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*Cooperative*  
ECONOMIC INSECT  
REPORT

*Issued by*

PLANT PEST CONTROL DIVISION  
AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE



# AGRICULTURAL RESEARCH SERVICE

## PLANT PEST CONTROL DIVISION

### SURVEY AND DETECTION OPERATIONS

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

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Survey and Detection Operations  
Plant Pest Control Division  
Agricultural Research Service  
United States Department of Agriculture  
Washington 25, D. C.

## COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPERS abundant in areas of Illinois, Missouri, Iowa, Wisconsin, Minnesota, Nebraska and other States. Damage reported on alfalfa, corn, pastures and range-land. Some light to severe boll clipping observed on flax in North Dakota. (pp. 901-903). Second-brood EUROPEAN CORN BORER active in Minnesota and Wisconsin; first-generation survey in Illinois showed populations in northwest and west districts to be about twice as high as in 1962 or the highest since 1958. (p. 903). SOUTHWESTERN CORN BORER very heavy on corn locally in Pinal County, Arizona, but only trace populations found in south central Kansas. FALL ARMYWORM active in Delaware, Maryland, Illinois and Kansas; and LESSER CORNSTALK BORER heavily damaged sorghum in Maricopa County, Arizona. (p. 904). Populations and damage by WESTERN CORN ROOTWORM to corn in panhandle of Nebraska higher than previous years, and high populations observed in areas of Missouri and South Dakota. Distribution map of western corn rootworm in Iowa shows considerable spread. (p. 905). NORTHERN CORN ROOTWORM lodged corn evident in many parts of Illinois and damage reported in Iowa and Wisconsin. (pp. 905-906). CORN LEAF APHID plentiful on corn and/or related crops in number of States. Increase rather general past two weeks. RICE DELPHACID (*Sogatia orizicola*) found at Belle Glade, Palm Beach County, Florida. (p. 907). TWO-SPOTTED SPIDER MITE heavy and damaging corn in Colorado and building up in Idaho and Utah. Undetermined SPIDER MITES increasing rapidly on corn in North Platte Valley of Nebraska. (pp. 907-908).

SPOTTED ALFALFA APHID building up in northern Kansas and in areas of Colorado. (p. 908). PEA APHID increasing on alfalfa in several States across country. (pp. 908-909). LYGUS BUGS becoming abundant on alfalfa seed crops in several Western States, and POTATO LEAFHOPPER yellowing alfalfa in Vermont and Maryland. (p. 909). THREE-CORNERED ALFALFA HOPPER adults abundant in areas of New Mexico and Arizona on alfalfa. (p. 909-910). A BERMUDA GRASS MITE (*Aceria neocynodonis*) reported damaging lawns in New Mexico and Arizona. (p. 911).

ORCHARD MITES, principally EUROPEAN RED MITE and TWO-SPOTTED SPIDER MITE, continue to increase on fruit trees in Eastern and Midwestern States; controls necessary. (p. 913). POTATO LEAFHOPPER damaging variety of truck crops in Eastern States (p. 915), and PEA APHID very abundant on peas on Nezperce area of Idaho (p. 916). GREEN PEACH APHID increasing on tobacco in Virginia and Maryland; controls necessary. (p. 917-918).

BOLL WEEVIL populations continue relatively light compared with previous years in Southeast and Mississippi Valley, but increases reported. Third-generation adults appearing and migration occurring in several areas. (p. 918). BOLLWORMS continue major pest of cotton from Texas to Tennessee; protection of crop will be necessary in Southeast and Mississippi Valley for remainder of season. (pp. 918-919). BOLLWORM increase reported in California, Arizona and New Mexico. PINK BOLLWORM caused significant economic damage in Matagorda and Calhoun Counties, Texas; and SALT-MARSH CATERPILLAR outbreak reported in Fresno and Kings Counties, California (pp. 919-920). Damaging numbers of LYGUS BUGS present in Arizona and California cotton fields. (p. 920). SPIDER MITES continue a problem in California, and spot infestations reported in several other States. (p. 921).

MOSQUITOES heaviest in several years in Nevada, especially in northern areas, and annoying in areas of Utah, New Mexico, North Dakota, Texas and other States; but dry weather conditions reduced numbers in Ohio and Maine. (pp. 927-928). FACE FLY continues to increase in several States (p. 928), and HORN FLY populations varied light to heavy on cattle rather generally (p. 929). STABLE FLY also annoying to cattle in several States. (p. 929).

JAPANESE BEETLE adults continue numerous in Battle Creek area of Michigan, and considerable activity reported in various areas of Ohio. Populations in Eastern States appear to be greatly reduced from previous years. (pp. 925, 932). STRAWBERRY ROOT WEEVIL adults annoying to homeowners in Pennsylvania, Ohio, Michigan, Wisconsin and Oregon. (p. 930).

#### DETECTION

New State records reported were MEXICAN FRUIT FLY in Arizona (p. 914), MIMOSA WEBWORM in Tulsa County, Oklahoma (p. 924) and a BIG-EYED BUG (Hypogeocoris imperialis) in Arkansas (p. 932). New county records of significance were WESTERN CORN ROOTWORM in Hancock, Story, Dallas, Madison, Union and Adams Counties, Iowa (p. 905); CEREAL LEAF BEETLE in Lucas County, Ohio (p. 906); ELM LEAF BEETLE in Chase County, Kansas (p. 923); MIMOSA WEBWORM in Columbiana County, Ohio, and Johnson County, Kansas (p. 924), and WHITE-FRINGED BEETLES in Lee County, Alabama (p. 933).

#### CORRECTIONS

See page 933

#### SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 927).  
Hessian Fly survey in Illinois (map). (p. 906).

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Reports in this issue are for week ending August 2, unless otherwise indicated.

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#### WEATHER BUREAU 30-DAY OUTLOOK

AUGUST 1963

The Weather Bureau's 30-day outlook for August calls for temperatures to average below seasonal normals in the Northwest and the Southeast. In the remainder of the Nation above normal averages are predicted, with greatest departures over northeastern and southwestern sections. Rainfall is expected to be greater than normal in the Southeast and the Northern Plains. Subnormal amounts are indicated for the Northeast, the Southern Plains, and the Great Basin. In areas not specified, near normal precipitation is in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington 25, D.C. Price \$4.80 a year, \$2.40 a half year.

#### WEATHER OF THE WEEK ENDING AUGUST 5

Daily temperatures exhibited mostly only slight variations and weekly averages departed very little from normal over a major part of the Nation. One 24-hour change of note occurred in New England where the 29th was the final day of a 6-day heat wave. On the 29th, Burlington, Vermont, heated to 97°, but only to 70° the following day. Red Bluff, California, with 7° below normal, had the (continued on page 912)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - OHIO - Melanoplus differentialis increasing in south central and southeastern areas; averaged 4-7 per square yard week ending July 26. Building up in northwest area week ending August 2; one-half to three-fourths grown in Hardin and Hancock Counties. (Lyon). ILLINOIS - Melanoplus spp. abundant in clover and alfalfa in northern area; up to 50-60 per square yard found in some fields. Populations in grassy roadsides generally under 10 per square yard, with occasional spot as high as 40 per square yard. (Ill. Ins. Rpt.). MISSOURI - Damage by Melanoplus spp. evident in pastures and legumes in dry spots in northwest areas. Counts in these areas ranged 5-31 per square yard in field. Marginal feeding also evident on row crops in these areas. (Munson, Thomas, Wood; July 27). IOWA - Grasshoppers eating silks from corn in first 5-6 rows and ragging soybeans adjacent to fencerows and roadsides; M. differentialis, third instar to adult, dominant. Populations range 15-30 per square yard in roadsides. (Iowa Ins. Inf., July 29). WISCONSIN - Nymphs of M. differentialis maturing in more advanced areas of State. Populations, approximately 50 percent M. differentialis and 50 percent M. femurrubrum, completely defoliated soil bank alfalfafield in western Dane County. Corn also being damaged in area. Populations little changed in Rock, Green, Dane, Columbia, Marquette, Waushara, Portage, Waupaca, Green Lake, Fond du Lac, Grant or Trempealeau Counties, and damage generally negligible. Some damage evident in Pepin County where populations of late stage M. femurrubrum and M. differentialis nymphs range up to 40 per square yard in some alfalfa fields. Populations, principally M. femurrubrum, light to moderate in Juneau, Eau Claire, Chippewa and Dunn Counties, with less than 15 per square yard in most alfalfa. Some damage noted in parts of La Crosse and Trempealeau Counties. (Wis. Ins. Sur., July 26). Little change noted in populations to August 2. Adults of both M. femurrubrum and M. differentialis appearing more commonly in southern areas. M. differentialis 30 percent of grasshopper population in Iowa County alfalfa, 25 percent in Lafayette, 40 percent in Grant and 50 percent in Green. M. femurrubrum nearly entire population in Rock, Walworth, Crawford and portions of Dane County. Noticeable feeding evident on sorghum in Rock County in which populations of M. differentialis, about 40 per yard, made up greater share. (Wis. Ins. Sur.).

MINNESOTA - Grasshopper populations in southeast, south central, southwest and central districts higher than anticipated. Warm, dry weather permitted excellent egg hatch and survival. Economic populations, over 10 per square yard, found where only light infestations expected. Infestations quite scattered and localized. M. femurrubrum and M. differentialis ranged 5-54 per square yard in alfalfa and grassland in Sherburne, Isanti, Mille Lacs and Anoka Counties. Adults appearing and movement into corn occurring. Severe margin damage to corn seen in high count fields, especially where M. differentialis dominant. In northwest district, Kittson and Marshall Counties have few fields with economic numbers; infestations primarily along roadsides and ditch banks. Very little movement into crops occurred. In west central district in Douglas County, roadside infestation of M. bivittatus noted south of Alexandria and moving into adjacent corn fields. In southwest district, populations average 13 per square yard. Few fields in Cottonwood, Murray, Lyon and Rock Counties had economic populations. Most infestations along roadsides in southeast and south central districts. Few fields in Rice and Olmsted Counties had 20-60 per square yard. (Minn. Ins. Rpt.). NORTH DAKOTA - Survey conducted in McLean, Sheridan and Burleigh Counties (July 19-26) showed marginal counts of less than 1 to 25 per square yard. Field counts ranged from less than 1 to 9 per square yard. Higher counts in flax, late oats and alfalfa. Some light to severe boll clipping observed in flax. Light leaf stripping seen on late small grain fields. Dominant species M. bivittatus and M. packardii (approximately 40 percent adults). (Brandvik). Cropland survey (July 19-26) in McKenzie, Mountrail, Williams and Divide Counties showed 3-15 per square yard in roadsides and 1-5 in fields. Dominant species M. bivittatus and M. sanguinipes. (Olson). Survey in Pierce, McHenry, Ward and Bottineau Counties (July 19-26) gave average counts 5 per square yard in fields and 7 per square yard in margins. Species involved were M. bivittatus, M. sanguinipes, M. packardii, M. femurrubrum and Camnula pellucida. Most in fifth instar. Adults

ranged from 0 for M. femurrubrum to 35 percent for M. bivittatus. Twenty-five percent of M. sanguinipes and C. pellucida adults. (N. D. Ins. Sur.). Adult survey conducted on rangeland in McKenzie and Dunn Counties July 27-August 2. Lightly infested rangeland in McKenzie County averaged 4-5 per square yard. Areas with threatening infestations averaged 8 per square yard. Lightly infested areas comprised 237,000 acres, and threatening areas covered 10,880 acres. Infestations in Dunn County (Ft. Berthold) noneconomic. Average less than one. Ageneotettix deorum, Aulocara ellioti, M. sanguinipes and C. pellucida dominant species. (Brandvik). SOUTH DAKOTA - Range survey completed in Custer and Fall River Counties. Custer County has approximately 65,000 acres of infestation (threatening or higher); approximately 75 percent private or State owned land, and 25 percent U.S. Forest Service land. Light infestation present on 35,000 acres in Custer County and 20,000 acres in Fall River County. Latter area about 50 percent private and State owned and 50 percent Forest Service land. M. occidentalis, Aulocara ellioti, Trachyrhachys kiowa and Ageneotettix deorum species involved. (Burge, Zimmerman; July 24). Situation unchanged from previous surveys except for an area in Shannon County which has 20,000 to 30,000 acres of threatening infested rangeland. Threatening area surrounded by large area of light infestation. (Burge, Zimmerman; August 1).

NEBRASKA - Grasshopper populations up to 24 per square yard in Dawes and Sioux Counties week ending July 26. Ageneotettix deorum, Amphitornus coloradus, M. sanguinipes, T. kiowa and Cordillacris occipitalis species present. (Hagen). Formal survey indicates infestations range from noneconomic to a conservative 150 per square yard in crops and conservation reserve land or idle land. New light infestation appeared in south central area. Extremely high populations present in Frontier, Dawson and Lincoln Counties. Light to moderate infestations occurring in Platte River Valley in Garden and Morrill Counties. North central and northeast areas have light to moderate infestations, chiefly in legumes, conservation reserves or idle land. Some damage can be expected in these areas. Dominant species M. femurrubrum, M. differentialis and M. bivittatus. Rangeland infestations high in South Hills and Wildcat Hills in Banner, Morrill and Scotts Bluff Counties. Populations of 30 per square yard common. Dominant species Aulocara ellioti, Ageneotettix deorum, Trachyrhachys kiowa and Phlibostroma quadrimaculatum. Pine Ridge area of Dawes, Sheridan and Sioux Counties carries severe to very severe populations (15-28 and above per square yard). Dominant species same as above plus Amphitornus coloradus and M. sanguinipes. Other very abundant local populations scattered throughout State. (Bell). Populations locally very abundant and injurious at North Platte, Lincoln County, on rangeland. Phoetaliotes nebrascensis most abundant species (approximately 30-50 per square yard) in western wheat grass. M. femurrubrum dominant species in field margins at North Platte Experiment Station. (Pruess). KANSAS - Counts in northeast and east central areas July 20-26 ranged from less than one to 2 per square yard in alfalfa and corn fields, while margin counts in same areas ranged 1-15 per square yard. Counties with higher counts were Nemaha, Jackson, Leavenworth and Osage. Species predominantly M. femurrubrum, M. differentialis and M. bivittatus. (Peters). Severely damaged first 2-3 rows of cornfield in Riley County, northeast. (Kaufmann, Brooks; August 2).

OKLAHOMA - Several species of grasshoppers moderate to heavy along roadsides and field margins in localized southwest areas; apparent feeding damage light, but could increase if dry weather persists. Moderate to heavy in Murray, Lincoln, Muskogee and Mayes Counties. (Okla. Coop. Sur., July 27). Light to threatening populations of adults in crop margins in Canadian, Cleveland and Oklahoma Counties. Moderate to heavy populations in alfalfa and field margins in sections of McClain County. Heaviest counts averaged 25-40 per square yard with M. sanguinipes, M. bivittatus, M. differentialis and M. packardii dominant. Rangeland counts in the 4 counties low. Reports from Bryan County show some severe but very spotted infestations. Moderate to heavy rangeland infestations reported from Murray County. (Okla. Coop. Sur.). WYOMING - Adults and nymphs of several species numerous on alfalfa and small grains in Natrona, Johnson and Sheridan Counties; counts 8-12 per square yard. (Marks, July 26). UTAH - Baiting of 3,000 acres for control of Melanoplus borealis at 10,300 feet elevation in Beaver Mountains



reported; outbreak of grasshoppers in the large west Howell, Rozell Flats to Promintory Point area of Box Elder County covers at least 100,000 acres. (Knowlton, Thornley). Moderate to severe in several areas of Sanpete County. Of 50,000 acres infested, only 200 treated. (Knowlton, Funk). A very heavy movement of winged grasshoppers occurred on the highway north of Cedar City, Iron County, night of July 26-27 between 12:30 a.m. and 4:30 a.m., then moved out. (Knowlton). NEVADA - Various species heavy on northern outskirts of Reno and Sparks, and in Sun Valley, Washoe County, migrating from drying range areas into yards, etc. and causing considerable damage. (Coop. Rpt., July 26). Idiostatus sp. heavy along highway and lighter populations present in 10-12 mile area from Sod House to junction of highways 8A and 95 in Humboldt County. (Lauderdale). CALIFORNIA - Medium populations of M. devastator on rangeland grass in Grass Valley, Nevada County. Dissosteira carolina medium on grass and blackberry thickets in Cedar Flats, Trinity County. (Cal. Coop. Rpt.). OREGON - Two species attacking forage crops and cutover pastureland in economic numbers in Douglas County. (Vertrees, July 27).

EUROPEAN CORN BORER (Ostrinia nubilalis) - CONNECTICUT - Populations apparently light on sweet corn. (Johnson, Minnum; July 30). NEW YORK - Relatively light on sweet corn in Hudson Valley; second-brood hatching expected by July 31. (N. Y. Wkly. Rpt., July 29). PENNSYLVANIA - Three percent of sweet corn stalks infested in Erie County; some as high as 5 percent. (Adams, July 23). MARYLAND - Generally light in field and sweet corn in all sections. Moths increased sharply in light trap collections at Centreville. (U. Md., Ent. Dept.). DELAWARE - Adults increased sharply July 24 accompanied by increase in egg masses on corn July 24-25 (Burbutis, Evans). OHIO - Populations slightly higher than at same time in 1962 in Van Wert County, northwest area. (Wells, Schurr). MICHIGAN - Heavy first-brood injury in Wayne County; 3 adults collected July 26 in Monroe County; more females than males being taken now at a Livingston County blacklight trap; 14 taken recently. (Kidd, Laser, Janes, Newman). ILLINOIS - First-generation survey conducted July 22-29. Populations in northeast, east, central and west-southwest districts approximately the same as in 1962, but northwest and west districts populations about twice as high as in 1962 or the highest since 1958. (See table below.) Thirty-two percent of larvae and pupae collected in a random survey July 22-25 in west and northwest districts infested with Nosema (Perezia) pyraustae. Larvae 0-70 percent infected. Borer development now 4 percent fifth instar, 32 percent pupae and 64 percent empty cases in northwest; 11.1 percent fourth instar, 33.3 percent fifth instar, 33.3 percent pupae and 22.2 percent empty cases in northeast. Eggs being laid in all districts. (Ill. Ins. Rpt.).

EUROPEAN CORN BORER POPULATION (FIRST GENERATION) IN ILLINOIS - 1963

County	Average Number of Borers Per 100 Plants	County	Average Number of Borers Per 100 Plants
Boone	1.2	Livingston	1.6
Bureau	24.4	Logan	1.2
Champaign	0	Macoupin	0.4
Christian	0	McDonough	28.8
De Kalb	7.0	McLean	3.2
Greene	0	Mercer	4.72
Iroquois	6.4	Ogle	21.4
Kankakee	4.6	Sangamon	0
Knox	20.4	Whiteside	11.8
La Salle	7.2		

MISSOURI - Percent emergence 24, 41 and 29 in 3 fields checked in extreme north-west area; several adults observed at lights, but no egg masses or small larvae found. (Munson, Thomas, Wood; July 27). IOWA - Second-brood continues active. Development more advanced south of U.S. Highway 30 than in northeast quarter of State. (Iowa Ins. Inf., July 29). WISCONSIN - Second-brood flight well underway and egg laying increasing. Treatment of some commercial acreage of sweet corn commenced in southern counties. (Wis. Ins. Sur.). MINNESOTA - Pupation, moth

emergence and egg laying underway in southern half of State. Borers per 100 plants 17 in southwest, 10 in south central, 6 in southeast and 102 in west central. (Minn. Ins. Rpt.). SOUTH DAKOTA - Development in northern region third to fifth instar, with no pupation noted. Infestations averaged 20 percent with average of 44 borers per 100 plants. Sweet corn in northeast did not have noticeably higher count than field corn in same area. (Hintz). NEBRASKA - First-brood infestation survey in Cuming and Hall Counties completed. Cuming County contained 44.1 percent infestation with approximately 37.8 borers per 100 plants. Hall County contained 19.1 percent infestation with approximately 11.1 borers per 100 plants. (Hill, Kindler). KANSAS - Thirty percent of corn plants reported infested in Seward County, southwest. (Burkhardt). ARKANSAS - Larvae of second generation nearing pupation in central and west central areas. (Ark. Ins. Sur., July 27).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - ARIZONA - Infestations very heavy in corn in Stanfield area, Pinal County. Hatching of second generation occurring. (Ariz. Coop. Sur.). KANSAS - Examinations of corn in Edwards County, south central, infested in 1962 showed only trace populations this year. Evidently severe winter conditions caused high mortality of larvae. (DePew).

FALL ARMYWORM (Laphygma frugiperda) - MARYLAND - First larval infestations of season found in field corn July 27 at Thurmont, Frederick County. Light infestations now occurring in late corn in 2 areas of Frederick County. (U. Md., Ent. Dept.). DELAWARE - Large planting of late corn in Sussex County being rather severely injured; larvae from three-eighths of an inch to nearly full grown. (Bray, MacCreary). ILLINOIS - Reported in late corn in southwest. (Ill. Ins. Rpt.). KANSAS - This species and Heliothis zea causing "ragging" of field corn in Finney and Hodgeman Counties, southwest; 5-20 percent of plants infested. Twenty-three percent of plants in late-planted corn plot in Riley County infested with L. frugiperda. (DePew, Sifuentes; July 26). ALABAMA - Caused heavy damage to millets near Grand Bay and St. Elmo in Mobile County. (Seibels, Moore; July 26). One to four larvae, in conjunction with light infestation of Heliothis zea, destroyed 5-acre late cornfield in Mobile County. Localized infestation also noted in Elmore County. (Deakle, Morris).

CORN EARWORM (Heliothis zea) - NEW YORK - Apparently absent in Hudson Valley as of July 22, but expected to appear by latter part of month; treatments of silks recommended. (N. Y. Wkly. Rpt., July 29). MARYLAND - Infestations in commercial sweet corn generally light in all sections. (U. Md., Ent. Dept.). WISCONSIN - Moths reported from Fond du Lac and Rock Counties week ending July 26. (Wis. Ins. Sur.). ALABAMA - Numerous moths noted laying eggs in soybean fields in Baldwin County. (Fairley, Smallwood). ARKANSAS - Larvae averaged 12-15 per 100 sorghum heads in central and southwest areas; 16 larvae per 100 sweeps in alfalfa in Conway County. (Ark. Ins. Sur., July 27). OKLAHOMA - Low in alfalfa in southwest and southeast; infestations in grain sorghum 16 per 100 heads in Grady County and to 68 per 100 heads in Kiowa County. (Okla. Coop. Sur., July 27). Light to moderate, scattered populations noted in grain sorghum in Kay, Grant, Garfield and Noble Counties, with highest count 104 larvae per 100 heads. Some terminal feeding observed in late plantings with a report of 30-40 percent of terminals infested locally in Grant County. Light counts reported in south central and southwest counties checked. (Okla. Coop. Sur.). TEXAS - Heavy, local infestations occurring on peanuts in Lee County. (Spivey, July 26).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ARIZONA - Sorghum heavily damaged in Maricopa County; largest populations found in sorghum that followed alfalfa. Some replanting necessary. (Ariz. Coop. Sur.). ALABAMA - Causing some damage to peanuts in Houston County. (Roney).

SORGHUM WEBWORM (Celama sorghiella) - OKLAHOMA - Light, 10 per 100 heads, on sorghum in Marshall County; 8 per 100 heads in Noble County with some evidence of earlier pupation. (Okla. Coop. Sur.).

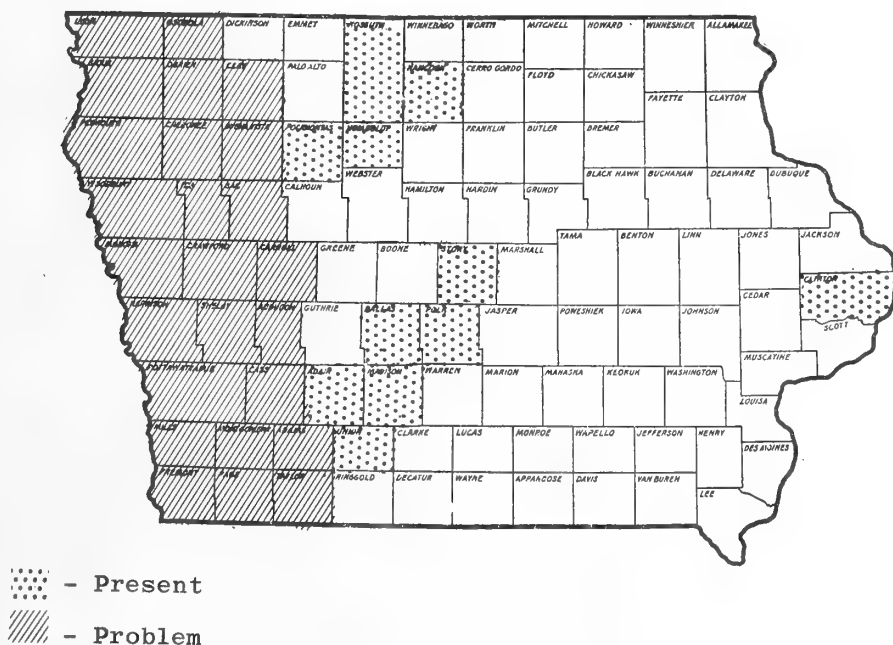
ARMYWORM (*Pseudaletia unipuncta*) - ILLINOIS - Light feeding on grass and corn in grassy cornfields observed in northern area. Most larvae nearly full grown or parasitized. (Ill. Ins. Rpt.).

BLACK CUTWORM (*Agrotis ipsilon*) - OREGON - Economic damage reported on corn in Marion and Washington Counties. (Hanna, July 27).

WESTERN BEAN CUTWORM (*Loxagrotis albicosta*) - NEBRASKA - Populations in Dundy County at very low level; approximately one egg mass per 500 corn plants. Many fields had no egg masses. (Hagen).

WESTERN CORN ROOTWORM (*Diabrotica virgifera*) - IOWA - Collected on Ankeny, Polk County, farm on July 22. New county records include Hancock, Story, Dallas, Madison, Union and Adams Counties. Map below gives known distribution of species in State. (Iowa Ins. Inf., July 29).

WESTERN CORN ROOTWORM IN IOWA - 1963



MISSOURI - High populations observed in fields scattered over extreme northwest; ranged 4-38 per plant in infested fields. (Munson, Thomas, Wood; July 27). SOUTH DAKOTA - Adults observed in McCook and Hanson Counties on corn and alfalfa. High population, 40-50 adults per stalk, observed in Tabor area of Bon Homme County, with counts 25-30 adults in surrounding area. High counts also observed in Charles Mix and Hutchinson Counties. (Kantack, Hintz; July 24). NEBRASKA - Adults continued to emerge and feed on leaves, silks and tassels of corn; populations and damage to corn in panhandle in both treated and untreated fields higher than previous years. (Bergman, July 26). KANSAS - This species and *D. longicornis* causing alarm by damaging silks of corn in Wyandotte County, northeast. (Burkhardt).

NORTHERN CORN ROOTWORM (*Diabrotica longicornis*) - IOWA - Caused severe damage to corn fields in Marshall, Jones and Iowa Counties treated with one of two chlorinated hydrocarbons. Lodging as high as 80 percent, with 5-10 adults per silk in



CORN LEAF APHID (Rhopalosiphum maidis) - NEW YORK - Conspicuous on tassels and ear tips of Gold Cup sweet corn at Lamontville, Hudson Valley, on July 22. (N. Y. Wkly. Rpt.). MARYLAND - Heaviest in recent years on field corn in all sections. Several fields in Queen Annes and Talbot Counties show heavy infestations on 10-50 percent of plants. (U. Md., Ent. Dept.). DELAWARE - Infestations in field corn in Kent County being markedly reduced by lady beetles (MacCreary). VIRGINIA - Severely infesting several fields of corn in Charles City County. (Tarpley, Settle; July 22). NORTH CAROLINA - Heavily infesting most of corn tassels in 100-acre field in Washington County. Infestations heavy enough to require treatment on field corn in Currituck County. Heavy on corn in Perquimans County. Medium to heavy on milo in lower part of Davidson County. (Whitford, Floyd, Reid, Mulder; July 26). OHIO - Light infestations observed in most northwest area corn fields. (Lyon). ILLINOIS - Light on 2.9 percent of corn plants in west-southwest district. (Ill. Ins. Rpt., July 25). IOWA - Extremely abundant on tassels of most corn. (Iowa Ins. Inf., July 29). WISCONSIN - Populations increased to point where some growers considered treatment. (Wis. Ins. Sur.). MINNESOTA - Infestations ranged 8-56 percent in southern half of State; colonies increased in size. (Minn. Ins. Rpt., July 26). NORTH DAKOTA - Populations on individual corn plants in southeast remain high, 100-2,000 per plant, but lady beetles and lacewings appear to be building up and should help bring numbers down. (N. D. Ins. Sur.). SOUTH DAKOTA - Population generally low, 25-100 per plant. (Hintz). NEBRASKA - Infestations heavier than normal in corn and milo. Light and spotted damage present on corn tassels and milo heads. (Bergman, July 26). OKLAHOMA - Light and spotty on grain sorghum in southwest and light in Major County, northwest. Heavy on Johnson grass in Choctaw County, southeast. (Okla. Coop. Sur., July 27). Light to locally heavy on late grain sorghum in north central area. (Okla. Coop. Sur.). COLORADO - Percent of sorghum and milo plants infested in Prowers, Bent, Otero, Crowley, Pueblo and Yuma Counties varies light to heavy. (Schweissing, LaQuey). WYOMING - Heavy on corn in Goshen County; approximately 85 percent of fields surveyed infested. Light damage noted to tassels. (Marks). NEVADA - Light on wheat in Diamond Valley, Eureka County. (Earnist). Varied 10-25 per sweep on barley in Preston-Lund, White Pine County, and 3-150 per sweep in Lamoille, Elko County. (Cooney). Medium on barley in Smith Valley, Lyon County. (Martinelli, July 26). IDAHO - Abundant on watergrass in some sweet corn seed fields and occasionally found on corn plants in southwestern area. (Manis).

ENGLISH GRAIN APHID (Macrosiphum avenae) - NEVADA - Varied 75-200 per sweep on grain in Preston-Lund, White Pine County. (Cooney). Infestations in several grain fields in Lovelock, Pershing County, greatly reduced by predators. (Lauderdale).

RICE DELPHACID (Sogatia orizicola) - FLORIDA - Infestations found at Belle Glade, Palm Beach County, on rice; 5 collections on July 19, one on July 18 and one on July 26. (Young).

RICE STINK BUG (Oebalus pugnax pugnax) - ARKANSAS - Counts per 100 sweeps 23 adults and 23 nymphs in 18 rice fields in Lonoke County week ending July 27; counts in same fields week ending August 3 were 20 adults and 24 nymphs per 100 sweeps. (Ark. Ins. Sur.).

CHINCH BUG (Blissus leucopterus) - ALABAMA - Caused serious damage to late corn on farm in Mobile County. (Deakle). OHIO - Infesting field corn near Washington Court House, Fayette County, July 19, and migrating to a meadow in Wyandot County on July 23. (Grover, Holdsworth, Courtright).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Populations heavy, 9th and 10th leaves infested, on early corn in Otero, Crowley and Pueblo Counties. On late-planted corn, populations light with mites on 2nd to 6th leaves. In Prowers and Bent Counties, populations on corn light and scattered on lower leaves. In Larimer and Weld Counties, numbers quite variable, with some fields having high economic populations and others with low to moderate numbers. In Delta County, mites on 3rd and 4th leaves, with light injury to foliage. (Schweissing, Jenkins, Bulla). Populations increasing week of July 19-26 on corn in Bent, Otero, Weld, Adams and Larimer Counties. Heavy infestations present on mid-leaves and in some

fields mites found on top leaves. Infestations month early and controls underway. (Schweissing, Jenkins). UTAH - Infestations on corn building up in several Weber, Davis and Utah County fields. (Knowlton, July 25). IDAHO - Building up in some sweet corn seed fields in southwestern area. Corn just commencing to tassel. Also found generally on alfalfa and clovers in south central and southwestern areas, with population counts generally moderate. (Manis, Scott, Portman).

SPIDER MITES - NEBRASKA - Increasing rapidly in corn in North Platte Valley; controls underway in some areas. (Hagen). NEW MEXICO - Heavy on corn being cut for ensilage in Dexter-Hagerman area, Chaves County. Most lower leaves in several fields completely dead from feeding. (N. M. Coop. Rpt., July 26). NEVADA - Appeared on lower leaves of corn in Panaca and Pahrnagat Valleys, Lincoln County. (Bechtel, July 26).

SPOTTED ALFALFA APHID (Therioaphis maculata) - SOUTH DAKOTA - Ranged 1-5 per 10 sweeps in Sanborn, Hanson and McCook Counties July 19-24, and 2-30 per 50 sweeps in Beadle, Hand and Sanborn Counties July 25-August 1. (Hintz). KANSAS - Counts in alfalfa in north central and northwest area range 10-25 per sweep. (Peters). Counts 25-50 per sweep in Ellis County alfalfa. (Harvey). OKLAHOMA - Fewer than 50 per 10 sweeps in southwest, northwest and southeast week ending July 27; ranged 25-50 per 10 sweeps in north central area alfalfa week ending August 3. (Okla. Coop. Sur.). COLORADO - Counts 1,000-2,000 per 100 sweeps on alfalfa in Bent County and 200-600 per 100 sweeps in Otero County; none found in Weld, Adams, Boulder or Larimer Counties. (Schweissing, Jenkins; July 26). Counts 20-2,000 per 100 sweeps in southeast Prowers, Bent, Otero, Crowley and Pueblo Counties. Populations expected to increase under present prevailing weather conditions. In Mesa County, numbers 20-50 per 100 sweeps; none found in Delta County. (Schweissing, Bulla). NEW MEXICO - Moderate to heavy in several fields near Clovis, Eddy County. Honeydew a problem in most of these fields. (N. M. Coop. Rpt.). ARIZONA - Light to medium in most alfalfa in Graham and Maricopa Counties. (Ariz. Coop. Sur.). NEVADA - None found in Elko, Esmeralda, Humboldt, Pershing or White Pine County alfalfa. (Coop. Rpt.). Averaged 1-2 per sweep in most maturing alfalfa fields in Panaca and only occasional specimens found in Pahrnagat Valley, Lincoln County. (Bechtel, July 26).

PEA APHID (Acyrtosiphon pisum) - MARYLAND - Increasing on alfalfa in all sections, with some fields in Baltimore and Frederick Counties showing from 20 to over 200 per sweep. (U. Md., Ent. Dept.). ILLINOIS - Relatively light, 1-40 per sweep, in clover and alfalfa in northern area. (Ill. Ins. Rpt.). WISCONSIN - Although populations generally low, increase noted in most alfalfa. (Wis. Ins. Sur., July 26). COLORADO - Increasing on alfalfa in Larimer, Boulder, Weld and Adams Counties, with counts 500-1,000 per 100 sweeps. (Jenkins, July 26). Low numbers present on alfalfa in southeast; 40-150 per 100 sweeps. In Saguache, Rio Grande, Alamosa and Costilla Counties, populations low to moderate, 300-1,000 per 100 sweeps. In Mesa, Montrose and Delta Counties, populations light to moderate, 500-2,000 per 100 sweeps. (Schweissing, Jenkins, Bulla). WYOMING - Counts 400-600 per 100 sweeps in Goshen County alfalfa; second cutting about 90 percent complete. Counts previous week in Natrona, Johnson and Sheridan Counties averaged 180 per 100 sweeps in alfalfa. (Marks). UTAH - Populations became high in number of second-crop alfalfa fields in east Millard County this summer. (Knowlton, Rickenbach). Moderate to severe on second-crop alfalfa in Sanpete County. (Knowlton, Funk). NEW MEXICO - Occasional heavy infestations still being found in Eddy and Chaves County alfalfa. (N. M. Coop. Rpt.). NEVADA - Many alfalfa hay fields in Fish Lake Valley, Esmeralda County, heavily damaged and plants stunted and deformed. In areas of some fields, counts 150-300 per sweep, but in remaining areas of fields, predators reduced populations below 25-75 per sweep. (Bechtel, Martinelli). Increasing on alfalfa in Lovelock, Pershing County. (Lauderdale). Varied 5-40 per sweep in alfalfa hay fields in Preston-Lund areas and 50-200 per sweep in Baker, White Pine County. Averaged 12 per sweep in Lamoille, Elko County, and varied 1-15 per sweep in Douglas County. (Cooney). Only occasional specimens found in Moapa Valley, Clark County, hay fields. (Bechtel). Light, heaviest counts averaged 2-5 per sweep, in Panaca and Pahrnagat Valley, Lincoln County, alfalfa hay fields. (Bechtel, July 26).

IDAHO - Building up rapidly on alfalfa in Lewis and Nez Perce Counties. In Nez Perce County, population counts extremely high, particularly in Lewiston area, with alfalfa stands suffering retardation of growth. (Kambitsch, Dailey; July 26). Populations extremely low in alfalfa throughout southern area; marked contrast to populations encountered during past several years. (Manis).

AN APHID (probably Anuraphis bakeri) - IDAHO - Abundant on approximately 3,000 acres of clover in Nezperce area of Lewis County. Actual estimates of loss not made. (Dailey, July 26).

LYGUS BUGS (Lygus spp.) - COLORADO - High, 300-500 per 100 sweeps, on seed alfalfa in Mesa County; controls taken. (Bulla). WYOMING - Adults averaged 82 and nymphs 44 per 100 sweeps in Goshen County alfalfa; counts previous week in Natrona, Johnson and Sheridan Counties 42 adults and 22 nymphs per 100 sweeps. (Marks). UTAH - Numerous to very high populations in east Millard County alfalfa seed fields. (Knowlton, Rickenbach). NEW MEXICO - Abundant in Eddy and Chaves County alfalfa; averaged as high as 2-5 per sweep in some fields. Also heavy in Curry and Roosevelt County alfalfa checked. (N. M. Coop. Rpt.). ARIZONA - Adults and nymphs still numerous in all alfalfa-growing areas. Counts ranged 30-300 per 100 sweeps. Pest remains dangerous to alfalfa seed crop. (Ariz. Coop. Sur.). NEVADA - Averaged 9 per sweep in alfalfa seed field and 10-35 per sweep in alfalfa hay fields in Fish Lake Valley, Esmeralda County. (Bechtel, Martinelli). Averaged 5 per sweep in hay fields in Preston-Lund and Baker, White Pine County, and Lamoille, Elko County. Varied 20-40 per sweep in Douglas County. (Cooney). Generally light on alfalfa seed in Orovida, Humboldt County, and adults averaged 3-4 per sweep in Haulapi Valley, Washoe County, seed fields. (Lauderdale). Varied 3-27 per sweep in alfalfa hay fields in Moapa Valley, Clark County. (Bechtel). Heavy, averaged 40-60 per sweep, in most maturing alfalfa hay fields in Panaca and Pahrnagat Valley, Lincoln County. (Bechtel, July 26). MARYLAND - Adults of L. lineolaris 1-2 per sweep in alfalfa and clover in Frederick, Howard and Queen Annes Counties. (U. Md., Ent. Dept.; July 26).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - OHIO - Moderate populations observed in most northwest area alfalfa, 75-100 nymphs and adults per 50 sweeps in Wyandot County, north central area. Increasing in several areas. (Lyon). ILLINOIS - Adults vary 20-140 and nymphs 20-120 per 100 sweeps in northern area alfalfa. (Ill. Ins. Rpt.). NORTH DAKOTA - Averaged 3 per sweep on alfalfa in Linton area, Emmons County. (N. D. Ins. Sur.). WYOMING - Adults averaged 50 per 100 sweeps in Goshen County alfalfa; adults 42 per 100 sweeps in Johnson and Sheridan Counties previous week. (Marks).

SUPERB PLANT BUG (Adelphocoris superbus) - UTAH - Moderately numerous in some Sevier and Juab County alfalfa seed fields. (Knowlton, July 25).

POTATO LEAFHOPPER (Empoasca fabae) - VERMONT - Causing severe yellowing and stunting of alfalfa and other legume forage in all areas. Hot, dry weather has intensified injury and 2-5 adults per sweep found in Addison County July 24. (MacCollom, July 29). MARYLAND - Adults and nymphs continue to cause conspicuous injury to untreated alfalfa in all sections. Infestations generally higher than a year ago. (U. Md., Ent. Dept.). OHIO - Averaged 1.5 per sweep on second-cutting alfalfa at Wooster, Wayne County, on July 23; averaged 2 per sweep on alfalfa at Apple Creek, Wayne County, on July 31. (Williams, Miller). ILLINOIS - Adults 300-1,000, nymphs 180-1,800 per 100 sweeps in northern area alfalfa. (Ins. Rpt.). WISCONSIN - Counts average about 1 adult and 1 nymph per sweep in most fields of alfalfa in Iowa, Lafayette and Grant Counties. Populations vary in fields in south central area, with numbers as high as 60 per sweep in yellowed areas of individual fields. (Wis. Ins. Sur.). SOUTH DAKOTA - Present on alfalfa throughout north central and northeastern regions of State; ranged 1-15 per 50 sweeps. (Hintz).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - TEXAS - Counts in Burleson County alfalfa averaged 50 adults and 25 nymphs per 5 sweeps. (Teats, July 26). NEW MEXICO - Adults abundant in Eddy and Chaves County alfalfa; 8-36

per 100 sweeps in fields checked. (N. M. Coop. Rpt.). ARIZONA - Adults still numerous in alfalfa in Yuma, Maricopa, Pinal and Graham Counties. Counts averaged 60-150 per 100 sweeps in most areas. (Ariz. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - MARYLAND - Larvae building up on alfalfa in several central area fields; counts 2-10 per sweep common. (U. Md., Ent. Dept.). NEBRASKA - Second-growth alfalfa destroyed in Sioux County field; adults averaged 4 per crown. Adjacent fields had areas 30-40 feet around hay stacks severely damaged. (Hagen; July 26). KANSAS - Surveys in northwest negative. (Peters). COLORADO - Larvae increased in Arkansas Valley and in northern area; counts 50-1,000 per 100 sweeps in some fields. (Schweissing, Jenkins; July 26). WYOMING - Larvae causing considerable damage to second-cutting alfalfa in Natrona, Johnson and Sheridan Counties; counts 8-12 per square yard. (Marks, July 26). UTAH - Continues to hold back alfalfa growth in untreated fields in Sanpete County. (Knowlton, Funk).

CLOVER SEED WEEVIL (Miccotrogus picirostris) - IDAHO - Adults noted moving into blossoms in clover seed fields throughout much of south central and southwestern areas. (Portman).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ALABAMA - Numerous calls received from peanut growers in Conecuh County each week seeking controls for adults of this species feeding on peanuts. (Huggins).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ARKANSAS - Adults and eggs present on soybeans in Mississippi County; infestations light. (Ark. Ins. Sur., July 27). VIRGINIA - Infestations in soybeans ranged from none in most fields checked in several counties to medium in some fields in Middlesex County. (Tarpley). Controls applied recently in some areas of Gloucester County. (Birdsall).

LEAF BEETLES (Colaspis spp.) - MARYLAND - Adults caused moderate injury to soybeans in Queen Annes County. (U. Md., Ent. Dept.). ALABAMA - Continue to feed on soybeans in Baldwin County. Present but apparently not damaging to legumes and other plants in pastures and roadsides in Lee and Tallapoosa Counties. (Fairley, Smallwood, Barwood, Davis, Yates).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults causing conspicuous foliage injury to soybeans in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). VIRGINIA - Adults most serious pest of soybeans at present. Infestations ranged from very light in Brunswick, Southampton, Isle of Wight, Nansemond, Gloucester, Essex, Middlesex and King William Counties to light in King and Queen, Isle of Wight, Nansemond and Norfolk (city of Chesapeake) Counties. Adults encountered in practically every field examined. (Tarpley). ARKANSAS - Ranged 11-30 in 30 row feet in 5 fields of soybeans checked in Lonoke County compared with range of 6-40 previous week. (Ark. Ins. Sur.). NEBRASKA - Adults caused minor damage to soybeans in east central area. (Bergman, July 26).

GARDEN WEBWORM (Loxostege similalis) - KANSAS - Abundant in alfalfa and soybeans and causing damage in Marion County, central area. Controls taken. Also abundant and controls necessary on alfalfa and sorghum in Riley County, northeast. (Burkhardt). MISSOURI - Heavy moth flights still evident in extreme northern areas. Counts of small larvae in these areas ranged 0-8 per sweep on alfalfa. (Munson, Thomas, Wood; July 27). ARKANSAS - Averaged 24 per 100 sweeps in Conway County alfalfa. (Ark. Ins. Sur., July 27). OKLAHOMA - Scattered, locally heavy infestations noted in various locations throughout State. Heavy on alfalfa in Covington area of Garfield County; 90-95 percent of terminals infested. Locally heavy in Washita, Kiowa and Marshall Counties. Considerable defoliation occurred in soybean plantings in Wagoner County. (Okla. Coop. Sur.).

ALFALFA WEBWORM (Loxostege commixtalis) - KANSAS - Larvae ranged 10-50 per 100 sweeps in alfalfa in north central and northwest areas. Very little webbing noted. However, moths abundant in most alfalfa; higher larval populations expected. (Peters). Reported in central area fields; alfalfa 50 percent or more webbed in some Ellis County fields. (Harvey).



ALFALFA CATERPILLAR (Colias eurytheme) - MARYLAND - Larvae light in Frederick and Howard County alfalfa. (U. Md., Ent. Dept.). NORTH DAKOTA - Adults and larvae observed on alfalfa in La Moure area; 3-10 larvae per 10 sweeps. (N. D. Ins. Sur.). COLORADO - Found in all alfalfa checked in Prowers, Bent, Otero, Crowley and Pueblo Counties at light to moderate levels; 0-50 per 100 sweeps. (Schweissing). WYOMING - Larvae 14 per 100 sweeps in Goshen County alfalfa. (Marks). NEW MEXICO - Adults extremely numerous in alfalfa in Lakewood-Artesia area, Eddy County. (N. M. Coop. Rpt.). ARIZONA - Large flights of adults still being found in Yuma, Maricopa and Graham Counties. Larval counts in alfalfa averaged 20-40 per 100 sweeps in Graham County and 35-40 in Maricopa County. (Ariz. Coop. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Larvae of all sizes ranged 1-3 per sweep on alfalfa in Baltimore County; light to moderate on soybeans in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). ILLINOIS - Varies 4-10 per 100 sweeps in clover and alfalfa in northern area. (Ill. Ins. Rpt.). ARKANSAS - Ranged 4-11 per 30 row feet in soybeans compared with 1-10 previous week. (Ark. Ins. Sur.).

BEE T ARMYWORM (Spodoptera exigua) - GEORGIA - Light to heavy infestations on peanuts in Miller, Calhoun and Randolph Counties. (Jordan, July 25). ALABAMA - Few larvae noted in Mobile County millet planting. (Deakle). TEXAS - Averaged 40 larvae per 5 sweeps in Burleson County alfalfa. (Teats, July 26).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - Locally heavy infestation noted on peanuts in Marshall County; 30 per 100 terminals. (Okla. Coop. Sur.).

ALFALFA LOOPER (Autographa californica) - NEW MEXICO - Larvae 2-5 per 100 sweeps in alfalfa near Artesia, Eddy County. (N. M. Coop. Rpt.).

AN ALFALFA SEED CHALCID (Bruchophagus roddi) - OKLAHOMA - Considerable damage to alfalfa seed noted in Major County. Lighter damage also observed in Noble County. (Okla. Coop. Sur.). UTAH - Adult populations extremely low to July 25 in northern area alfalfa. (Knowlton). ARIZONA - Adults being found in some seed alfalfa fields in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

THRIPS (undetermined) - MARYLAND - Continue to cause noticeable foliage injury to corn and soybeans in all sections. (U. Md., Ent. Dept.). SOUTH DAKOTA - Counts about 500-600 per 10 sweeps in Miner County alfalfa. (Hintz). COLORADO - Causing considerable damage to oats in Garfield County. (Dickens).

SAGEBRUSH DEFOLIATOR (Aroga websteri) - NEVADA - Caused heavy damage to Artemisia tridentata in Lamoille area, Elko County. (Cooney).

RANGE CATERPILLAR (Hemileuca oliveae) - NEW MEXICO - Larvae damaging rangeland grasses in Farley-Gladstone area, Colfax and Union Counties. (N. M. Coop. Rpt.).

A BURROWING WEBWORM (Acrolophus sp.) - NORTH CAROLINA - Infesting fescue lawn in Stanly County. (Koontz, Robertson; July 26).

ARMY CUTWORM (Chorizagrotis auxiliaris) - OREGON - Noted feeding in pasture and hay fields in Douglas County. (Vertrees, July 27).

SOD WEBWORMS - FLORIDA - Pachyzancla phaeopteralis heavily infested grass at Miami, Dade County, July 15. (Roberson). NEBRASKA - Adult and larval activity of Crambus sp. reported present and causing damage to lawns in Lancaster County. (Bergman, July 26).

SAY STINK BUG (Chlorochroa sayi) - NEVADA - Medium to heavy on rangeland in Orovada area, Humboldt County. (Lauderdale).

A BERMUDA GRASS MITE (Aceria neocynodonis) - NEW MEXICO - Heavy on Bermuda grass lawns in Carlsbad area, Eddy County. Moderately heavy and damaging lawns at Hobbs, Lea County. (N. M. Coop. Rpt.). ARIZONA - Causing severe damage to lawns in Maricopa and Pima Counties. (Ariz. Coop. Sur., July 26).

RHODES GRASS SCALE (*Antonina graminis*) - FLORIDA - Infesting Bermuda grass at Winter Haven, Polk County, July 8. (Simanton).

A WHITE GRUB (*Phyllophaga* sp., probably *hirticula*) - VIRGINIA - Heavily infesting a bluegrass pasture on dairy farm in Page County. (Tarpley, et al., July 22).

CHINCH BUGS - NEW YORK - Activity increasing on turf in Nassau County. (N. Y. Wkly. Rpt., July 29). ALABAMA - Caused serious damage to numerous St. Augustine grass lawns in Conecuh County. (Huggins). TEXAS - Light to moderate populations causing light damage to few St. Augustine grass lawns in College Station. (Tex. Coop. Rpt.).

BANKS GRASS MITE (*Oligonychus pratensis*) - IDAHO - Infestations general in Gooding, Camas, Lincoln and Blaine Counties on native grasses and stands of brome, intermediate wheatgrass and crested wheatgrass. (Portman).

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Weather of the week ending August 5 (continued from page 900)

greatest deviation, while the Pacific Northwest completed its seventh successive week of mostly below normal temperatures. A consistently cool spot, Bondurant, Wyoming, reported a 23° for the coolest, while 111° was the warmest, being reported from several spots of the Southwest deserts. Maxima exceeded 100° into Wyoming and South Dakota. St. Louis, Missouri, recorded 100° or better on 2 days; 102° on the 3d.

Precipitation was quite sparse or non-existent from western Montana through Oregon, and south over California and much of Nevada. No measurable precipitation was reported from Oregon, the first such week this year. Much of Texas, including the Panhandle, went without measurable rainfall. Fairly extensive showers deposited significant rain over the mountains of Arizona, Colorado, southern Utah, and western New Mexico. Flagstaff, Arizona, received one of the larger totals with 2.11 inches. Grants, New Mexico, had rainfall amounting to 1.51 inches by noon on the 3d. From the Great Plains eastward, precipitation was quite general, but totals were variable. The stations at Wichita, Kansas, and Springfield, Illinois, measured no rainfall, as did most of Texas. However, a thundershower dropped 2 inches in 45 minutes on Athens, Georgia. Local totals to 8 inches were reported from North Carolina and western North Dakota. On the opening day, local flooding was one result of heavy rain showers amounting to 3.38 inches at Buffalo, New York.

Severe storms were quite frequent during the period and hail caused crop damage in Idaho, most of the Plains States, Great Lakes States, North Carolina, and other scattered areas. Stones to golf-ball size hit Waco, Nebraska, during a bad storm on the 30th. On the 31st, a tornado just north of Cadillac, Michigan, damaged roofs and trees. Twisters also struck near Chicago, Illinois, on the 2d. A violent nighttime storm on the 3d at Glassport, Pennsylvania, with 90 m.p.h. winds, was responsible for 2 deaths, injuries to 70 others, and extensive property damage. Golf-ball size hail and 85 m.p.h. winds had hit Cleveland, Ohio, that same day. (Summary supplied by U.S. Weather Bureau).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW YORK - Second-brood adults emerging steadily from cages in Niagara County since July 24. (N.Y. Wkly. Rpt.). PENNSYLVANIA - Heavy in partially sprayed apple orchard in Centre County. (Adams, July 22). MICHIGAN - Emergence continues heavy; 20 specimens taken at blacklight trap in Livingston County July 27 and total of 67 during week ending July 29. Cage in Kent County yielded 11 adults same period. Eggs noted in Berrien County July 26; hatched in East Lansing on August 1. (Newman, Gilmore, Wooley). MISSOURI - Heavily damaged poorly treated block of apples in peach orchard in southeastern area; larvae 75 percent to full grown indicating end of brood. Fresh "stings" on summer apples reported at St. Joseph. (Wkly. Rpt. Fr. Grs., July 31). NEW MEXICO - Heavy on fruit in untreated orchards in Bernalillo and Sandoval Counties; good control when correct timing and proper coverage obtained. (N.M. Coop. Rpt., July 26). OREGON - Second generation emerging in western area week of July 14. (Goeden).

ORCHARD MITES - MAINE - Panonychus ulmi and Tetranychus telarius continue increase on untreated check trees in Monmouth area indicating more trouble. (Boulanger, July 27). NEW YORK - Epitrimeris pyri severe in orchard in Niagara County. P. ulmi very heavy in Monroe County. (N.Y. Wkly. Rpt., July 29). CONNECTICUT - P. ulmi increasing at Litchfield, Niantic and New Haven; T. telarius increasing locally. August usually important for buildup. (Savos, July 30). DELAWARE - P. ulmi increased rapidly statewide on apples. Two-spotted mites numerous on peach leaves in some areas of Sussex County. (MacCreary). OHIO - Untreated apple tree plots averaged 160 crawlers and adults of P. ulmi per leaf at Wooster, Wayne County. (Frazier). MICHIGAN - Various species heavy on apples, plums and in some pear orchards in southwestern area; moderate in northwest. Some control difficulty noted. (Wooley, Howitt, Carpenter, Tatter, Mullett). WISCONSIN - Panonychus ulmi reached damaging levels in Door County where earlier controls inadequate; Tetranychus telarius increased in same county. (Wis. Ins. Sur.). MISSOURI - All areas of State report mites present but usually under control. Heavy in west central area with some webbing of leaves and fruit of apples noted. Attacked peach foliage in southeast area; some graying of leaves noted. Mostly T. telarius in southeastern area with some P. ulmi. Some bronzing of foliage noted in Kansas City area from previous mite infestations. (Wkly. Rpt. Fr. Grs., July 31). CALIFORNIA - Eriophyes pyri heavy on pear trees in Scott Bar, Siskiyou County. (Cal. Coop. Rpt.).

APPLE MAGGOT (Rhagoletis pomonella) - MAINE - Emergence continues heavy in experimental cages in Monmouth area; moderate to heavy at Orono. (Boulanger, July 27). NEW YORK - Emergence evidently reached peak July 25 in Niagara County; apparently peaked July 23-24 in Monroe County. (N.Y. Wkly. Rpt.). CONNECTICUT - Large numbers emerging; maximum protection urged on apples. (Savos, Aug. 3). MINNESOTA - Adult activity very high in Minnetonka area; ranged 13-15 per trap. (Minn. Ins. Rpt.). WISCONSIN - First entry observed at Gays Mills July 25. Populations considerably lower in Door, Rock and Crawford Counties where dry conditions restrain emergence. Numbers fairly high in Madison area where more rainfall occurred. (Wis. Ins. Sur.).

PEAR-SLUG (Caliroa cerasi) - CALIFORNIA - Larvae heavy on cherry trees in Weaver-ville, Trinity County, and heavy on plums in Oceanside, San Diego County. (July 26). Heavy on pear trees in Salinas, Monterey County. (Cal. Coop. Rpt.). OREGON - Second-generation adults appeared on cherries week of July 14 in Polk County. (Goeden). WISCONSIN - Second-generation larvae feeding on cherry leaves in Dane County. (Wis. Ins. Sur., July 26).

SHOT-HOLE BORER (Scolytus rugulosus) - CALIFORNIA - Locally heavy on apple trees in Tehachapi, Kern County. (Cal. Coop. Rpt., July 26).

A SCARAB (Cotinis texana) - ARIZONA - Damage heavy to home planting of peaches and other soft fruits in Nogales, Santa Cruz County. (Ariz. Coop. Sur.).

A STINK BUG (Euschistus conspersus) - CALIFORNIA - Adults heavy on peach in Sacramento, Sacramento County. (Cal. Coop. Rpt., July 26).

WHITE APPLE LEAFHOPPER (Typhlocyba pomaria) - CONNECTICUT - Heavy on untreated trees at New Haven. (Savos, July 30).

SAN JOSE SCALE (Aspidiotus perniciosus) - ALABAMA - Difficult to control on Red Delicious apple trees in Lee County; caused serious damage to fruit and trees. (Bagby, July 26).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - TEXAS - Very heavy on peach trees in Montgomery County. (McCoy, July 26).

A CHERRY LEAF MINER - MICHIGAN - Larvae of undetermined species generally widespread and caused injury in 3 Van Buren County sour cherry orchards. (Wooley, Carpenter, July 26).

FALL WEBWORM (Hyphantria cunea) - GEORGIA - Ranged light to heavy on pecans, mostly light to moderate. (Johnson). PENNSYLVANIA - Increasing on untreated apples in Snyder County; heavier than for several years. (Gesell, July 30). CALIFORNIA - Heavy locally on walnut trees in Yreka, Siskiyou County. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Caused considerable nut drop to isolated pecans in Lee County; early instars involved. (Bagby).

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Heavy on walnut trees in Arroya Grande; San Luis Obispo County; becoming more common each year. (Cal. Coop. Rpt.).

PECAN SPITTLEBUG (Clastoptera achatina) - ALABAMA - Serious in pecan orchard in Mobile County; controls necessary. (Deakle).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - ARIZONA - Second generation appearing in many areas of Maricopa County. (Ariz. Coop. Sur., July 27).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - Next brood expected about August 7; inspections urged, controls may be necessary. (Wkly. Rpt. Fr. Grs., July 31).

GRAPE LEAF FOLDER (Desmia funeralis) - FLORIDA - Severe on Vitis sp. at Apopka, Orange County. (Musgrove, July 22).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - CALIFORNIA - Generally heavy infestation in grape vineyards in Tuolumne area, Tuolumne County, and medium in Plymouth, Amador County. (Cal. Coop. Rpt., July 26).

A DARKLING BEETLE (Blapstinus sp.) - CALIFORNIA - Adults heavy in soil and on foliage of grape planting in Escondido, San Diego County. (Cal. Coop. Rpt.).

BLUEBERRY MAGGOT (Rhagoletis pomonella) - MAINE - Emergence completed week of July 22 in Jonesboro area. (Boulanger).

A CHALCID (Hemadas nubilipennis) - MAINE - Occasionally found in most blueberry fields in Hancock and Washington Counties; injury negligible. (Boulanger, July 27).

PUTNAM SCALE (Aspidiotus ancylus) - CONNECTICUT - Problem on blueberries in Wethersfield. (Savos, Aug. 1).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - MICHIGAN - Moderate to heavy in southwestern area; heavy on several cranberry plantings. (Carpenter, July 26).

MEXICAN FRUIT FLY (Anastrepha ludens) - ARIZONA - Collected for first time in State; female recovered from McPhail trap at Nogales, Santa Cruz County, July 9. Conditions surrounding recovery indicate that this is not established infestation; trap 65 miles from nearest citrus-producing area. (Ariz. Coop. Sur.).

FLORIDA RED SCALE (Chrysomphalus aonidum) - FLORIDA - Moderate to severe on lemon at Holly Hill, Volusia County. (Pott, July 23).

PURPLE SCALE (Lepidosaphes beckii) - TEXAS - Scattered, heavy infestations on citrus trees in and around Brownsville; parasitism is apparently very light. (Texas Coop. Rpt., Day, July 26).

A WEEVIL (Brachyrhinus cribricollis) - CALIFORNIA - Adults heavy and damaging young citrus trees in Bardsdale, Ventura County. (Cal. Coop. Rpt., July 26).

A LEAF ROLLER MOTH (Platynota stultana) - ARIZONA - Damaged terminal growth of citrus locally in Yuma County; controls not effective. (Ariz. Coop. Sur.).

#### TRUCK CROP INSECTS

POTATO LEAFHOPPER (Empoasca fabae) - VERMONT - Prevalent on beans and potatoes. (MacCollom). RHODE ISLAND - This species especially, and other leafhoppers, building up on potatoes in Kingston, Washington County. (Kerr). PENNSYLVANIA - Damaging potatoes in Cambria and Mercer Counties. (Udine, Adams, July 24). MARYLAND - Moderate to heavy infestations common on beans and peppers in all sections. (U. Md., Ent. Dept.). MICHIGAN - General buildup underway on untreated potatoes throughout Lower Peninsula. (Guyer). WISCONSIN - Yellowing of snap beans and severe "hopperburn" to potatoes noted in many home gardens in southern part of State; potato stalks killed in few instances. (Wis. Ins. Sur., July 26).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Few adults on potatoes in Goshen County; averaged less than 1 per 200 sweeps. Most fields had 1-2 control applications. (Marks).

POTATO APHID (Macrosiphum euphorbiae) - MARYLAND - Heavy on 25 acres of potatoes at Nassawange, Worcester County. (U. Md., Ent. Dept., July 26). IDAHO - Higher than average numbers present in seed potato fields in Caribou and Fremont Counties. (Bishop).

GREEN PEACH APHID (Myzus persicae) - WISCONSIN - Colonies increasing rapidly on peppers in East Troy area. (Wis. Ins. Sur.)

Potato Aphids in Maine - Although still small, number of aphids continued to increase rapidly on untreated potato foliage at Aroostook Farm near Presque Isle, Aroostook County. Numbers on 3 leaves per plant (top, middle and bottom) now average 13.8 of all species compared with 2.7 of previous week. Percent of plants infested, using this method, increased from 59 to 95. BUCKTHORN APHID (Aphis nasturtii) predominates followed by POTATO APHID (Macrosiphum euphorbiae).

GREEN PEACH APHID (Myzus persicae) scarce and only trace infestations of FOXGLOVE APHID (Acyrtosiphon solani). Number of aphids killed by parasites and fungus diseases small but increasing. Insect predators of aphids generally scarce. Surveys of potato fields in central and southern Aroostook County August 1-2 indicated aphid populations varied from practically none, in fields where planting furrow applications of systemic insecticides made, to very large numbers in fields where no or limited insecticides used. In infested fields largest numbers of aphids were in early planted fields and smallest numbers in late fields. Relative abundance of the 4 above aphid species and 3 natural agents of control corresponded closely to that of Aroostook Farm. Very small numbers of summer-generation adults noted in 3 fields in central and southern Aroostook County. (Shands et al.).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MAINE - Heavy and causing severe injury to potatoes in Saco; infestations and damage light in Jonesboro. (Boulanger, July 27). KANSAS - Severely damaged potatoes; moving to eggplants on truck farm in Cloud County. (Charlton, Thompson, July 26). IDAHO - New adults appearing in potato fields in Power and Bingham Counties. (Bishop).

TUBER FLEA BEETLE (Epitrix tuberis) - WYOMING - Adults averaged 22 per 100 sweeps in potato fields of Goshen County. (Marks).

POTATO FLEA BEETLE (Epitrix cucumeris) - PENNSYLVANIA - Second generation started July 15; quite heavy (10 per sweep) on potatoes in Erie County. (Adams, July 24). Quite heavy on potatoes where not controlled in Cambria County. (Udine, July 24).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Ovipositing on peppers; second brood flight well underway. (Wis. Ins. Sur.).

A LEPIDOPTEROUS LEAF MINER - MICHIGAN - Late instar of undetermined species causing considerable injury in 80-acre field of Aranac potatoes in Monroe County; injury less evident on Datahdin variety. (Clanahan, Laser, Janes).

GARDEN SYMPHYLAN (Scutigrella immaculata) - PENNSYLVANIA - Damaged peppers in Snyder County; 25 percent of roots eaten. Injury appearing on tomato plants in Lackawanna County. (Gesell, July 24).

MEXICAN BEAN BEETLE (Epilachna varivestis) - IDAHO - All stages noted on beans in garden in northwest Boise; infestation within limits of previous infestation. Eradication underway on this property and surrounding properties July 22. (Fife). MICHIGAN - Heavy in Ottawa County. (Van Klompenberg). OHIO - Caused heavy damage to lima beans in Belmont County; plants 80 percent skeletonized with 4-5 insects per leaf in many areas of garden. Most in adult stage. (Lyon, Polivka, July 23). MARYLAND - Heavy in several large garden plantings of lima beans at Salisbury, Wicomico County. (July 26). Increasing on snap and lima beans in central and eastern sections; eggs heavy on garden lima beans at Centreville, Queen Annes County. (U. Md., Ent. Dept.). ALABAMA - Extremely heavy in home garden in Covington County; heavy infestations of several weeks ago almost disappeared in maturing beans in Mobile County. (Deakle et al.).

PEA APHID (Acyrtosiphum pisum) - IDAHO - Very abundant in pea fields in Lewis County. Approximately 10,000 acres of peas severely infested; damage heavy. (Kambitsch, Dailey, July 26).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Causing considerable to beans in Weld County. (Dickens).

BEEF LEAFHOPPER (Circulifer tenellus) - COLORADO - Numerous on sugar beets and tomatoes in Prowers, Bent, Otero, Crowley and Pueblo Counties. (Schweissing). IDAHO - Abundant and causing considerable damage to tomatoes in home gardens at Hammett. (Warren).

LYGUS BUGS (Lygus spp.) - WYOMING - Adults averaged 32 per 100 sweeps in sugar beet and bean fields of Goshen County. (Marks).

A BLISTER BEETLE (Epicauta normalis) - IDAHO - Very abundant and causing extensive damage on margins of sugar beet field at Aberdeen. Associated with relatively heavy infestation of grasshoppers, mostly Melanopus sanguinipes. (Manis, Bishop).

BEEF WEBWORM (Loxostege sticticalis) - UTAH - Moths extremely numerous in blacklight trap at Ogden night of July 19-20. (Knowlton).

CABBAGE LOOPER (Trichoplusia ni) - NEW YORK - Heavy on Long Island; eggs and first and second instars numerous. (N.Y. Wkly. Rpt., July 29). MARYLAND - Adults appearing steadily in blacklight traps at Snow Hill, Worcester County; infestations expected to increase on tomatoes, spinach and cole crops. (U. Md., Ent. Dept.). MICHIGAN - All instars evident on cabbage in South Haven area, Allegan County; first adults of season trapped in eastern area taken in Macomb County. (Guyer, Newman, Snow).

DIAMONDBACK MOTH (Plutella maculipennis) - MICHIGAN - Last instars and pupae evident on cole crops in Allegan County. (Guyer).

CABBAGE APHID (Brevicoryne brassicae) - OREGON - Large numbers appearing on brussels sprouts week of July 22 in Marion County. (Hanna). MICHIGAN - Colonies increasing rapidly in untreated cabbage planting in Allegan County. (Guyer).

STRIPED FLEA BEETLE (Phyllotreta striolata) - OHIO - Caused severe feeding damage to cabbage plants in Belmont County. (Polivka, Lyon, July 23).

CUCUMBER BEETLES - WISCONSIN - Acalymma vittata and Diabrotica undecimpunctata howardi continue heavy feeding on some cucurbit plantings; bacterial wilt appearing in Oconto County. (Wis. Ins. Sur.).

PICKLEWORM (Diaphania nitidalis) - GEORGIA - Late, light infestation on squash in home garden in Spalding County. (Dupree).

SQUASH BUG (Anasa tristis) - NEVADA - Adults and nymphs heavy on squash in Moapa Valley, Clark County. (Bechtel).

ONION THRIPS (Thrips tabaci) - COLORADO - Appears reduced by controls in Montrose, Otero, Prowers, Bent, Crowley, Pueblo, Weld and Larimer Counties. Untreated fields show considerable damage. (Bulla, Schweissing, Jenkins). CALIFORNIA - This species and Frankliniella occidentalis heavy in tomato flowers in Woodland, Yolo County. (Cal. Coop. Rpt., July 26).

TOBACCO THRIPS (Frankliniella fusca) - MICHIGAN - Heavy on untreated onions in Lansing area, Ingham County. (Guyer).

ONION MAGGOT (Hylemya antiqua) - COLORADO - Found for first time this season in diseased onion plants in Montrose County. (Bulla). CALIFORNIA - Larvae and pupae heavy on onion bulbs in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt., July 26).

ASPARAGUS BEETLE (Crioceris asparagi) - MARYLAND - Adults moderate to heavy on asparagus foliage at Fairland, Montgomery County. (U. Md., Ent. Dept.). CALIFORNIA - Adults heavy on asparagus plantings in Roseville area, Placer County. (Cal. Coop. Rpt., July 26).

SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) - NORTH DAKOTA - Heavy and feeding on asparagus foliage at Hankinson. (N.D. Ins. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MAINE - Moderate and causing severe damage to head lettuce in Scarborough. (Boulanger, July 27).

GARDEN FLEAHOPPER (Halticus bracteatus) - DELAWARE - Averaged 5 per 10 sweeps in large carrot field in Sussex County. (MacCreary, Evans).

CARROT WEEVIL (Listronotus oregonensis) - MICHIGAN - Adults emerging from infested celery field in Kalamazoo County. (Wells).

A MINT FLEA BEETLE (Longitarsus waterhousei) - OREGON - Adults appearing in Columbia County mint fields; economic damage noted in some fields. (Larson, July 27).

CYCLAMEN MITE (Steneotarsonemus pallidus) - WISCONSIN - Caused considerable damage to strawberries in Bayfield County. (Wis. Ins. Sur., July 26).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Causing economic damage to many vegetable crops and gardens in Willamette Valley. (Beglan, Crowell, July 27).

TARNISHED PLANT BUG (Lygus lineolaris) - MAINE - Heavy and causing moderate damage to garden crops in North Pownal and Scarborough areas. (Boulanger, July 27).

#### TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - VIRGINIA - On tobacco in irrigated fields; controls necessary in Pittsylvania County. (Dominick, July 24). MARYLAND - Increase continues on tobacco in Calvert, Charles and St. Marys Counties; many

farmers treated or plan to treat. (U. Md., Ent. Dept.).

TOBACCO BUDWORM (Heliothis virescens) - VIRGINIA - Some damage appearing on late tobacco in Pittsylvania County. (Dominick, July 24). MARYLAND - Infestations continue considerably below normal on tobacco in all areas. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Larvae light on tobacco at Prince Frederick, Calvert County. (U. Md., Ent. Dept.).

A NOCTUID MOTH (Trichoplusia sp.) - NORTH CAROLINA - Caused moderate damage to tobacco field in Pamlico County. (Jones, Mount, July 26).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - MARYLAND - Several adults collected from soil surface near disked tobacco bed near Prince Frederick, Calvert County. (U. Md., Ent. Dept.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - GEORGIA - Light to moderate on tobacco in southern area. (Johnson). MARYLAND - Numbers reduced somewhat on tobacco in all sections. (U. Md., Ent. Dept.).

#### COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Population generally low, but rather high in untreated fields. (Cott. News Ltr., July 30). SOUTH CAROLINA - Migration began July 24 in southern area. Average percent punctured squares 6.5 in treated fields and 28 in untreated fields same date. Controls generally good. (Cott. Ltr., July 29). Increasing rapidly in Florence area in untreated or inadequately treated fields. (Taft et al., July 31). GEORGIA - Square counts made in 24 middle and southern area cotton fields. Percent punctured squares ranged 15-70 (averaged 34). (Johnson). ALABAMA - Much higher numbers noted week ending July 26 in southern and central counties. Infestations expected to increase rapidly in untreated fields. Activity not appreciably increased week ending August 2 except in few isolated fields where second "hatch out" provided 1-5 weevils per bloom in southern counties and large numbers of feeding and egg laying punctures. Controls initiated in many fields where infestation counts high which probably accounts for lower counts this week. (McQueen). TENNESSEE - Increasing in southern counties of western area; few adults found for first time this season. Percent punctured squares averaged 7 compared with 41 at same time in 1962. Infestations rather spotty. No migration noted. (Locke). ARKANSAS - Activity continues to increase. Of 6,194 fields scouted during week ending July 26, 312 needed treatments. Increased activity expected for next two weeks. (Wkly. Cott. Ins. Rpt.). LOUISIANA - Third-generation weevils common in Tallulah area. Infestations climbing rapidly. Controls difficult due to frequent showers past two weeks. (Smith et al.). MISSISSIPPI - Light to medium throughout State; controls applied. (Ouzts). In delta counties, punctured squares found in 19 of 36 fields checked. Percent punctured squares in infested fields ranged 0.25-62.5 percent (averaged 6.75). Third-generation weevils emerging in many fields. Although general migration not likely, local movement expected in more heavily infested fields in area. (Pfrimmer et al.). TEXAS - Statewide, situation remains very favorable with only few locally heavy infestations reported. Light infestations present above Caprock in eastern portions of Floyd and Crosby Counties. Considerable field to field movement noted previous week in southern area. (Tex. Coop. Rpt.). OKLAHOMA - Continues noneconomic throughout State. Counts ranged from 2-18 percent in south central area, 2-17 percent in southwest, 1 percent in Wagoner County and 1-3 percent in Major County. (Okla. Coop. Sur.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Populations increasing; cotton attractive. (Cott. Ltr., July 29). GEORGIA - Eggs ranged 3-19 per 100 terminals (average 10) in 24 middle and southern area fields. Larvae ranged 1-21 (average 5) per 100 terminals. (Johnson). ALABAMA - Considerable increase



noted in isolated areas week ending July 26. (McQueen). TENNESSEE - Continue damaging in western area; heavier in those counties south of Jackson. Counts ranged 1-12 larvae or eggs per 100 terminals with average being 6 larvae or eggs. Eggs more prevalent than larvae at present. Some boll injury occurring where larvae are large, and especially if fields beginning to "cut out". (Locke). MISSOURI - Total of 952 fields scouted. Larvae 0-4 per 100 plants in 108 fields and eggs found in 128 fields. (French). ARKANSAS - Activity increased; moth emergence and egg deposition heavy. Larval counts considerably higher in southeast than previous week, but egg counts show slight decline. Activity increased in central and northeast areas, but remained static in upper Arkansas River Valley and southwest. Percentage of fields infested 64.8 compared with 48.3 previous week and 55.5 at same time in 1962. Controls urged. (Wkly. Cott. Ins. Rpt., July 26). Percentage of H. virescens in cotton in southwest decreased in some cases. Larvae collected in Lafayette County July 16 were 41 H. zea and 19 H. virescens. Another group of larvae collected in Lafayette County July 17 were 78 H. zea and 3 H. virescens. Larvae determined in Lincoln County July 23 were 34 H. zea and 8 H. virescens. (Ark. Ins. Sur.). LOUISIANA - Infestations general in Tallulah area but only few severe infestations reported. Rigid control measures may be necessary for remainder of season. (Smith et al.). MISSISSIPPI - Light to medium throughout State; controls applied. (Ouzts). Injured squares found in 34 of 36 fields checked in delta counties. Percent injured squares ranged 0.25-5.75 and averaged 1.27 percent. Very few eggs found in terminals. Most egg deposition on square bracts and dried blooms down in plant. Moth flight continuing. Threat expected to continue for remainder of growing season. Larvae collected on research station July 22-26 identified as 62 percent H. zea and 38 percent H. virescens. (Pfrimmer et al.). TEXAS - Infestations in central and southern area decreasing as cotton nears maturity. In north central and northeast, economic populations continue to cause considerable damage. Light, noneconomic populations fairly general over much of west and panhandle areas. (Tex. Coop. Rpt., July 26). Heavy infestations in Dickens and Culberson Counties (west), with other counties in area reporting light to moderate infestations. (Tex. Coop. Rpt.). OKLAHOMA - Infestation counts ranged 5-12 percent, with highest counts continuing in irrigated fields. Infestations recorded ranged 5-9 percent within south central area, with one count of 21 percent in Marshall County; in southwest, 5-12 percent with counts 8-9 percent in Kiowa County, 7-12 percent in Tillman County, 11-12 percent in Greer County, and 5-11 percent in Caddo County; 4-5 percent in Major County, northwest. Moth flights in Chickasha area at a 20:1 ratio, H. zea over H. virescens, with about 10 percent of larval infestation in cotton. (Okla. Coop. Sur.).

BOLLWORM (Heliothis zea) - ARIZONA - Rapid increase found in Maricopa, Pima and Pinal Counties. No increase reported from Yuma and Graham Counties. During previous week, larvae increased in most cotton-growing areas. Yuma, Maricopa and Pinal Counties reported only very small populations. Surveys in Graham and Cochise Counties showed 4-7 larvae per 100 plants and numerous eggs on terminals. (Ariz. Coop. Sur.). NEW MEXICO - Majority of cotton fields checked in Eddy County had light to heavy infestations. Some control difficulties noted in southern part of county. Many growers treating. Predators sufficiently numerous in southern Dona Ana County cotton to keep larvae at noneconomic level. (N.M. Coop. Rpt., July 26). CALIFORNIA - Evident in some Kern County fields; however, damage continues to be restricted to squares and populations below treatment level. Close checks recommended for rest of season. (Leigh, July 24). Counts generally low in Fresno County. (Ferris, July 23).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Larvae appearing in cotton in Graham, Maricopa and Pinal Counties. Populations too light for accurate counts. (Ariz. Coop. Sur.). CALIFORNIA - Severe outbreaks found in Fresno and Kings Counties; some fairly large areas defoliated. (Leigh, July 24).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Caused significant economic damage in Matagorda and Calhoun Counties. Percent damage very difficult to evaluate because of drought and other insect damage. (Tex. Coop. Rpt.). ARIZONA - Emergence slowed down during week ending July 26 at experiment station at Safford. (Ariz. Coop. Sur.).

COTTON LEAFWORM (Alabama argillacea) - TEXAS - Locally heavy infestations in southern area and light infestations appearing in San Angelo area. (Thomas, July 26). Few fields in Matagorda County up to 75 percent defoliated. Only an occasional larva found; most pupated and emerged. (Tex. Coop. Rpt.).

GARDEN WEBWORM (Loxostege similalis) - TEXAS - Light to heavy in areas of north-west. Severe damage reported in Bailey County. (Tex. Coop. Rpt.). OKLAHOMA - Heavy on cotton in Dewey County, west central area. (Okla. Coop. Sur.).

BEE T ARMYWORM (Spodoptera exigua) - ALABAMA - Noted in border of cottonfield in Autauga County; also feeding on several native plants along border of fields. (McQueen).

CUTWORMS - ALABAMA - Feeding on upper leaves, buds and parts of squares of cotton in 5 or more large cotton farms in Elmore County; controls difficult. (Morris, Methaney).

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Light to moderate infestations on cotton in 24 middle and southern area fields. Those infected by virus checked in all areas. (Johnson). ALABAMA - No general increase noted. Controls necessary locally in Monroe County. (McQueen). ARIZONA - Some damage found in Graham, Cochise, Pima and Pinal Counties; larvae averaged 3-10 per 100 sweeps. (Ariz. Coop. Sur., July 26). CALIFORNIA - Low numbers evident in Kern County fields; not serious at present. (Burton, July 29).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Continued increases found in Yuma, Maricopa, Pinal and Pima County cotton; few fields treated in Yuma County. Counts averaged 15-20 per 100 sweeps previous week in Yuma, Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Building in to Roosevelt County cotton. (N.M. Coop. Rpt.). ARIZONA - Populations remain constant in most cotton-growing areas; however, damage still being found in all areas. During previous week, adults and nymphs increased in Maricopa, Pinal and Yuma Counties. Also, light but potentially dangerous populations reported in Graham, Cochise and Pima Counties. (Ariz. Coop. Sur.). NEVADA - Adults varied 0-6 per 50 sweeps in all but one field in Moapa Valley, Clark County, where adults varied 6-28 per 50 sweeps. No nymphs found. (Bechtel). Built up in fields in Pahrump Valley 2-3 weeks later than normal and still below economic levels, except along borders of some fields. Nymphs beginning to appear. (Slater). CALIFORNIA - Damaging numbers evident in many Kern County fields; close checks and controls urged where necessary. (Leigh, July 24). Appears less severe than during previous weeks. (Black, July 27).

LEAFHOPPERS (Empoasca spp.) - ARIZONA - Slight increase noted in Yuma, Maricopa and Pinal County cotton fields. (Ariz. Coop. Sur.). NEVADA - Light populations present in several fields in Moapa Valley, Clark County. (Bechtel).

A STINK BUG (Euschistus impictiventris) - ARIZONA - Adults found feeding on cotton in all cotton-growing areas; counts ranged from only an occasional adult in Yuma County to 12-15 per 100 sweeps in Cochise County. (Ariz. Coop. Sur., July 26).

BLACK FLEAHOPPERS - ARIZONA - Slight decline noted in most cotton-growing areas. Damage to small squares still noticeable. During previous week, counts averaged 20-50 per 100 sweeps in Yuma and Maricopa Counties and 8-25 per 100 sweeps in Graham, Cochise and Pima Counties. (Ariz. Coop. Sur.).

COTTON FLEAHOPPER (Psallus seriatus) - ALABAMA - Damaging younger cotton in Madison County; controls applied on isolated farms. (McQueen). TEXAS - Continues to cause light to heavy damage in plains areas where cotton is fruiting heavily. (Tex. Coop. Rpt.). OKLAHOMA - Locally heavy in Marshall County; light in Beckham County. (Okla. Coop. Sur.).

APHIDS - ALABAMA - General and extremely heavy in many Conecuh County fields; controls applied. Considerable numbers also reported from Dallas County, but very light in most areas of State. (McQueen).

SPIDER MITES - SOUTH CAROLINA - Scattered infestation reported in Florence area. Species reported difficult to control in at least one part of State identified as Tetranychus cinnabarinus. (Taft et al., July 31). ALABAMA - Several species increased in Tallapoosa, Madison, Montgomery, Henry and Cherokee Counties, although serious only on isolated farms. Difficult to control in Autauga, Macon and Lee Counties. (McQueen). TENNESSEE - Continue to increase and cause considerable damage where no controls applied in western area. Some infestations severe following controls for boll weevil and bollworms. Further buildup to continue unless control measures taken. (Locke). MISSOURI - Marginal and spot infestations found in 264 of 952 fields scouted. (French). ARKANSAS - Activity increased. (Wkly. Cott. Ins. Rpt., July 26). LOUISIANA - Some light infestations reported in Tallulah area; controls used in some instances. (L. th et al.). MISSISSIPPI - Light to heavy isolated infestations throughout State. (Ouzts). CALIFORNIA - Excessive defoliation evident in some Kern County fields as a result of Tetranychus atlanticus feeding. Some increase in T. telarius and T. pacificus also noted. (Leigh, July 24). Many of serious spider mite problems involve T. atlanticus which in many cases has been overlooked due to rapid plant growth. (Black, July 27). Some problems encountered next to safflower in Huron area of Fresno County. (Ferris, July 23).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

DOUGLAS-FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) - IDAHO - New, localized infestations continue to be found throughout city of Moscow. Moderately severe infestation appeared in forested area approximately 5 miles northeast of Moscow; tops of some trees show severe defoliation. This is first forest infestation observed in area since widespread outbreak in 1944-1946. Some larvae still active; however, pupation almost complete. (Manis, Deters, Pitkins).

PINE TUSSOCK MOTH (Dasychira plagiata) - MINNESOTA - Adults active in northern Crow Wing and Pine Counties; few egg masses present. About 10 percent of pupae emerged; high percentage of remaining pupae parasitized. (Minn. Ins. Rpt.). WISCONSIN - First adults observed in northwest area July 12; pupation completed in area week of July 19; oviposition noted July 15 and first hatch occurred July 26. (Wis. Ins. Sur.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - ALABAMA - Causing considerable damage to 100 acres of 5-year-old loblolly pine plantation in southern Escambia County, where most other plantings slash pine and unaffected. First generation caused serious damage in this planting earlier in spring when infestation was heavier than present generation. (McQueen). OKLAHOMA - First and second-stage larvae of third generation present in Stillwater area, Payne County, with 90-100 percent of tips infested. (Okla. Coop. Sur.).

SPRUCE BUDWORM (Choristoneura fumiferana) - IDAHO - Spottedly abundant on ornamental spruce in Idaho Falls. (Kohl, July 26). Over 50 percent of larvae pupated in Lemhi Pass area. Extent of damage appears less severe than that observed in 1962. (Manis).

A NEEDLE MINER ("Recurvaria" piceaella) - KANSAS - Caused moderate to severe injury to Colorado blue spruce in Ellis and Thomas Counties. (Thompson, Harvey, July 26).

WHITE-PINE WEEVIL (Pissodes strobi) - VIRGINIA - Appears to be on increase in Piedmont and northern valley areas. Damage to white pine ranged light to heavy on individual and groups of young pines in Henry, Campbell, Craig and Roanoke Counties; moderate damage evident over much of Abingdon district. (For. Pest Surv. Rpt., June Sum.). MICHIGAN - Larvae severely damaged Mugho pine in a Chippewa County nursery; larvae and pupae present, but no adults have emerged. Adults emerging in Ottawa County. (Pangborn, Carlson).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ALABAMA - Killing group of 15 pines previously injured by fire in Lee County. (McQueen, July 26).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - IDAHO - Infestation general on spruce in Idaho Falls; now emerging from galls. (Kohl, July 26). PENNSYLVANIA - Medium to heavy on 3 acres of Colorado blue spruce in Monroe County. (Andreychik, July 18).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - FLORIDA - Severe on slash pine (Pinus elliotii) at Perry, Taylor County. Most scales parasitized by an unspecified wasp. (Beers, July 15). KANSAS - Ranged 10-12 per needle on Colorado blue spruce in Ellis County. (Thompson, July 26). WYOMING - Becoming numerous on pines throughout State. (Robb, July 26).

LARCH SAWFLY (Pristiphora erichsonii) - WISCONSIN - Second-stage larvae observed at one location in Price County. Stand in Washburn County showed heavy defoliation; other injury generally light and scattered. (Wis. Ins. Sur., July 26). MINNESOTA - Although middle and late stage larvae still feeding, most have spun up. (Minn. Ins. Rpt.).

SPRUCE SPIDER MITE (Oligonychus ununguis) - KANSAS - Moderate to severe on most spruce trees in northeast Johnson County. (Thompson, July 26).

ELM LEAF BEETLE (Galerucella xanthomelaena) - ARIZONA - Numerous on elms in Apache County; some trees in St. Johns almost defoliated, week ending July 27. Adults and larvae damaging trees in Maricopa and Pinal Counties. (Ariz. Coop. Sur.). NEW MEXICO - Light to moderately heavy on Chinese elms in Albuquerque, Bernalillo County. (N. M. Coop. Rpt., July 26). TEXAS - Many elms in Garza County almost completely defoliated. (Conner). OKLAHOMA - Defoliation continues, with new generation active in most areas. (Okla. Coop. Sur.). KANSAS - Light (1 per 25 leaves) on Siberian elm in Chase County. This is a new county record. (Guldner). ALABAMA - Continues to cause heavy damage to winged elms in Lee County. Noted for first time on Augustine ascending elm in Auburn area this year. These ornamentals, similar to American elm heavily attacked each year. No reports of infestations on native American elms in these areas. (McQueen, July 26). NEW YORK - Pupation at peak in Ithaca; no adult emergence to July 29; some larvae still feeding. Populations lower than previous 3-4 years. (N. Y. Wkly. Rpt.). RHODE ISLAND - Pupating in Peace Dale area, Washington County; defoliation reported in Slatersville, Providence County. (Mathewson, July 26). VERMONT - Very active throughout Connecticut River Valley. (MacCollom, July 29).

LARGER ELM LEAF BEETLE (Monocesta coryli) - ALABAMA - Caused 80 percent defoliation of 3 American elms in forest area at Gold Hill, Chambers County. (McQueen, July 26). Feeding heavily on American elms in forest areas in isolated sections of Tallapoosa and Lee Counties. No adults noted in above mentioned area of Chambers County. (McQueen).

LOCUST LEAF MINER (Xenochalepus dorsalis) - MARYLAND - Heavy on black locust in central and southern areas. (U. Md., Ent. Dept.).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - NORTH DAKOTA - Moderate numbers of adults and larvae feeding on poplar foliage at Oakes. (N. D. Ins. Sur.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - Larvae taken in Dane County week ending July 19 had not pupated July 26. High temperatures may accelerate development, especially in southeast. Dutch elm disease, transmitted by this species, more pronounced this season than in 1962, with cases confirmed in 6 new counties since last year. (Wis. Ins. Sur.).

FALL WEBWORM (Hyphantria cunea) - RHODE ISLAND - Webs apparent statewide to degree typical for time of year. (Mathewson). PENNSYLVANIA - Second-generation infestation medium and noticeable on hawthorn and crab apple in State College. (Gesell, July 24). MARYLAND - Conspicuous on oak, beech and other trees along roadsides in Baltimore County. (U. Md., Ent. Dept.). ALABAMA - Very light on pecan, persimmon and sweetgum in Lee, Macon, Montgomery and Dallas Counties. (McQueen, July 26). Continues active on pecan and sweetgum in Mobile, Conecuh, Escambia and Baldwin Counties. (Deakle, Fairley, Huggins, et al.). ARKANSAS - Infestations heavy in northwest. (Ark. Ins. Sur.). WISCONSIN - Third-stage larvae present in Rock, Columbia and Door Counties; populations relatively low in most sections of State. (Wis. Ins. Sur.).

OAK WEBWORM (Archips fervidanus) - PENNSYLVANIA - Very heavy on scrub oak in Monroe County; defoliation ranged 80-90 percent. (Andreychik, July 18).

GREGARIOUS OAK LEAF MINER (Cameraria cincinnatiella) - PENNSYLVANIA - Larvae moderately numerous on swamp oak in Adams County. (Negley, July 19).

YELLOW-STRIPED OAKWORM (Anisota senatoria) - OHIO - Severely damaged several oak trees in Cuyahoga County; 9 larvae taken from one leaf. (Luckwitz, July 22).

GYPSY MOTH (Porthetria dispar) - VERMONT - Very active throughout Connecticut River Valley. (MacCollom, July 29).

FOREST TENT CATERPILLAR (Malacosoma disstria) - VERMONT - Very active throughout Connecticut River Valley. (MacCollom, July 29).

CARPENTERWORM (Prionoxystus robiniae) - CALIFORNIA - Larvae heavy on trunks of live oaks in San Martin, Santa Clara County. (Cal. Coop. Rpt.).

CATALPA SPHINX (Ceratonia catalpa) - IOWA - Larvae active in central and southern areas. (Iowa Ins. Inf., July 29).

SYCAMORE LACE BUG (Corythucha ciliata) - MARYLAND - Heavy on many large sycamores along streets in College Park and Riverdale, Prince Georges County. (U. Md., Ent. Dept., July 26).

A LACE BUG (Leptoypha mutica) - FLORIDA - Causing pale discoloration of leaves of ash at Crescent City, Putnam County. (Graham, July 24). These are first specimens for Florida State Collection of Arthropods. Blatchley (1926) listed only one Florida record. (Fla. Coop. Sur.).

AN ELM LEAFHOPPER (Scaphoideus luteolus) - WISCONSIN - Few taken in Madison blacklight trap; this species principal vector of phloem necrosis. Norvellina chenopodii, species resembling this vector, also appearing somewhat more commonly. (Wis. Ins. Sur., July 26).

WALKINGSTICK (Diaperomera femorata) - WISCONSIN - Nymphs in late instar in Menomonie County; considerable defoliation of scrub oak occurring in area. (Wis. Ins. Sur., July 26). ARKANSAS - Appearing in higher elevations of Ouachita Mountains, southwest. (Warren).

MIMOSA WEBWORM (Homadaula albizziae) - ALABAMA - Heavy on few mimosas in Montgomery and Lee Counties. (McQueen, July 26). Heavy on isolated mimosas in Lowndes County and continues damaging same host in Lee County. (McQueen). OKLAHOMA - Damaging mimosa and honeylocust in Tulsa area, Tulsa County. This is a new State record. (Okla. Coop. Sur.). KANSAS - Severe on honeylocust in Fairway, Johnson County. This is a new county record. Delimiting survey in progress. Presently in pupal stage; another generation should begin within 1-2 weeks. (Thompson, July 26). NEBRASKA - Continues to damage honeylocust in Lincoln, Lancaster County. (Peterson, Bergman, July 26). ILLINOIS - Damaged some honeylocusts in Streator area. Most larvae pupated; some emergence occurred. (Ill. Ins. Rpt.). OHIO - Infestation noted in Columbiana County July 23, for new county record. (Reigelman). Late stage larvae and new pupae noted on honeylocust at Newark, Licking County, July 25. (Polivka, Lyon). Moderate to heavy on wild honeylocust in Union, Hardin and Logan Counties; one tree in Union County had 85 nests. Late-stage larvae present (Lyon). MARYLAND - General on mimosa and honeylocust in central and southern areas. (U. Md., Ent. Dept., July 26).

BAGWORM (Thyridopteryx ephemeraeformis) - MARYLAND - Larvae causing heavy injury to evergreens on several properties in Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.). OHIO - Moderate on arborvitae at Columbus, Franklin County; light economic damage present. (Lyon). MINNESOTA - Heavy infestation on newly planted arborvitae reported in St. Paul. (Minn. Ins. Rpt.). KANSAS - Light on bald cypress in Riley County. Heavy on tamarisk in Sedgwick County with severe defoliation; infestation several years old with many dead plants in planting. (Thompson, July 26). OKLAHOMA - Damage to evergreens continues in several areas. (Okla. Coop. Sur.). ARKANSAS - Feeding nearing completion except on spruce. (Warren). MISSISSIPPI - Ranged light to heavy on juniper and cedar in Forrest and Oktibbeha Counties. (Ouzts, July 26).

A BAGWORM - NEW MEXICO - Heavy infestation of undetermined species occurring on arborvitae at Clovis, Curry County. (N. M. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Infesting 800 chrysanthemum plants at Punta Gorda, Charlotte County. (Walsh, July 15).

VARIGATED CUTWORM (Peridroma saucia) - OREGON - Causing economic damage to home flowerbeds in Willamette Valley. (Beglan, Crowell, July 27).

AZALEA LEAF MINER (Gracilaria azaleella) - DELAWARE - Active in Newark area, New Castle County. (Bray, July 26).

A LEAF ROLLER MOTH (Fascista cercerisella) - OKLAHOMA - Caused considerable damage to redbud in Stillwater area, Payne County. (Okla. Coop. Sur.).

A CHRYSAUGID MOTH (Galasa nigrinodis) - NORTH CAROLINA - Larvae caused considerable webbing of leaves of English boxwoods in nurseries in Davie County July 11. Det. by D. L. Wray. (Greene).

A NYMPHALID BUTTERFLY (Vanessa carye) - OREGON - Second-generation adults ovipositing on hollyhock in Salem area. Infestations general; appear to be increasing. (Goeden, July 27).

JAPANESE BEETLE (Popillia japonica) - MAINE - Feeding on many host plants in Auburn-Lewiston area; infestations and damage range light to moderate. (Boulanger, July 27). VERMONT - Very active throughout Connecticut River Valley. (MacCollom, July 29). RHODE ISLAND - Population remains extremely low for time of year. (Mathewson, Hannah, King, Cartier, Peabody). CONNECTICUT - Feeding on ornamentals, but in greatly reduced numbers. (Savos, Aug. 1). NEW YORK - Appears at much lower level of abundance this year in Ithaca area. Presently not a problem in Nassau County. Appeared extremely late in Suffolk County; July 19 at Riverhead and July 23 at Smithtown. (N. Y. Wkly. Rpt., July 27). DELAWARE - Adults abundant on roses and other blossoms in areas of New Castle County. (Burbutis, Evans, July 26). MARYLAND - Adult numbers on ornamentals generally lower than for corresponding period in 1962. (U. Md., Ent. Dept., July 26). OHIO - Severely damaged Virginia-creeper at Toledo intersection of Secor and Alex Roads; 10 adults noted on one leaf. Defoliation estimated at 75-98 percent. (Lyon, Aug. 31).

APHIDS - PENNSYLVANIA - Cinara tujaefilina heavy on nursery stock of Thuja orientalis in Luzerne County. (Callacot, July 18). Essigella pini very abundant on Scotch pine plantation, probably causing premature drop of old needles. Has been present for several years; grower concerned as trees nearing harvest age. (Udine, July 24). Determinations made by J. O. Pepper. Pterocomma smithiae heavy on willow in a Luzerne County nursery. (Callacot). MICHIGAN - Various species, including Aphis pomi, Myzus persicae, Chermes abietis and Rhopalosiphum maidis, damaging respective hosts in many areas. (Wooley, Tatter, Carpenter, Guyer, Pangborn, Van Klompenberg).

AZALEA LACE BUG (Stephanitis pyrioides) - DELAWARE - Abundant on many azaleas in areas of New Castle County. (MacCreary, July 26).

RHODODENDRON LACE BUG (Stephanitis rhododendri) - PENNSYLVANIA - Heavy on one acre of rhododendrons in nursery in Wayne County. (Andreychik, July 9).

YUCCA PLANT BUG (Halticotoma valida) - MARYLAND - Heavy on large yucca planting at College Park, Prince Georges County, July 26. (U. Md., Ent. Dept.).

COCCIDS - OREGON - Asterolecanium arabis infesting privet hedges in Medford. (Berry, July 27). CALIFORNIA - Lecanium corni complex heavy on native California holly in Pine Grove, Amador County, and locally heavy in Fresno, Fresno County. Gossyparia spuria moderate on elms in Fresno. Icerya purchasi heavy on nandina nursery stock, and light on other hosts in Encinitas, San Diego County. Predators have held this pest under control this season in most localities. (Cal. Coop. Rpt., July 26). ARIZONA - I. purchasi severely damaged ornamentals in Globe area. (Ariz. Coop. Sur.). WYOMING - Lepidosaphes ulmi becoming numerous on green ash, lilac, cotoneaster and willows in all areas. (Robb, July 26). WISCONSIN - Pulvinaria innumerabilis sufficiently numerous on maples in Elkhorn, Walworth County, to kill several trees. Treatment of other trees underway. (Wis. Ins. Sur.). RHODE ISLAND - Live female Unaspis euonymi noted June 12; oviposition occurred June 18-20, apparently completed June 25. First hatch noted June 28; hatch complete July 26. (Cartier). CONNECTICUT - L. ulmi

a problem on ash in Watertown. (Savos, Aug. 1). NEW JERSEY - Second-generation U. euonymi crawlers observed on pachysandra; also found on bittersweet and euonymus. (Ins.-Dis. Newsltr., July 30). PENNSYLVANIA - Lecanium fletcheri 10 percent hatched on Taxus spp. in Erie County. Populations below those of 1962. (Wolff). ALABAMA - Fiorinia theae increasing on camellia and Burford holly where spring controls omitted in Mobile County. Appeared much lighter this spring than usual. (Seibels).

Coccids in Florida - Aonidiella citrina light on Buxus sp. at Sanford, Seminole County (Youtsey, July 17) and severe on Citrus sp. at Lutz, Hillsborough County (Fuller, July 15). Aonidiella taxus moderate on Podocarpus spp. at Naples, Collier County. (Walsh, Shirah, July 10). Ceroplastes cirripediformis severe on 50 euonymus plants and Dizygotheca elegantissima at Leesburg, Lake County. (Bentley, Brown, July 22). Diaspis boisduvalii moderate on Arecastrum romanzoffianum at Tampa, Hillsborough County (Simmons, July 9), and on Schomburgkia thompsonii at Pinellas Park, Pinellas County (Bingaman, July 12). Aspidiotus cyanophylli moderate on Yucca aloifolia at Coral Gables, Dade County. (Swanson, June 6). Icerya purchasi light on Calliandra sp. at West Palm Beach, Palm Beach County (Long, July 10), and severe on Citrus paradisa at Jacksonville, Duval County (King, July 15). Pinnaspis aspidistrae moderate on Liriope sp. at Holly Hill, Volusia County. (Pott, July 15). Pseudococcus citri moderate on Acalypha wilkesiana at Ormond Beach, Volusia County. (Pott, July 16). Phenacoccus gossypii moderate on Jatropha sp. at Avon Park, Highlands County (English, McAulay, July 11), and on Acalypha sp. and Hibiscus sp. at Winter Park, Orange County (Mrs. R. B. Cade, July 21). Saissetia nigra light to severe on Dizygotheca elegantissima at Ft. Lauderdale, Broward County. Det. by R. F. Wilkey. (McLean, July 9).

PSYLLIDS - CALIFORNIA - All stages of Psylla uncatoides heavy on acacia trees in Encinitas, San Diego County, and medium in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt., July 26). ALABAMA - Large numbers of galls caused by Pachypsylla venusta appearing on ornamental, shade and forest trees in Autauga, Montgomery and Macon Counties. (McQueen, July 26).

SPIDER MITES - VERMONT - Causing bronzing of oak throughout Connecticut River Valley. (MacCollom, July 29). PENNSYLVANIA - Tetranychus telarius moderate to heavy on chrysanthemums in Venango County. (Adams). DELAWARE - Tetranychus schoenei very numerous on many elms in New Castle County; causing some heavy leaf drop and noticeable chlorosis. (Mellott, July 26). MARYLAND - Unspecified species heavy on boxwood at Trappe, Talbot County. (U. Md., Ent. Dept.). IOWA - Unspecified species abundant on blue spruce and juniper in Story City. (Iowa Ins. Inf., July 29). OKLAHOMA - Spider mites heavy on ornamentals in Kay, Noble and Pawnee Counties; also reported in Cleveland County. (Okla. Coop. Sur.). WYOMING - T. telarius numerous on shrubs and trees in all areas. (Robb, July 26). IDAHO - Unspecified species severely damaging evergreen shrubs in vicinity of Aberdeen. (Bishop). CALIFORNIA - Eotetranychus lewisi heavy on castorbean plants in Santa Ana, Orange County. All stages of Oligonychus punicae heavy on pyracantha at same locations. (Cal. Coop. Rpt.).

PRIVET MITE (Brevipalpus obovatus) - CONNECTICUT - Prevalent and infestations very heavy. (Johnson, July 30).

MITES - NEW YORK - Damage by an unspecified species severe on thornless honeylocust in Ithaca area; infested foliage turned bright yellow and heavy leaf drop expected. Unspecified mites quite numerous on maples and other trees in Niagara County; likely to build up with continued 90° daytime situation. (N. Y. Wkly. Rpt., July 29). MINNESOTA - Populations increasing on various ornamentals, particularly evergreens. (Minn. Ins. Rpt.). COLORADO - An unspecified eriophyid species damaging foliage of elm, maple and lilac in Larimer and Boulder Counties. (Jenkins).





Tooele County. (Knowlton). NEW MEXICO - Troublesome to residents in several areas of Dona Ana County. Aedes sollicitans principal species along rivers; Culex tarsalis main species in Monte Vista area of Las Cruces. Good control being obtained with pre-flood applications of insecticides in swamp areas and treatment of drains containing larvae. (N. M. Coop. Rpt., July 26). TEXAS - Moderate, widespread populations causing annoyance to residents of Lubbock County. Population 79 percent Culex tarsalis, 1 percent Culex pipiens quinquefasciatus, 12 percent Aedes vexans, 8 percent Psorophora signipennis. (Tex. Coop. Rpt.). OKLAHOMA - Psorophora spp. present in annoying numbers in Stillwater area. (Okla. Coop. Sur.). MISSISSIPPI - Psorophora spp. numbers medium on livestock in delta counties; controls applied. (Ouzts). ALABAMA - Aedes sollicitans again annoying to residents along coastal area of Mobile County. (Seibels, July 26). NEBRASKA - Aedes vexans dominant species in all areas except panhandle, where Aedes dorsalis, Aedes nigromaculis and Aedes vexans approximately equal in numbers and comprise nearly 90 percent of all catches. Mansonia perturbans present in unusual numbers in Bassett area, Rock County. (Rapp, July 26). NORTH DAKOTA - Heavy numbers causing considerable annoyance in northwest, especially in Williston area. Aedes vexans comprises 60 percent, Aedes nigromaculis 20 percent, Aedes dorsalis 10 percent and others 10 percent of populations. (Noetzel, July 26). MINNESOTA - During period July 21-27, total of 488 larval collections made in Metropolitan Mosquito Control District; 30 percent contained Aedes vexans. During same period, 1,000 adults taken in 16 light traps; 30 percent were Aedes vexans females, 18 percent Mansonia perturbans. In 33 evening bite collections, 266 mosquitoes taken, of which 154 were Aedes vexans and 83 Mansonia perturbans. Because of light brood produced as result of rains on July 27 and flooding of Minnesota River, adult numbers should increase somewhat during week beginning August 5. Towns along Minnesota River between Mankota and Shakopee can expect heavy populations. (Minn. Ins. Rpt.). WISCONSIN - Some increase of Culex spp. noted in Dane County. Aedes vexans continues at about normal level. (Wis. Ins. Sur., July 26). OHIO - Overall populations lighter this year than any previous year, probably due to dry weather and control program. (Brockway). MAINE - Numbers decreased greatly during July; probably due to severe dry conditions. (Boulanger, July 27).

FACE FLY (Musca autumnalis) - RHODE ISLAND - Averaged 8-10 around faces and eyes of cows on pasture in Kingston, Washington County. (Mathewson, Sorensen). MARYLAND - Ranged 10-30 per head in 8 dairy herds in Frederick and Howard Counties. (U. Md., Ent. Dept.). VIRGINIA - Averaged 5 per head on 2 dairy herds in Page County. (Tarpley, July 24). Heavy on several cattle herds in Dickenson County. (Dinwiddie, July 5). OHIO - Averaged 26.5 per face on beef animals at Apple Creek, Wayne County, July 23). Averaged 14 per face on dairy animals at Wooster, Wayne County, Aug. 2. (Williams, Miller). ILLINOIS - Varied 3-35 (average 15) per face on cattle in northeast. Flies also present on necks and backs of animals in some herds. (Ill. Ins. Rpt.). MICHIGAN - A problem in Ogemaw, Ottawa and Ingham Counties. (Parker, Tatter, Ferris, Van Klompenberg). WISCONSIN - Increased in Shawano and Bayfield Counties; continues troublesome in Grant and Calumet Counties; varying numbers present in Washburn, Rock, Pepin, Monroe, Waukesha, Waupaca, Waushara, Trempealeau, Lafayette, Iowa, Walworth, Racine and Richland Counties; population somewhat less in latter county than in 1962. (Wis. Ins. Sur., July 26). Activity increased in certain areas, particularly Shawano and Grant Counties; troublesome in Sauk, Adams and Juneau County area, annoying in Rock, Walworth and Calumet Counties. First case of pinkeye reported from Walworth County. (Wis. Ins. Sur.). NORTH DAKOTA - Up to 60 per animal observed July 19-26. Ranged 5-60 per head on cattle in sand hill area, July 27-August 2. (Noetzel). SOUTH DAKOTA - Ranged 3-10 per face in north central and northeast parts of State. (Hintz). NEBRASKA - Ranged 5-8 per animal in Lancaster County. (Medley, July 26). KANSAS - Averaged less than one per animal on cattle in north central and northwest areas. (Peters). WYOMING - Averaged 6-8 per head on cows at Laramie, Albany County, July 18. Several adults found on beef cattle at feed lot west of Torrington, Goshen County. (Marks).

HOUSE FLY (Musca domestica) - ALABAMA - Infestation in connection with beef cattle feeding program in Lowndes County, one of heaviest ever noted. (Ledbetter). NORTH CAROLINA - Larvae abundant in untreated droppings from caged layers at several locations in Durham County. (Mount, Jones, July 26). OKLAHOMA - Populations continue at about same levels as previously reported, with annoying numbers present in public buildings and sheltered areas. (Okla. Coop. Sur.). MICHIGAN - Annoying in many sections of Lower Peninsula. (Parker, Tatter, Ferris, Van Klompenberg). NORTH DAKOTA - Counts increased to 10 and above per square yard. (Noetzel). UTAH - Becoming more conspicuous in many parts of State. (Knowlton).

FLIES - NEW MEXICO - Very bothersome in and around homes in Curry and Bernalillo Counties. Populations heavy around stockyards in Curry County. (N. M. Coop. Rpt., July 26).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Heavy in Choctaw, Pike and delta counties; controls applied. (Ouzts). VIRGINIA - Averaged approximately 100 per cow in 2 dairy herds in Page County. (Tarpley, July 24). MARYLAND - Averaged over 100 per head on 20 dairy cattle at Emmitsburg, Frederick County. (U. Md., Ent. Dept.). OHIO - Ranged 150-175 per beef animal in several southeastern counties. (Lyon, July 24). ILLINOIS - Varied 10-100 (average 44) per animal on cattle in northeast. (Ill. Ins. Rpt.). NORTH DAKOTA - Up to 2,000 per head on cattle observed in sand hill region of Ransom County. (Noetzel). SOUTH DAKOTA - Causing considerable irritation to cattle in Faulk County; ranged 30-200 per side per animal. (Hintz). NEBRASKA - Population very low throughout eastern area. (Bergman, July 26). KANSAS - Ranged 50-300 per animal on cattle in north central and northwest areas. (Peters). OKLAHOMA - Counts per head averaged 1,500 on mature cows, 2,500 on bulls and 600 on heifers in Kay County. Lower counts of 200 per head on cows and 500 per head on bulls noted in Payne County, with range of 300-2,000 per head on bulls and 150-600 on cows and calves in Marshall County. Counts moderate to heavy in other areas. (Okla. Coop. Sur.). WYOMING - Continued annoying to livestock in Goshen County; estimated at 150-200 per head. (Marks). UTAH - Moderate in most Millard County herds. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - MARYLAND - Ranged 3-12 per head in 6 dairy herds in Frederick County. (U. Md., Ent. Dept., July 26). ILLINOIS - Varied 0-16 (average 4.8) per animal in northeast. (Ill. Ins. Rpt.). MICHIGAN - Annoying in many sections of Lower Peninsula. (Parker, Tatter, Ferris, Van Klompenberg). NORTH DAKOTA - Ranged 63-350 per animal on cattle in Richland, Ransom, Cass and Traill Counties, July 19-26. Up to 100 per animal (average 25) common on cattle in Cass County, July 27-Aug. 2. (Noetzel). NEBRASKA - Ranged 20-30 per leg on animals in Lancaster County. (Medley, July 26). KANSAS - Ranged 0-25 per animal on cattle in north central and northwest areas. (Peters). OKLAHOMA - Populations down somewhat from previous reports. (Okla. Coop. Sur.). MISSISSIPPI - Light on livestock in delta counties; controls applied. (Ouzts).

TABANIDS - IDAHO - Hybomitra rhombica abundant in Gibbsonville-Lemhi Pass area. (Manis). NEVADA - Heavy populations of Chrysops sp. annoying humans and livestock in Preston-Lund area, White County, and Hybomitra sp. numerous in Lamoille, Elko County. (Cooney). UTAH - Deer flies becoming more troublesome in Garden City area, Rich County. (Knowlton, July 25). OKLAHOMA - Tabanus spp. reported heavy on cattle in southeast area. (Okla. Coop. Sur.). MISSISSIPPI - Tabanus spp. medium on livestock in delta counties; controls applied. (Ouzts.). WISCONSIN - Deer fly activity still noticeable, particularly in Vilas County. (Wis. Ins. Sur.). MICHIGAN - Deer flies extremely annoying to man and animals in Livingston and Berrien Counties. Horse flies annoying in many sections of Lower Peninsula. (Parker, Tatter, Ferris, Van Klompenberg). ILLINOIS - Horse flies light; 0-1 (average 0.4) per animal in northeast. (Ill. Ins. Rpt.).

BLACK FLIES (Simulium spp.) - MAINE - A problem in many areas, although numbers well below those of late June and early July. (Boulanger, July 27).

A CALLIPHORID FLY (Lucilia illustris) - CONNECTICUT - Six larvae removed from abscessed external ear of child in Manchester. (Savos, Aug. 1).

SHEEP BITING LOUSE (Bovicola ovis) - WISCONSIN - Infested sheep in Dane County. (Wis. Ins. Sur.).

FLEAS - CALIFORNIA - Ctenocephalides felis medium in residence at Ramona, San Diego County, and several incidences reported in Sacramento, Sacramento County, July 21-26. C. felis heavy in community hall in Hilt, Siskiyou County. Flea infestations have increased in many locations in State. (Cal. Coop. Rpt.).

OKLAHOMA - Ctenocephalides spp. causing considerable concern around homes and on dogs in Stillwater area, Payne County. (Okla. Coop. Sur., July 27).

MARYLAND - Unspecified species causing considerable nuisance to humans in homes in Prince Georges and Queen Annes Counties. (U. Md., Ent. Dept.). RHODE ISLAND - Stubborn house infestation of Ctenocephalides sp. reported in Scituate, Providence County. (Cartier).

HORNETS AND WASPS - CONNECTICUT - Various species causing concern to homeowners A problem in Danbury and Storrs. (Savos, Aug. 1).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - WISCONSIN - Heavy infestation found in Dane County; at least one chicken died. Ornithonyssus sp. found at another location in county. (Wis. Ins. Sur., July 26).

CHICKEN MITE (Dermanyssus gallinae) - WISCONSIN - Very troublesome on chickens in Portage County. (Wis. Ins. Sur.).

CHIGGERS - ALABAMA - Heavy and considerable nuisance throughout central counties. (Barwood, Davis). PENNSYLVANIA - Heavy on bellies of swine turned into weedy lot in Snyder County. (Gesell). WISCONSIN - Populations high in areas of Dane County. (Wis. Ins. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - MARYLAND - Numbers reported on dogs and humans considerably more than usual in central and southern areas. (U. Md., Ent. Dept., July 26).

BROWN DOG TICK (Rhipicephalus sanguineus) - CONNECTICUT - Reported from many parts of State. (Savos, Aug. 1).

A BROWN SPIDER (Loxosceles reclusa) - OKLAHOMA - Continues to be found in homes in Stillwater area, Payne County. (Okla. Coop. Sur., July 27).

#### HOUSEHOLD AND STRUCTURAL INSECTS

WEEVILS (Brachyrhinus spp.) - OREGON - B. rugosotriatus entering homes in Willamette Valley. (Goeden, July 27). WISCONSIN - B. ovatus continues entering homes, principally in sandy soiled areas. (Wis. Ins. Sur.). MICHIGAN - B. ovatus adults continue annoying in homes statewide. (Sieting, Lincoln, Mullett, Pangborn et al.). OHIO - Adult B. ovatus entering many homes in north central and northeastern areas. (Blair, Triplehorn, Rings, July 24). PENNSYLVANIA - B. ovatus nuisance in homes in Clarion and Lawrence Counties. (Adams).

RICE WEEVIL (Sitophilus oryzae) - NEBRASKA - Infested stored food products in home in Lincoln, Lancaster County. (Bergman, July 26).

GROUND BEETLES - NEBRASKA - Extremely abundant in Buffalo, Dawson and Lincoln Counties; severe nuisance in homes, motels and stores. (Bergman). NEW JERSEY - Invading homes; controls recommended. (Ins.-Dis. Newsltr., July 30).

EUROPEAN EARWIG (Forficula auricularia) - MAINE - Problem to homeowners throughout York and Cumberland Counties. This is first ARS record for Cumberland County. (Boulanger, July 27). CONNECTICUT - Problem in home at Taftville. (Savos, Aug. 3). PENNSYLVANIA - Causing trouble in home in Elk County. (Adams, July 25).

CRICKETS - WISCONSIN - Increasing in sections of Marquette County and entering homes, also reported in Dane, Walworth and Burnett Counties. (Wis. Ins. Sur., July 26). NORTH DAKOTA - Gryllus spp numerous in garages and basements of homes in Fargo area. (N. D. Ins. Sur.).

BLACK CARPENTER ANT (Camponotus pennsylvanicus) - CONNECTICUT - Very abundant; confirmed reports expected to surpass those of past seasons. (Johnson).

A SUBTERRANEAN TERMITE (Reticulitermes sp.) - MARYLAND - Reproductives found on floor of home in Harford County. (U. Md., Ent. Dept.).

MILLIPEDES - NEW JERSEY - Invading homes; controls recommended. (Ins.-Dis. Newsltr., July 30). ALABAMA - Numerous in isolated lawns and entering homes in Lee County. (McQueen).

SOLPUGIDS - NEVADA - Invaded numerous homes in Reno-Sparks area, Washoe County. (Lauderdale, July 26).

#### STORED-PRODUCT INSECTS

DERMESTIDS - COLORADO - Infested stored wheat in Sedgwick County. (Pfau, July 26). SOUTH DAKOTA - Infestation of Trogoderma glabrum found in stored wheat in Lyman County. (Kantack).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - COLORADO - Infested stored oats in Grand County. (Teagarden, July 26).

#### BENEFICIAL INSECTS

LADY BEETLES - NEW MEXICO - Adults and immatures abundant in alfalfa infested with aphids in Eddy and Chaves Counties. (N. M. Coop. Rpt.). ARIZONA - Rodolia cardinalis present in several areas of Salt River Valley. (Ariz. Coop. Sur.). NEVADA - Unspecified species generally abundant in alfalfa, cotton and grain statewide. (Coop. Rpt.). WYOMING - Unspecified adults per 100 sweeps averaged 42 in alfalfa, 10 in sugar beets, and 26 in small grain fields in Natrona, Johnson and Sheridan Counties week ending July 26. Populations high in all crops surveyed in Goshen County week ending August 2; adults per 100 sweeps averaged 80 in alfalfa, 22 in sugar beets, 32 in potatoes and 20 in beans and 64 per 100 corn plants. (Marks). ALABAMA - Hippodamia convergens, Coleomegilla maculata fuscilabris and Coccinella novemnotata common in cotton where no controls applied in central and southern areas. Chilocoris stigma feeding on aphids in Macon County cotton. (McQueen, July 26).

PUNCTUREVINE WEEVILS (Microlarinus spp.) - NEVADA - M. lareynii and M. lypriformis heavy on puncturevine in Moapa Valley, Clark County. Both species released in Caliente, Lincoln County, and Fallon, Churchill County, 6 weeks ago, and have completed one generation. Release of 325 specimens made July 28 at Alamo, Lincoln County, and 200 specimens released at Hawthorne, Mineral County, and at Swingle Bench, Churchill County, August 1. (Bechtel, Martinelli).

A MELYRID BEETLE (Collops vittatus) - ARIZONA - Adults ranged 20-25 per 100 sweeps in cotton and 25-40 in alfalfa in Graham and Cochise Counties. (Ariz. Coop. Sur., July 27).

GREEM LACEWINGS - NEW MEXICO - Adults and larvae abundant in southern Dona Ana County cotton fields. (N. M. Coop. Rpt., July 26). Adults and larvae abundant in alfalfa in Curry and Roosevelt Counties; ranged 6-24 adults per 100 sweeps. (N. M. Coop. Rpt.). ALABAMA - Chrysopa oculata common in central and southern area cotton. (McQueen, July 26).

DAMSEL BUGS (Nabis spp.) - ALABAMA - Common in cotton in southern and central areas. (McQueen, July 26). NEW MEXICO - Adults and immatures abundant in alfalfa fields infested with aphids in Eddy and Chaves Counties. (N. M. Coop Rpt.). NEVADA - Generally abundant in alfalfa, cotton and grain statewide. (Coop. Rpt.). WYOMING - Adults per 100 sweeps in alfalfa averaged 88 in Sheridan County and 52 in Natrona and Johnson Counties, week ending July 26. During week ending August 2, adults per 100 sweeps averaged 78 in alfalfa and 46 in potatoes, and averaged 42 per 100 corn plants in Goshen County. (Marks).

BIG-EYED BUGS - ARIZONA - Geocoris spp. moderate in cotton in Graham and Cochise Counties. (Ariz. Coop. Sur., July 27). NEVADA - Geocoris spp. generally abundant in alfalfa, cotton and grain over State. (Coop. Rpt.). COLORADO - Geocoris sp. abundant on alfalfa in Routt County. (Hamil). WYOMING - Geocoris sp. adults ranged 35-40 per 100 sweeps in Goshen County alfalfa. (Marks). ARKANSAS - Single specimen of Hypogeocoris imperialis collected on soybeans July 15, 1963, in Conway County is a new State record. (Ark. Ins. Sur.). ALABAMA - G. punctipes common in southern and central area cotton. (McQueen, July 26).

A FLOWER BUG (Orius insidiosus) - ALABAMA - Common in cotton fields in southern and central areas. (McQueen, July 26).

A PREDACEOUS STINK BUG (Brochymena sp.) - ALABAMA - Feeding on elm leaf beetle larvae on elms in Auburn, Lee County; ranged 1-5 per 15-25 foot tree. (McQueen).

CICADA KILLER (Sphecius speciosus) - MICHIGAN - Reported in increasing numbers from yards in Ingham and Wayne Counties. (Guyer, Kidd). IOWA - Active all over State. (Iowa Ins. Inf., July 29). VIRGINIA - Active at Hopewill, Prince George County (Amos, July 29), and at Smithfield, Isle of Wight County (Tarpley, Gizzard, July 31).

AN APID BEE (Peponapis pruinosa) - RHODE ISLAND - Males and females active on flowers of squash and pumpkin in Exeter, Kingston and Peace Dale, Washington County. (Mathewson, Sorensen, July 26).

#### MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - MICHIGAN - Although adults continue numerous in Battle Creek area, peak activity apparently occurred about July 22; numbers taken in traps in area tapering off slightly since that date. Foliage treatment applied in area of heaviest infestation on southeast side of city; treatment expected to continue through August 7. Damage recently heaviest on sassafras and various weeds and wild shrubs. Few additional beetles taken in Monroe and Lenawee Counties near periphery of area treated in 1962. (Carlson, Turner). OHIO - Two adults collected in Mt. Gilead State Park, Morrow County; this is a new county record. Adults taken for first time in Salem Township, Meigs County, and in Wilksville Township, Vinton County. (Polivka, July 24). Found from north to south in eastern half of State, namely in Wayne, Stark, Holmes, Coshocton, Belmont, Noble, Washington, Athens, Meigs, Gallia, Lawrence and Vinton Counties. Heaviest in southern Athens and northern Meigs Counties on sassafras trees; trees ranged 10-85 percent skeletonized. More damage in this area along Route 33 than in past years. (Polivka, Lyon, July 23). Adults on corn apparently serious enough to justify controls near Millersburg, Holmes County. (Holdsworth, July 19). Considerable feeding damage noted on peach and raspberry plants in Mahoning County. (Cibula, July 21). Adults feeding on English ivy and apple fruits and foliage in Wayne County. (Rings, July 26). Heaviest adult trappings in State occurred at New Lexington, Perry County, and

Marion, Marion County. (Wolfe, July 26). Heavy adult numbers trapped outside regulated area, by county, as follows: Logan 1,036; Perry 873; Marion 867; Preble 55. (Wolfe). Adults noted feeding on smartweed near Bladensburg, Knox County, August 1. (Davidson). VIRGINIA - Only occasional specimens noted in Southampton, Nansemond, Princess Anne and King William Counties and in Chesapeake city. (Tarpley).

ASIATIC GARDEN BEETLE (Maladera castanea) - OHIO - Total of 22 adults taken in trap at Marietta, Washington County; largest number ever taken in area. (Polivka, July 23).

EUROPEAN CHAFER (Amphimallon majalis) - PENNSYLVANIA - Infested small area in city of Erie, Erie County, July 3. (Nixon).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ALABAMA - A new and previously unreported infestation noted at Opelika Mills, Lee County. This is a new county record. (Barwood, Davis).

A GROUND BEETLE (Harpalus sp.) - NORTH DAKOTA - Very large numbers appeared; found in and on various buildings, sidewalks, streets and elsewhere. (N. D. Ins. Sur., July 26).

SPINED SOLDIER BUG (Podisus maculiventris) - ALABAMA - Destroying considerable numbers of larvae of catalpa sphinx reserved in orchard for commercial fish bait in Geneva County. (Reynolds, July 26).

A FALSE CHINCH BUG (Nysius sp.) - NEVADA - Heavy populations reported in Silver Springs area, Lyon County. (Lauderdale, July 26).

A PLATYSTOMATID FLY (Rivellia quadrifasciata) - VIRGINIA - Adults collected on sticky board trap on peach tree in Churchland area, Chesapeake city. Det. by G. Steyskal. (Morris, July 3).

#### CORRECTIONS

CEIR 13(29) :832 - COOLEY SPRUCE GALL APHID (Chermes cooleyi) - IDAHO - Should read: "Galls abundant on spruces ..."

CEIR 13(30) :848 - JAPANESE BEETLE (Popillia japonica) - OHIO - Adults on corn at Circleville, Pickaway County, in error. Note should read: "One adult collected from rose bush in Circleville near a treated area".

CEIR 13(31) : 879 (SPECIAL REPORTS) - Insects Now Known to Occur in the United States should read: Insects Not Known...

LIGHT TRAP COLLECTIONS

Tempora- ture	Precipi- tation	Type of trap	Agrotis pallion (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizandra (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faenicia diffusa (wheat head sawfly)	Pezomachus subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	Dolichopus (biting sea)	Taberna (fall armyworm)	Lokostege similis (garden webworm)	Lokostege comitatalis (alfalfa webworm)	Lokostege sticticalis (beet webworm)	Detritus rubralis (European corn borer)	Pastinaca saucia (yellow-striped cutworm)	Pionota ornithogalli (yellow-striped armyworm)	Propagae quinquefasciata (tomato hornworm)	Propagae sexta (tobacco hornworm)	Penidacteta unipuncta (armyworm)	Spodoptera exiguua (cabbage looper)	Major crop **
ARKANSAS																						
Hope 7/18-24									44													
Hope 7/25-31								1	33													
Morrilton 7/11-24								5	259													
Morrilton 7/25-31								5	63													
Kelso 7/18-24								5	58													
Kelso 7/25-31									42													
Fayetteville 7/18-31																						
CALIFORNIA																						
Davis 7/27-8/2			8				43															Misc.
FLORIDA																						
Gainesville 7/23		BL					9		35													
Gainesville 7/30		BL	1				1		2													
GEORGIA																						
Tifton 7/11-17								61	736													
Tifton 7/18-24								67	2260													
Tifton 7/25-31								29	1706													
ILLINOIS (County)																						
Champaign 7/19-25	63-88	1.14	18																			
Champaign 7/26-8/1	64-83	0.09	22																			
INDIANA (Counties)																						
La Porte 7/16-23			12																			
La Porte 7/24-29			1																			
Lawrence 7/15-21			4																			
Lawrence 7/22-25			3																			
Tippecanoe 7/18-30			17																			
Tippecanoe 7/24-30			19																			
Vanderburgh 7/16-23			3																			
Vanderburgh 7/24-29			4																			
Jasper 7/16-22			19																			
Jasper 7/23-27			5																			
Stuben 7/25-31																						
Marshall 7/18-24																						
Marshall 7/25-31																						
KANSAS																						
Garden City 7/15, 17, 19			1																			
Hays 7/18, 20, 22			10																			
Manhattan 7/21-26			1																			
Mound Valley 7/15, 18																						
Garden City 7/24, 26, 29			5				25															

(Continued on page 935)

\* BL = blacklight; I = incandescent; MV = mercury vapor; O = other  
 \*\* alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn;  
 grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pea = pea; pepper = pepper; pot. = potatoe;  
 SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed);  
 tob. = tobacco; tom. = tomato.



LIGHT TRAP COLLECTIONS

Temperature	Precipitation	Type of trap	Geotia (black cutworm)	Carponia pomonella (codling moth)	Chortagraea auxillaria (gray cutworm)	Estigmene acrea (fall armyworm)	Patona diffusa (shear head armyworm)	Agria subterranea (granulate cutworm)	Heliothis virescens (tobacco cutworm)	Heliothis zea (tobacco budworm)	Laphygma frugiperda (fall armyworm)	Lokostege committalis (garden webworm)	Lokostege similalis (garden webworm)	Lokostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Paratoma sacra (variegated cutworm)	Prodenia ornithogalli (yellow-stripped armyworm)	Protoparce quinquefasciata (tomato hornworm)	Protoparce sexta (tomato hornworm)	Psudalis unipuncta (bean armyworm)	Spodoptera exigua (bean armyworm)	Triphaena ni (cabbage looper)	Major crop
<b>KANSAS (Continued)</b>																							
Hays 7/26, 29			4			15			12														
Manhattan 7/27-8/1			5		1			6	6														
Mound Valley 7/22, 24								19	60														
<b>MAINE</b>																							
Monmouth 7/25																							
<b>MARYLAND</b>																							
Centre ville 7/17-23			44																				
Centre ville 7/24-30			55																				
<b>MICHIGAN (Counties)</b>																							
Berrien 7/16-22		BL	4																				
Berrien 7/23-29		BL	7																				
Monroe 7/16-22		BL	23																				
Monroe 7/23-29		BL	8																				
Monroe 7/23-29		BL	5																				
Lenawee 7/16-22		BL	8																				
Lenawee 7/23-29		BL	7																				
Wayne 7/16-22		BL	9																				
Wayne 7/23-29		BL	41																				
Macomb 7/16-22		2 BL	48																				
Macomb 7/23-29		2 BL	17																				
Washtenaw 7/16-22		BL	11																				
Washtenaw 7/23-29		BL	22																				
Jackson 7/16-22		BL	11																				
Jackson 7/23-29		BL	37																				
Livingston 7/16-22		2 BL	55																				
Livingston 7/23-29		2 BL	19																				
Kent 7/16-22		BL	51																				
Kent 7/23-29		BL	4																				
Newaygo 7/16-22		BL	11																				
Newaygo 7/23-29		BL	31																				
<b>MISSISSIPPI</b>																							
Stoneville 7/26-8/1	68-92	1.18	24																				
Stoneville 7/26-8/1	68-92	1.18	31																				
<b>MISSOURI</b>																							
Portageville 7/11-16			5																				
Portageville 7/18-24			18																				
<b>NEW JERSEY</b>																							
Evesboro 7/25																							
Seabrook 7/25																							

(Continued on page 936)

\* BL = blacklight; I = incandescant; MV = mercury vapor; 0 = other  
 \*\* alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. eggs = legumes (unspecified); lett. = lettuce; bean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

State	Locality	Temperature	Precept- tation	Type of trap	Arctia (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizanthe (saw fly)	Estigmene acrea (salt-marsh caterpillar)	Farona diffusa (sheath head armpworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	Heliothis zea (tobacco budworm)	Lamyra turpida (fall armyworm)	Loxostege compositella (alfalfa weevil)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armpworm)	Protoparce quinquevittata (comato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera eximia (beet armyworm)	Trichoplusia ni (cabbage looper)	Major Crop**	
NEBRASKA	Kearney 7/9-15				15						3	2	5			6	7			1	29				
	Lincoln 7/11-17				114						1	4	5			15	71	80				392			
	McCook 7/10-14				38						4	3					14	24	3			333			
	North Platte 7/10-16				133						4	24					100	60				2	364		
	Parks 6/26-7/2				12						12	15					16	5				8			
	Parks 7/3-9										2											11			
	Scotts Bluff Expt. Sta. 7/10-16				18						2						53					4	109		
	NORTH DAKOTA	Fargo 7/19-26				147																			
		Bismark 7/19-26				28																			
		Emrick 7/19-26				2																			
Emrick 7/27-8/2					1																				
Pembina 7/19-26					2																				
Valley City 7/19-26					4																				
Linton 7/19-26					2																				
Linton 7/27-8/2					2																				
Bowman 7/27-8/2					2																				
OHIO		Wooster 7/20-26				10																			
	Wooster 7/27-31				9																				
	Ripley 7/20-26																								
	Ripley 7/27-31																								
	Marietta 7/20-26																								
	Marietta 7/27-31				7																				
	Columbus 7/20-26				18																				
	Columbus 7/27-31				18																				
	Hoytville 7/26-31																								
	Fairborn 7/27-31																								
SOUTH CAROLINA	Clemson 7/20-26				6																				
	Charleston 7/22-28		67-88	1.19																					
	Charleston 7/29-8/4		67-90	1.66																					
TEXAS	Waco 7/29-8/2				45																				
	Brownsville 7/24-31				334																				
WISCONSIN	Gays Mills 7/16-22																								
	Gays Mills 7/23-29																								

(Continued on page 937)

\* BL = blacklight; I = incandescent; MV = mercury vapor; O = other  
 \*\* alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn;  
 leg. = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes;  
 SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed);  
 tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

WISCONSIN (Continued)	Temperature	Pre-cipitation	Type of trap	Apres jallion (black cutworm)	Capocopa pomonella (codling moth)	Corleagrotis auxillialis (army cutworm)	Katzenberg acra (sawfly)	Wheat diptera (salt marsh caterpillar)	Wheat head sawworm	Pelta subterranea (stem-borer)	Heliothis virescens (tobacco budworm)	Heliothis zea (bollworm, corn earworm)	Laphygma tupeida (fall armyworm)	Loxotropa mixticollis (catalpa webworm)	Loxotropa similis (garden webworm)	Loxotropa siccholia (beet webworm)	Oetina nubialis (European corn borer)	Paridroma saucia (yellow-striped armyworm)	Podana orthogalli (tomato hornworm)	Podana quinquefasciata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaleia unipuncta (beet armyworm)	Siodotera exiguu (cabbage looper)	Major C.T.O.D. **	
Madison 7/16-22			BL	16																					
Madison 7/23-29			BL	36																					
Middleton 7/16-22			BL	5																					
Middleton 7/23			BL	20																					
Janesville 7/16-22			BL																						
Janesville 7/23-29			BL																						
Janesville 7/16-19			BL																						
Delavan 7/16-22			BL																						
Delavan 7/23-29			BL																						
Evansville 7/16-22			BL																						
Evansville 7/23-29			BL																						
Platteville 7/16-19			BL																						
Platteville 7/20-26			BL																						
Mazomanie 7/16-22			BL																						
Mazomanie 7/23-29			BL																						
Middleton 7/17-23			BL																						
Middleton 7/24-30			BL																						
Madison 7/17-23			BL																						
Madison 7/24-30			BL																						
De Forest 7/16-22			BL																						
De Forest 7/23-29			BL																						
Arlington 7/16-22			BL																						
Arlington 7/23-29			BL																						
Beaver Dam 7/16-22			BL																						
Beaver Dam 7/23-29			BL																						
Beaver Dam 7/16-22			BL																						
Astco 7/16-22			BL																						
Astco 7/23-29			BL																						
Oakfield 7/16-22			BL																						
Oakfield 7/23-29			BL																						
Eden 7/16-22			BL																						
Eden 7/23-29			BL																						
Wayne 7/16-22			BL																						
Wayne 7/23-29			BL																						
Teresa 7/16-22			BL																						
Teresa 7/23-29			BL																						
Nenno 7/17-22			BL																						
Nenno 7/23-29			BL																						
Cedar Grove 7/16-22			BL																						
Cedar Grove 7/23-29			BL																						
Waldo 7/16-22			BL																						
Waldo 7/23-29			BL																						
Fond du Lac 7/16-22			BL																						

(Continued on page 938)

\* BL = blacklight; I = incandescent; MV = mercury vapor; O = other  
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**LIGHT TRAP COLLECTIONS**

Tempora- ture	Precipitation	Type of trap	Major crop**
WISCONSIN (Continued) Rosendale 7/16-22 Ripon 7/16-22 Fox Lake 7/23-29		BL BL BL	<i>Agrotis ipsilon</i> (black cutworm)
			<i>Carpocapsa pomonella</i> (codling moth)
			<i>Chorizanthe</i> (gray cutworm)
			<i>Estigmene acrea</i> (salt-marsh caterpillar)
			<i>Pentodonta diffrisa</i> (wheat head armyworm)
			<i>Peltis subternaria</i> (granulate cutworm)
			<i>Heliothis virescens</i> (tobacco budworm)
			<i>Heliothis zea</i> (fall armyworm)
			<i>Laphygma frugiperda</i> (fall armyworm)
			<i>Lokostege compositalis</i> (alfalfa webworm)
			<i>Lokostege similis</i> (garden webworm)
WYOMING Cheyenne 6/22-30 Cheyenne 7/1-3			<i>Agrotis ipsilon</i> (black cutworm)
			<i>Chorizanthe</i> (gray cutworm)
			<i>Estigmene acrea</i> (salt-marsh caterpillar)
			<i>Pentodonta diffrisa</i> (wheat head armyworm)
			<i>Peltis subternaria</i> (granulate cutworm)
			<i>Heliothis virescens</i> (tobacco budworm)
			<i>Heliothis zea</i> (fall armyworm)
			<i>Laphygma frugiperda</i> (fall armyworm)
			<i>Lokostege compositalis</i> (alfalfa webworm)
			<i>Lokostege similis</i> (garden webworm)
			<i>Lokostege sticticalis</i> (beet webworm)
			<i>Ostrinia nubilalis</i> (European corn borer)
			<i>Paridroma cornifer</i> (variegated green)
<i>Prodenia ornithogalli</i> (yellow-striped armyworm)			
<i>Protoparce quadrangulata</i> (tobacco hornworm)			
<i>Protoparce sexta</i> (tobacco hornworm)			
<i>Pseudalethes unipuncta</i> (beet armyworm)			
<i>Spodoptera exiguus</i> (Cabbage looper)			
<i>Trichoplusia ni</i> (cabbage looper)			
<p>* BL = blacklight; I = incandescent; MV = mercury vapor; O = other.  ** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; t. = tobacco; soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.</p>			



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