 0-16 per 100 stalks of corn 4-28 inches extended leaf height in Kosciusko County, some hatching occurred on taller plants. (Engleberth). Second-instar larvae noted in Tippecanoe County corn. (Huber). MICHIGAN - Moth activity increased drastically. Collections peaked June 10. Egg hatch began June 15. All susceptible crops should be treated. (Sauer).

MARYLAND - O. nubilalis infestations in corn still in 2-20 percent range in Wicomico, Dorchester, Caroline, Talbot, and Queen Annes Counties; first and second instars present. Moth flight declined due to negative effects of full moon and clear skies. Adult trap counts ranged 1-3 per night over State. (U. Md., Ent. Dept.).

DELAWARE - Larvae common in untreated sweet corn in Sussex County. (Burbutis). NEW YORK - Larval populations increased. First moth taken May 25 in Hudson Valley. Egg masses found on early corn in Dutchess County where one spray applied. Most corn in Hudson Valley very small. (N.Y. Wkly. Rpt., June 11).

BLACK CUTWORM (Agrotis ipsilon) - VIRGINIA - Larvae cut off corn seedlings in low spots in 7 no-till fields in Montgomery County. (Allen). Moth collections in blacklight traps increased abruptly on Eastern Shore. (Hofmaster). INDIANA - Larvae reported from cornfields in Sullivan, Montgomery, and Tippecanoe Counties. Damage by first-generation larvae no longer threat; pupation began as far north as Tippecanoe County. (Turpin). ILLINOIS - Percent damage per 100 corn plants increased in Shelby County. Seven larvae found associated with 50 damaged plants. (Ill. Ins. Rpt.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Damage to corn declined throughout Eastern Shore. Corn outgrowing earlier injury. Adults ranged 2-4 per plant in Talbot, Caroline, Prince Georges, and Dorchester Counties; ranged 2-10 per plant in Frederick, Carroll, and Howard Counties with feeding light to moderate in several of most heavily infested fields. (U. Md., Ent. Dept.). KENTUCKY - Caused light damage to corn in eastern and central areas with heavier damage in western areas. Some wilting reported from Warren County. (Barnett).

MAIZE BILLBUG (Sphenophorus maidis) - MARYLAND - Caused 20 percent reduction of 20-acre stand of sweet corn near Price, Queen Annes County. Controls required. (U. Md., Ent. Dept.).

SMALL GRAINS

BARLEY THRIPS (Limothrips denticornis) - NORTH DAKOTA - Adults ranged 1-2 per stem in 20 percent of stems in scattered, early headed barley fields in Grand Forks County. Nymphs present in leaf sheaths. (Kaatz).

COULEE CRICKET (Peranabrus scabricollis) - IDAHO - Population migrated from rangeland into Arbon Valley, Power County, winter wheat; ranged 40-50 per square yard. Treatment imminent should feeding change from weeds to wheat. (Schow, June 8).

HESSIAN FLY (Mayetiola destructor) - MISSOURI - Heavy infestation reported on Arthur wheat variety in east-central area. Average of 20 percent of stems in field lodged. (Thomas).

TURF, PASTURES, RANGELAND

WESTERN TUSSOCK MOTH (Hemerocampa vetusta) - NEVADA - Larvae up to two-thirds grown defoliated scattered bitterbrush (Purshia tridentata) plants at 5,000-6,000 foot level near Galena Creek, Washoe County. (Barclay, Bechtel).

WHITELINED SPHINX (Hyles lineata) - NEW MEXICO - Larval migration heavy on highways adjacent to rangeland in Harding County. (N.M. Coop. Rpt.).

BANKS GRASS MITE (Oligonychus pratensis) - IDAHO - Populations destructive to 60 acres of orchard grass hay field in vicinity of Potlatch, Latah County. Damage seemed complicated by dry soil conditions and numerous frosts that have damaged some crops in area. (O'Keeffe).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - WASHINGTON - Few larvae, 1 per 20 sweeps, collected on west edge of alfalfa seed field 20 miles north of Pasco, Franklin County, May 6 and 12. This is a new county record. Populations heavier than previously observed in Walla Walla County alfalfa seed fields in area between Touchet and State line; larvae ranged 1-2 per sweep. (Johansen). IDAHO - Larvae ranged up to 200+ per 3 sweeps in upper Blacks Creek area, Ada County, in dryland alfalfa grass field. Larvae numerous (25 per sweep) in some late alfalfa in northern area. Many fields appear to have noneconomic populations; however, fields throughout area should be checked. (O'Keeffe). COLORADO - Larval populations erratic but generally heavy in southeast counties, ranged 30-2,000 per 100 sweeps. In Mesa and Delta Counties, ranged 250-300 per 100 sweeps. (Schweissing, Bulla). NEW MEXICO - Averaged 3 adults and ranged 2-8 larvae per 25 sweeps on alfalfa in Valencia County. (N.M. Coop. Rpt.).

KANSAS - H. postica larval infestations generally decreasing rapidly in alfalfa in northeast and east-central districts; good regrowth noted in nearly all fields, exceptions primarily noted in some fields along Kansas River and in eastern Morris County. Larval populations decreasing in Finney County, little significant damage incurred earlier except in Clark County. Heavy adult populations, thought to delay regrowth in some Reno County fields, caused some concern. (Bell). NEBRASKA - Counts still heavy in Dawson County alfalfa with 75 percent of fields harvested for first cutting. Larvae ranged 2-2,880 (average 591) and adults 0-24 (average 5) per 100 sweeps in 8 fields in Gothenburg and Cozad area June 12-14. In field south of Gothenburg, 625 larvae and 12 adults taken in 5 sweeps. In Lexington and Overton area, larvae ranged 12-740 (average 161) and adults 0-8 (average 1.2) per 100 sweeps same period. These are heaviest recorded populations in Dawson County. Many growers sprayed stubble. In one Lincoln County field, 122 larvae but no adults taken per 20 sweeps. (Manglitz, Stevens).

MISSOURI - H. postica adults damaged regrowth alfalfa in central area; ranged 2-5 per sweep. (Huggans). NORTH DAKOTA - Larvae ranged up to 1,600 (average 350) and adults averaged 12 per 100 sweeps in irrigated alfalfa in Oliver County. Increased in irrigated alfalfa in McKenzie County; larvae ranged up to 5,000 (average 3,350) per 100 sweeps. Up to 100 (average 64) percent of tips damaged. Larvae 5,000 per 100 sweeps in some second-year fields. Adults mating. Alfalfa in late-bud to early bloom stage. First cutting under way. (Brandvik). MINNESOTA - Very light, 1 per 200-300 sweeps of alfalfa in Hennepin, Wright, and Meeker Counties. Determined by J. Lofgren. These are new county records. (Minn. Pest Rpt.).

WISCONSIN - H. postica larvae averaged 3 per 10 sweeps in several fields where significant feeding noted last 14 days of May. In most cases, fields severely lodged making counts difficult. Populations erratic in Portage, Waupaca, Sauk, Marquette, Waushara, and Dane Counties; ranged 3-15 per sweep. Damage minimal, larvae

pupating. Cutting began throughout State; significant first-crop hay damage unlikely. Infestations noted in following counties: Price, 5 larvae (few third instar) per 50 sweeps, 1 adult per 200 sweeps; Ashland, 1 larva (few second instars) per 200 sweeps, 1 adult per 500 sweeps; Sawyer and Bayfield, no larvae, 1 adult per 600 sweeps; Douglas, no larvae, 1 adult per 200 sweeps; Rusk, 1 larva (few second instar) per 100 sweeps, 1 adult per 300 sweeps; Washburn and Burnett, no larvae, 1 adult per 200 sweeps. (Wis. Ins. Sur.).

ILLINOIS - Hypera postica adults heavily damaged second-growth alfalfa in southern half of State. Up to 10 adults per sweep in selected fields in Effingham and Washington Counties. Averaged one per 2 sweeps in random fields in Clinton County. (Ill. Ins. Rpt.). MICHIGAN - Infestations heavy in alfalfa and hay cutting late. Losses heavier in unprotected fields than in past. (Sauer).

MARYLAND - H. postica damage and populations declined rapidly in all sections. Pupation continued statewide. (U. Md., Ent. Dept.).

PENNSYLVANIA - Above economic threshold in most alfalfa in southwestern and south-central counties; larvae per sweep averaged 35 in 5 fields and 39 in 4 fields, in these areas, respectively. Numerous fields in some areas of southeast district showed 80-100 percent tip damage. Averaged 27 larvae per sweep in 4 Lancaster County fields. (Hower). NEW YORK - Alfalfa examined June 4-8 in Tompkins, Livingston, Chemung, Steuben, Ontario, and Seneca Counties in good condition, little damage evident. Larvae in third and fourth instars. Parasitism by Microctonus aethiops (a braconid wasp) about at peak. M. aethiops recovered in Seneca, Oswego, Livingston, Yates, Madison, Orange, Schoharie, and Tompkins Counties. Seneca and Oswego are new county records. (N.Y. Wkly. Rpt., June 11).

ALFALFA LOOPER (Autographa californica) - NEVADA - Ranged 1-30 per sweep in alfalfa hay and/or seed fields at Fallon, Churchill County; Denio and Orovada, Humboldt County; Yerington, Lyon County; Dixie Valley and Lovelock, Pershing County; and Hualapai Valley, Washoe County. Diseased larvae appeared in some localities; in Fallon area, sea gulls effective predators in cut fields. In Orovada area, cleanup sprays reduced most insects in alfalfa seed fields except for A. californica which ranged 7-8 per sweep. (Nev. Coop. Rpt.).

GRASSHOPPERS - MINNESOTA - Economic, 20-25 per square yard, in roadsides and field margins in Kittson and Marshall Counties. Melanoplus bivittatus dominant; ranged second to fourth instars, mostly third and fourth instars. Very dry, warm weather will increase hatch and movement into adjacent fields. Little or no movement yet observed. Development in other areas not as advanced, ranged first to third instars; only trace numbers seen. (Minn. Pest Rpt.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MINNESOTA - Spittle masses and nymphs reported on most forage crops over southern half of State. Infestations heaviest in southeast district; decrease progressive from east to west. No economic infestations reported. (Minn. Pest Rpt.). ILLINOIS - Adults averaged 2 per sweep in Effingham County alfalfa. (Ill. Ins. Rpt.). KENTUCKY - Adult populations declined on forage crops in central area; ranged 150-200 per 100 sweeps. (Barnett).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adults caused light injury to newly emerging soybeans in Wicomico and Dorchester Counties. Heaviest counts ranged 2-4 adults per 20 row feet near Hebron, Wicomico County. Egg laying evident. No larvae noted yet but expected next 7 days on lower Eastern Shore. (U. Md., Ent. Dept.).

PAINTED LADY (Cynthia cardui) - IOWA - Larvae damaged soybeans in Harrison, Jasper, Lyon, Pocahontas, Polk, Pottawattomie, and Wright Counties. Damage generally widespread across fields, not necessarily localized near thistles and other weeds. (DeWitt). MINNESOTA - Limited larval feeding reported in field margins in Lyon, Yellow Medicine, and Lac qui Parle Counties. In most cases, adjacent fields containing Canada thistle primary source of infestation. (Minn. Pest Rpt.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Adults ranged 15-20 in 3 Leggett traps in Chickasha area, Grady County, week ending June 9; 14 adults taken night of June 12. Three weevils taken this period in Caddo County. (Okla. Coop. Sur.). ARKANSAS - Counts per 10 Leggett traps by county: Clay 1,065; Mississippi 28; Phillips 157; Chicot 79; Pulaski 46; Lafayette and Miller 58. (Boyer). MISSISSIPPI - Counts per Leggett trap by county (number of traps in parentheses): Holmes 2.1 (10), Tallahatchie 72.5 (6), Grenada 11.2 (13), Yalobusha 22.4 (20), Webster 32.6 (17). (Walton et al.). TENNESSEE - Emergence of overwintered weevils peaked. Adults readily found in cotton terminals in southern counties. (Locke).

PALESTRIPED FLEA BEETLE (Systema blanda) - ARIZONA - Damaged squares in glandless cotton variety test plots at Yuma, Yuma County. (Ariz. Coop. Sur.).

BOLLWORMS (Heliothis spp.) - MISSISSIPPI - First generation found on cotton. Eggs found on up to 75 percent of terminals. Infestations of young larvae ranged 3-5 percent in more heavily infested fields. (Robinson).

SALTMARSH CATERPILLAR (Estigmene acrea) - OKLAHOMA - Damaged young cotton in Warren area, Jackson County. One field replanted. Also heavy on weeds in area. (Okla. Coop. Sur.).

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - MISSISSIPPI - Moderate to heavy in cotton in Delta counties. Some treatments applied. (Robinson).

A FLEAHOPPER (Spanogonicus albofasciatus) - MISSISSIPPI - Moderate to heavy in cotton in Leake, Covington, Jefferson Davis, Lawrence, and Walthall Counties. (Schuster).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults on newly set tobacco ranged 3-10 per plant, averaged 4. These counts show slight increase over last period. About 40 percent of Type 32 tobacco crop planted in Prince Georges, Anne Arundel, and St. Marys Counties. Damage light to date. (U. Md., Ent. Dept.).

KENTUCKY - Epitrix hirtipennis caused minor damage to tobacco in central area. Foliar loss, 5-10 percent, noted at several locations in Simpson, Hart, and Warren Counties. (Barnett).

SUGAR BEETS

SUGARBEET ROOT MAGGOT (Tetanops myopaeformis) - NORTH DAKOTA - Adult emergence about complete, flies moved to new beet fields in Walsh and Pembina Counties. Egg laying general in these counties; 10-60 eggs per mass evident. Eggs on up to 80 percent of plants. (Kaatz).

MISCELLANEOUS FIELD CROPS

SUNFLOWER BEETLE (Zygogramma exclamationis) - NORTH DAKOTA - Up to 5 adults per stalk (averaged 7 per 10 stalks) on early 8 to 12-inch sunflowers in Pembina County. Beetles also present in Walsh, Grand Forks, and Traill Counties. (Kaatz).

PAINTED LADY (Cynthia cardui) - MINNESOTA - Limited larval feeding reported in field margins of sunflower in Lynn, Yellow Medicine, and Lac que Parle Counties. Adjacent fields containing Canada thistle primary source of infestation in most cases. (Minn. Pest Rpt.). WASHINGTON - Larvae fed on thistle then moved onto gardens, beans, potatoes, mint, cherries, alfalfa, and other crops in eastern counties (Whitman, Spokane, Stevens, Yakima, Benton, Grant, Walla Walla, Kittitas). (Telford et al.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - DELAWARE - Larvae common on untreated potatoes and tomatoes in Sussex County. (Burbutis). TENNESSEE - Damaged potatoes and tomatoes in Lincoln County. Controls applied. (Winsett).

EGGPLANT FLEA BEETLE (Epitrix fuscula) - OHIO - This species and Epitrix cucumeris (potato flea beetle) very common on Washington County potatoes. Feeding noted on 10-100 percent of leaves with 80 percent damaged. Up to 72 feeding holes noted on plants with heaviest injury. Home gardens more seriously damaged than large commercial plantings. (Fox).

A FLEA BEETLE (Epitrix brevis) - OHIO - Taken from pepper plants at Marietta, Washington County. This is a new county record. Previously recorded from Champaign and Greene Counties. (Fox).

ALFALFA WEEVIL COMPLEX (Hypera spp.) - CALIFORNIA - Adults abundant at bases of potato plantings in Kern County. Condition is general. No damage to potatoes noted to date; numbers of adults present caused concern. (Cal. Coop. Rpt.).

BEANS AND PEAS

PEA APHID (Acyrtosiphon pisum) - IDAHO - Present in many northern area pea fields. Small "hot spots" in many fields. (O'Keefe).

MEXICAN BEAN BEETLE (Epilachna varivestis) - TENNESSEE - Continued to damage snap beans in central area. Frequent rains made controls difficult. (Winsett, Gordon).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - OREGON - Populations appear heavier this season, with larvae already present in some cole crop plantings. Treatment required on 2 broccoli plantings in Marion County. (McGee, Hay). Two adults taken in pheromone trap near Corvallis, Linn County, during period June 6-13. (Crowell).

GENERAL VEGETABLES

BLACK CUTWORM (Agrotis ipsilon) - OREGON - Larvae seriously damaged 30-acre field of seeding table beets near Dayton, Yawhill County. Stand reduction estimated to be 20-25 percent. (McGee, Penrose).

SALTMARSH CATERPILLAR (Estigmene acrea) - TEXAS - Caused damage to foliage of watermelons as well as beans in Wilbarger County. (Boring).

BLACK SWALLOWTAIL (Papilio ajax) - TEXAS - Larvae heavy and fed on dill in Wilbarger County. (Boring).

ONION MAGGOT (Hylema antiqua) - OHIO - Injury to onions by first-generation larvae observed for second consecutive week at Celeryville, Huron County; damage not at peak proportions. Some pupation noted. Home gardens most seriously damaged. Where controls applied, larvae of no economic importance in commercial plantings. (Sleesman).

CABBAGE MAGGOT (Hylema brassicae) - MAINE - Serious this year because of delayed cold, wet weather especially on radishes statewide. Many other root crops damaged. Cabbage and other cole crops also damaged. (Gall).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - COLORADO - Ranged 50-100 in pheromone traps in Mesa County. Emergence delayed in Delta, Garfield, and Montrose Counties. (Bulla).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Light in most areas of Rogers, Washington, Oklahoma, Wagoner, and Marshall Counties. About one-third of eggs hatched in Okfuskee County, white eggs also present June 12. (Okla. Coop. Sur.).

YELLOW PECAN APHIDS (Monellia spp.) - TEXAS - Infestations built up in Wilbarger and Baylor Counties of Rolling Plains; honeydew became problem near pecan trees in area. Light to moderate populations reported from Ward, Winkler, Ector, and El Paso Counties of Trans-Pecos area. (Boring, Neeb).

A STINK BUG (Euschistus conspersus) - CALIFORNIA - Adults entered peach and almond orchards near grasslands. Infestations should be checked carefully to prevent damage. (Cal. Coop. Rpt.).

ORNAMENTALS

AN OLETHREUTID MOTH (Rhyacionia bushnelii) - CALIFORNIA - Reinfested 75-acre Christmas tree farm at Wasco, Kern County. Farm originally infested by planting stock in 1971 and treated; supposedly eradicated. Reinfestation probably due to failure to remove tip prunings. Oligonychus milleri (a spider mite) also serious on this farm. Mites ranged 20-50 per 3-inch tip, eggs heavy. (Cal. Coop. Rpt.).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - MICHIGAN - Populations heavy again this year, some tree mortality expected. Development ranged third instar to pupa in Marquette County, most in fourth instar. (Sauer). MAINE - Larval development proceeding rapidly with all larvae in fourth and fifth instars in all areas except eastern section where up to 40-60 percent noted in sixth instar. Treatment began June 10 in Allagash area, now includes most of St. Francis and Long Lake areas; 125,000 to 135,000 acres treated as of June 12. (Gall).

PINE BUTTERFLY (Neophasia menapia) - MONTANA - Large numbers again present in Bitter Root Valley area as in past 2 years. Trees defoliated for 3 successive years now in weakened condition and infested by many other insects. (Pratt).

YELLOWHEADED SPRUCE SAWFLY (Pikonema alaskensis) - MINNESOTA - Larvae began defoliating white spruce along roadsides and in plantations in northern part of State. Other spruces also damaged, but white spruce primary problem, especially in plantations. Eggs and first and second instars present. As controls usually directed at third and fourth instars, good timing for application would be about June 22. (Minn. Pest Rpt.).

PINE SPITTLEBUG (Aphrophora parallela) - OHIO - Heavy on Scotch pine in Stark, Tuscarawas, Carroll, and Jefferson Counties; nymphs about full grown. (Balderston).

A SOFT SCALE (Pseudophilippia quaintancii) - VIRGINIA - Collected from Scotch pine (Pinus sylvestris) in Crewe, Nottoway County, by W.P. Eggbarn June 5, 1973. Determined by M. Kosztarab. This is a new host record in the State and a new county record. (Surles).

FOREST TENT CATERPILLAR (Malacosoma disstria) - SOUTH DAKOTA - Stripped hardwoods in Sisseton area, Roberts County. Very severe south and west of Peever, 100+ acres of government and private land nearly bare of leaves. In many cases, young branches stripped and larvae covered entire branch. Severe infestation of this species and M. americanum (eastern tent caterpillar) also found in Sieche Hollow State Park west and north of Sisseton; trees partially defoliated. Treatment applied in some areas. (Jones, Kantack).

FALL CANKERWORM (Alsophila pometaria) - NORTH CAROLINA - Active for third consecutive year on Coweeta Hydrological Experiment Station in Macon County. Third and fourth instars defoliated 75+ acres of hardwood on watershed, interfered with long-range water runoff experiments. Peak defoliation expected first half of July. (Berry, Angel).

SPRING CANKERWORM (Paleacrita vernata) - WISCONSIN - Damage severe in parts of Waukesha and Sauk Counties. (Wis. Ins. Sur.).

LINDEN LOOPER (Erannis tiliaria) - INDIANA - Larvae heavily damaged area of oaks in Jasper County. In area about 150 yards wide by 0.4 mile long, almost no leaves left intact; most leaves more than half eaten. (Schuder).

MOURNINGCLOAK BUTTERFLY (Nymphalis antiopa) - NEW JERSEY - Larvae fed on elm, willow, oak, and poplar trees in Essex and Atlantic Counties. (Kupcho, Dupras).

ELM LEAF BEETLE (Pyrrhalta luteola) - KANSAS - First generation began pupation in Riley County. First-generation larval populations much lighter than normal at Hays, Ellis County. (Bell). OKLAHOMA - Moderately damaged Siberian elms in Muskogee, Wagoner, McIntosh, Okmulgee, and Oklahoma Counties. (Okla. Coop. Sur.). TEXAS - Built up in several areas of State. Light to moderate damage reported to Chinese elms in Baylor, Hardeman, and Wilbarger Counties. Populations and damage heavy on elms in Andrews, Martin, and Reeves Counties. Populations very heavy on elms throughout many of South Plains counties. Larvae heavy in Amarillo, Potter County. (Boring et al.).

MOUNTAIN ASH SAWFLY (Pristiphora geniculata) - MAINE - Larvae feeding on mountain-ash in southern and central areas. Damage relatively minor in most cases. Pest grows fast and can cause severe defoliation. (Gall).

PERIODICAL CICADA (Magicalcica septendecim)- WISCONSIN - Emergence of Brood XIII first noted in Walworth County June 7. Emergence and singing reported from portions of Iowa, Sauk, and Richland Counties. Particularly heavy infestation reported at farm in Iowa County. (Wis. Ins. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 222 confirmed cases reported in continental U.S. during period of June 3-9 as follows: Texas 12, New Mexico 29, Arizona 170, California 11. Total of 1,027 cases confirmed from Mexico. Number of sterile flies released in U.S. during this period totaled 115,031,000 as follows: Texas 8,819,500; New Mexico 7,446,000; Arizona 24,265,000; California 1,500,000. Total of 65,770,000 sterile flies released in Mexico. (Anim. Health).

COMMON CATTLE GRUB (Hypoderma lineatum) - TEXAS - Heel fly activity decreased in most Panhandle counties. Producers in area expected to begin grub treatment soon. Producers in Rolling Plains area applied treatment past week. (Clymer, Boring).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Heaviest infestation in past two years occurred in Monroe, Lee, and Chickasaw Counties; ranged 25-30 per head. Up to 300 noted on face and body of some weakened cows. Pinkeye prevalent where flies heaviest. (Robinson). TENNESSEE - None found on herd checked in Madison County. (Turpen). Reached epidemic proportions on livestock in Lincoln County. Controls attempted. This is a new county record. (Winsett). OHIO - Adults varied on beef and dairy cattle. Heaviest counts per face by county as follows: Clinton 19, Belmont 17, Guernsey 22. (Fox). INDIANA - Adults averaged 4.8 per face on 9 bulls and 5.8 per face on 5 steers in Tippecanoe County. (Christianson). SOUTH DAKOTA - This species and Haematobia irritans (horn fly) very heavy in southeast area. Populations of 5-35 M. autumnalis per face common in Charles Mix and Moody Counties. (Jones, Kantack).

MOSQUITOES - OHIO - Averaged 511 per night in 9 miniature light traps at Oberlin, Lorraine County. Heaviest count 2,000 per trap per night, lightest 40 per trap per night. Larval collections at marshy temporary pool in Franklin County averaged about 35 per dip; 99 percent Aedes vexans, some Culex restuans and C. territans. Bite collections in Franklin County yielded 16 A. vexans in 15 minutes. (Ohio Dept. Health, Encephalitis Unit). WISCONSIN - Severe biting problems in many areas; some upland areas free of heavy infestations. Biting decreased in far northern and northwestern counties. Problems reported from Juneau, Sauk, Winnebago, parts of Iron, Kewaunee, Chippewa, and Marinette Counties. Light to moderate annoyance to dairy cattle noted in several counties. (Wis. Ins. Sur.).

MINNESOTA - Aedes vexans larvae in 80 percent of collections made week ending June 8 in Metropolitan Mosquito Control District. A. cinereus, Culiseta inornata, and Culex restuans other important species in collections. A. vexans adults dominant in evening bite collections with A. cinereus, A. stimulans, and A. abserratus also taken. A. stimulans dominant in daytime bite collections. Coquillettidia perturbans taken in trace numbers. Light trap collections in northern half of district indicate increases during period June 11-14. (Minn. Pest Rpt.). MISSOURI - Adults heavy in some areas of State. (Craig). OKLAHOMA - Psorophora spp. larvae ranged up to 15 per dip in Stillwater area, Payne County. Adults present but not heavy. (Okla. Coop. Sur.). NEVADA - Aedes spp. adults heavy in Fallon and Stillwater areas, Churchill County. (Adams, Clark).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Heavy on untreated cattle herds. Adults averaged 1,500+ per cow in Oktibbeha, Clay, Monroe, and Chickasaw Counties. (Robinson). TENNESSEE - Ranged 50-75 per animal on herd of beef cattle in Madison County. (Turpen). OKLAHOMA - Averaged 750 per head in Payne County and ranged 300-500 per head in Major County. Moderate in Marshall and Pawnee Counties and light in Oklahoma County. (Okla. Coop. Sur.). TEXAS - Populations built up throughout State during mid-June. Heavy on cattle in Brazos and Jackson Counties. Heavy on untreated herds in Hill and Bell Counties, as well as several north-central area counties near Dallas. Moderate to heavy in Wilbarger, Wichita, and Clay Counties. Moderate, 200-1,500 per animal, on cattle in Crockett, Midland, El Paso, and Andrews Counties. In South Plains and Panhandle areas, populations continued to increase and expected to continue until dry weather causes leveling off. (Cole et al.). NEBRASKA - Increased, ranged 150-250 per head of cattle in Keith, Lincoln, Logan, and McPherson Counties. (Campbell).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Ranged 1-2 per head of cattle in Keith, Lincoln, Logan, and McPherson Counties. (Campbell).

HOUSE FLY (Musca domestica) - OKLAHOMA - Increased in untreated barns in Payne County. Averaged 22 per Scudder grid. (Okla. Coop. Sur.).

BLACK FLIES - KANSAS - Biting adults problem in Washington County; larvae heavy on rocks (up to 40 per square inch) in rapids of stream in eastern Nemaha County along with some pupae. Adults light in area. (Bell). WISCONSIN - Still heavy in many localities near streams. Particular problems noted in Trempealeau, Vilas, Kewaunee, Douglas, and Rock Counties. Biting in northern area; in other areas, annoyance limited to swarming about individuals. (Wis. Ins. Sur.).

A TABANID FLY (Chlorotabanus crepuscularis) - TEXAS - Heavy on cattle in Hardin County near Kountze. Populations heavy enough to warrant treatment. (McCelvey).

HEAD LOUSE (Pediculus humanus capitis) - INDIANA - Infestations more common this year than past years in Marion and surrounding counties. (Clark).

BENEFICIAL INSECTS

PAINTED LADY (Cynthia cardui) - SOUTH DAKOTA - Very heavy, ranged 4-5 larvae per plant, on Canada thistle in Day, Moody, Brookings, Fall River, and Turner Counties. Abundant throughout State. Numerous reports received of feeding on soybeans and sunflowers. (Jones, Kantack). IDAHO - Larvae active throughout State. Without usual host (thistles) caused some feeding damage to other plants in area. (Portman et al.).

ICHNEUMON WASPS - PENNSYLVANIA - Diaparsis spp., larval parasitoids of Oulema melanopus (cereal leaf beetle), recovered from field insectary in Crawford County. (Burger). INDIANA - Bathyplectes curculionis, parasite of adult Hypera postica (alfalfa weevil), taken from several fields in Daviess (May 3), Owen (May 3), Morgan (May 4), Brown and Washington (May 4) Counties. Collected by M.C. Wilson. These are new county records. (Wilson). VIRGINIA - B. curculionis collected from alfalfa duff at Charlotte Courthouse,

Charlotte County, April 5, 1973, by R. Pienkowski. Determined by R.W. Carlson. (Surles).

EULOPHID WASPS - PENNSYLVANIA - Tetrastichus julis, larval parasitoid of Oulema melanopus (Cereal leaf beetle), recovered from field insectary in Crawford County. (Burger). OREGON - Total of 300 T. incertus, larval parasite of Hypera postica (alfalfa weevil), released in Linn and Benton County alfalfa plantings past 14 days. (Ritcher).

A BRACONID WASP (Microctonus aethiops) - OREGON - Released 134 specimens of this adult parasite of Hypera postica (alfalfa weevil) in Linn and Benton County alfalfa plantings past 14 days. (Ritcher).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - NEW YORK - Live adults collected from oats at Veteran, Chemung County, June 1, 1973, by P.E. Gerder. Determined by R.E. White. This is a new county record. (PPQ). PENNSYLVANIA - Eggs, larvae, and adults light on oats in Blair County; damage very light at Taylor and North Woodbury. These stages also light on oats in Crawford County; total leaf loss ranged 1-3 percent at Meadville. Larvae very light, averaged less than one per row foot, in 7 fields in Cumberland County in South Middletown Township. Infestation light on oats, averaged 2 eggs, 2 larvae, and 15 adults per 2 row feet, at 3 locations in Westmoreland County. Caused 0-5 percent leaf damage 35 miles southwest of Pottsburg. (Maxwell et al.). WEST VIRGINIA - Averaged 4 eggs and 8 larvae per square foot in late oats in Mason County. In headed oats in Pleasants County, 11 eggs and 7 larvae noted. (Hacker). KENTUCKY - Survey negative in Warren County. (Greene et al.). MICHIGAN - Infestations in small grains persist in scattered areas in southern part of State; more frequent in northern half of Lower Peninsula than usual. (Sauer).

GRASSHOPPERS - NORTH DAKOTA - Ranged up to 40 (average 8) per square yard in Williams County roadsides and field margins; up to 6 (averaged less than 1) per square yard in some alfalfa. Melanoplus bivittatus dominant; ranged first through fifth instar, mostly second and third instars. Ranged up to 10 (average 4) per square yard on rangeland in sandhills area of Richland and Ransom Counties. M. sanguinipes dominant. Averaged 10 per square yard in Hankinson area, Richland County. Ranged first through fourth instars. Ranged up to 35 per square yard in cropland field margins, with field counts up to 25 per square yard in alfalfa and grass fields. Averaged less than one per square yard in Cass County cropland areas. M. bivittatus dominant. Development ranged first through third instar, mostly second and third instars. (Brandvik, Grasser). MONTANA - Third-instar nymphs of unspecified species ranged 8-10 per square yard on 100+ acres of rangeland west of Polson, Lake County; ranged 6-10 per square yard on 500 acres on Camas Prairie in Sanders County. (Pratt).

IDAHO - Grasshoppers averaged 9 per square yard in dryland alfalfa grass field in Upper Blacks Creek area, Ada County. (Peterson). Populations (70 percent first instars) of Melanoplus sanguinipes and some M. femurrubrum averaged less than one per square yard throughout Farragut State Park, Kootenai County. (Stranahan). WASHINGTON - First adult noted in Franklin County. About 189,000 acres successfully treated in Franklin, Benton, and Walla Walla

Counties on cooperative basis. Cool, windy weather stopped operations May 14. About 30,000 acres remain to be treated. Infestations continued to develop with problems noted in Okanogan, Douglas, and Asotin Counties. Oedaleonotus enigma, Aulocara elliotti, and Melanoplus sanguinipes species involved. (PPQ). OREGON - Survey indicates grasshoppers, mainly Melanoplus spp., light throughout most eastern rangeland areas. Some counts heavy, 20 per square yard, along hay field margins in Malheur County, but anticipated treatment for Hypera postica (alfalfa weevil) will probably provide control. Areas where grasshopper counts heavy and treatment may be required, now being surveyed in Baker, Grant, Klamath, and Douglas Counties. (Goeden et al.). NEVADA - Third and fourth instar nymphs, mostly Melanoplus sanguinipes, ranged 25-30 per square yard on 500+ acres of alfalfa in Montello area, Elko County. Treatment will begin next 7 days on 12,000 acres of rangeland near Upper Clover Ranch, Elko County, reported in CEIR 23(24):368. (Wilson). M. splendidus collected in light trap at Oak Springs Summit, Lincoln County, at 6,231 feet August 10, 1971, by G.M. Nishida and D.F. Zoller. Determined by A.B. Gurney. This is a new State record. (Bechtel).

NEW MEXICO - Economic in following counties (acreage in parentheses): Chaves (1,270,000); Curry (50,000); De Baca (225,000); Eddy (271,000); Lea (1,046,000); Quay (20,000); Roosevelt (100,000); San Miguel, (25,000). (N.M. Coop. Rpt.). OKLAHOMA - Up to 40 nymphs per square yard in rangeland in Washita and Roger Mills Counties. (Okla. Coop. Sur.).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - First adults of season reported from St. Marys and Montgomery Counties. Peak emergence expected next 21 days. (Md. Dept. Agr.; U. Md., Ent. Dept.). NORTH CAROLINA - Adult emergence occurred in Coastal Plain, continued westward across State. Adults should be on grapevines in mountain areas by June 22. (Hunt). TENNESSEE - First adult of season observed in Jefferson County. (Van Landingham).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Infested 34,000 acres of rangeland in Chaves County and 160,000 acres in Harding County. (N.M. Coop. Rpt.).

RED IMPORTED FIRE ANT (Solenopsis invicta) - TEXAS - Heavy concentration of mounds of this species and Solenopsis xyloni (southern fire ant) noted in area north of highway bypass at South College Station, Brazos County. (Williamson).

DETECTION

New State Record - A GRASSHOPPER (Melanoplus splendidus) NEVADA - Lincoln County. (p. 389).

New County Records - ALFALFA WEEVIL (Hypera postica) WASHINGTON - Franklin. MINNESOTA - Hennepin, Wright, Meeker (p. 379). NEW YORK - Seneca, Oswego (p. 380). CEREAL LEAF BEETLE (Oulema melanopus) NEW YORK - Chemung (p. 388). FACE FLY (Musca autumnalis) TENNESSEE - Lincoln (p. 386). A FLEA BEETLE (Epitrix brevis) OHIO - Washington (p. 382). AN ICHNEUMON WASP (Bathyplectes curculionis) INDIANA - Daviess, Owen, Morgan, Brown, Washington (p. 387). A SOFT SCALE (Pseudophilippia quaintancii) VIRGINIA - Nottoway (p. 385).

Turf and Pastures - GRASS WEBWORM (Herpetogramma licarsisalis) generally trace in pastures at Kaupakulua, Maui; light in spots with 6+ larvae per square foot. Four percent of larvae parasitized by Casinarina infesta (an ichneumonid wasp). (Miyahira).

Forest and Shade Trees - Nymphs of a CONIFER APHID (Cinara carolina) light and spotty on terminals of about 20 percent of trees on 25+ acres of Pinus taeda (loblolly pine) at Olinda, Maui. (Miyahira).

Beneficial Insects - Adults of a SCYOMYZID FLY (Sepedon sauteri) moderate in swampy pasture areas at Waihee, Maui, and at Kalaupapa, Molokai. Last release of this liver fluke snail predator made in April 1970. Larval activity of a TORTRICID MOTH (Apotoforma sp.) moderate on 100+ acres of wild blackberry at Waikamoi, Maui; 75 percent of terminals infested. Larvae of a HELIODINID MOTH (Schreckensteinia festaliella) light in this host situation. (Miyahira).

Miscellaneous Pests - On Kauai, no GIANT AFRICAN SNAIL (Achatina fulica) activity noted during May in previous areas of infestation at Poipu and Wahiawa. Baiting and surveillance continued at Wahiawa, but curtailed temporarily at Poipu due to extreme drought during most of spring. On Hawaii, 8 specimens up to 2 inches in length collected in subdivision at Kona. (Sugawa, Yoshioka). Larvae of a GEOMETRID MOTH (Semiothisa santaremaria) light to moderate and fed on foliage of wayside monkey pod trees at Ka'u, Hawaii. (Matayoshi).

Weather of the week continued from page 374.

Later Thursday, it reached as far south as the Carolinas dumping 1.26 inches of rain on Charleston. Friday, the Low deepened over Saskatchewan. Saturday, its front extended across the Great Lakes into New England. Saturday and Sunday, the front moved east and south scattering rain over the eastern half of the Nation. Tornadoes appeared along the Ohio Valley and in many eastern cities, such as Baltimore and Richmond where tornadoes are uncommon.

TEMPERATURE: The West, plus most of Texas and bordering States enjoyed temperatures from 1 degree to 9 degrees subnormal. The northern Plains, western Corn Belt, and the East stayed 1 degree to 6 degrees above normal. The East began with a heat wave; around midweek things became decidedly pleasant; and weekend temperatures in the Northeast turned cool--with highs from the mid-60's to mid-70's on Sunday. Monday, numerous record highs were set. Hartford, Connecticut, 98 degrees; Boston, Massachusetts, 95 degrees; Concord, New Hampshire, 91 degrees. Most of the heat was brought by the Bermuda High which pumped warm, moist air into the Nation's eastern half. A stationary front stretched from the northern Plains into the Great Lakes then through New England. Temperatures to the northwest of the front remained cool. Tuesday, brought record lows to Bismark (34 degrees) and Fargo (39 degrees), North Dakota. The front drifted slowly southeastward. Midday Wednesday, it sat along the Appalachians in the Northeast then through Kentucky. Early Thursday it swung over the Atlantic bringing pleasant temperatures as far south as the Carolinas. Over the weekend, a Newfoundland Low deepened, extending a cold front as far south as North Carolina, sending shivering weekenders home from Atlantic beaches with temperatures from the low 50's to the low 70's.



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