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*Cooperative*  
**ECONOMIC INSECT  
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# AGRICULTURAL RESEARCH SERVICE

## PLANT PROTECTION DIVISION

### ECONOMIC INSECT SURVEY AND DETECTION

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

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**COOPERATIVE ECONOMIC INSECT REPORT****HIGHLIGHTS**Current Conditions

ARMYWORM larvae damaged corn in Virginia. GREENBUG damaged sorghum in Oklahoma. (p. 407).

BLACK CUTWORM outbreak in several areas of Iowa; damaged corn in Kansas, Nebraska, and South Dakota. EUROPEAN CORN BORER pupation near completion in Illinois, winter mortality heavy in Minnesota and light in Michigan. (p. 408).

ALFALFA WEEVIL damaging alfalfa in Utah, Oklahoma, Indiana, and Ohio. (p. 410).

COLORADO POTATO BEETLE heavy in northern Utah. (p. 412).

ORIENTAL FRUIT MOTH larvae heavy on unsprayed peaches and apples in central and west-central Missouri. (p. 414).

CARPENTERWORM damaged shelterbelt plantings in portion of South Dakota. (p. 416).

CATTLE TICKS found on additional premises in quarantine area of Texas. (p. 418).

GRASS BUGS damaged grasses in South Dakota. (p. 419).

Detection

APPLE MEALYBUG reported for the first time from California. (p. 414).

For new county and island records see page 421.

Special Reports

Pink Bollworm Quarantines. Map. Centerfold.

Reports in this issue are for week ending June 4 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance.....407

Insects Affecting

Corn, Sorghum, Sugarcane.....408	Beans and Peas.....413
Small Grains.....409	Cucurbits.....413
Turf, Pastures, Rangeland.....409	General Vegetables.....413
Forage Legumes.....410	Deciduous Fruits and Nuts.....414
Peanuts.....411	Citrus.....415
Cotton.....411	Small Fruits.....415
Tobacco.....412	Ornamentals.....415
Sugar Beets.....412	Forest and Shade Trees.....416
Miscellaneous Field Crops.....412	Man and Animals.....417
Potatoes, Tomatoes, Peppers.....412	Households and Structures.....418

Beneficial Insects.....418

Federal and State Plant Protection Programs.....419

Hawaii Insect Report.....421

Detection.....421

Light Trap Collections.....422

Pink Bollworm Quarantines. Map. Centerfold.

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WEATHER OF THE WEEK ENDING JUNE 7

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

**HIGHLIGHTS:** Temperatures averaged cooler than normal over the West and warmer than normal over most eastern areas. Thundershowers soaked parts of the Great Plains.

**PRECIPITATION:** Scattered thundershowers dampened much of the northwest quarter of the Nation early in the week. Heavier showers soaked the central Great Plains. Tornadoes and severe thunderstorms occurred in the warm moist air that covered the central Great Plains and Mississippi River Valley. Hail ranging from 1 inch in diameter to as large as baseballs pelted some localities. Numerous tornadoes struck mid-America. The weekend brought a continuation of severe weather in the central Great Plains. A thunderstorm at Hastings, Nebraska, was accompanied by hail as large as golf balls and wind gusts reaching 81 m.p.h. A number of tornadoes struck the northern and central Great Plains late Friday. Large hail and heavy thundershowers fell in northern Illinois, Sunday afternoon, and heavy rains in Pennsylvania and West Virginia sent a number of small streams to near bankfull.

**TEMPERATURE:** The Far West remained relatively cool most of last week with maximums mostly in the 50's and 60's in the Northwest to the 80's in the southwestern deserts. Minimum temperatures dropped to the low 30's on 1 or 2 mornings early in the week in parts of Nevada and the high Rockies. Flagstaff, Arizona, registered 27° Wednesday morning. Southern Texas remained hot throughout the week. Maximums along the lower Rio Grande averaged near 100°. Cotulla, Texas, registered 104° Wednesday afternoon. A high pressure area over the Southeast caused a southerly flow of moist tropical air to cover most of the eastern half of the Nation. Maximums reached the upper 80's or higher from the Dakotas to the Gulf of Mexico Thursday afternoon. Grand Forks, North Dakota, Des Moines, Iowa, and Bowling Green, Kentucky, were among the stations which recorded 90° Thursday afternoon. High humidity added to the discomfort caused by high temperatures. The weekend weather was hot and humid over the eastern half of the Nation. The mercury at Waterloo and Burlington in Iowa climbed to 94° Sunday afternoon, when Columbus, Ohio, registered 93°. A cold front brought subfreezing temperatures to points in New England Sunday morning, 28° at Houlton, Maine.

## SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

**ARMYWORM (Pseudaletia unipuncta)** - KENTUCKY - Larvae averaged 2 per square foot on wheat in Warren County. (Barnett). VIRGINIA - Numerous first, second, and third instars beginning to damage no-till corn in Montgomery and Pulaski Counties. In fields surveyed, 70 percent of seedling corn showed notching of leaves, overall damage light. Few fields in Lee County completely destroyed. (Allen). Larvae beginning to injure no-till corn in Rockingham County. (Craun). Severe and spotted in Lancaster County on no-till corn. (McSwain). MARYLAND - Light statewide. Heaviest in 55 acres of field corn near Churchville, Harford County. Larvae damaged 5 percent of stand. About 30 acres of small grain required controls in Wicomico, Worcester, and Somerset Counties. (U. Md., Ent. Dept.). OHIO - Moth activity increased three-fold compared with previous period. No reports of large larval populations. (Rings). MICHIGAN - Counts at blacklight stations still light, except at Allegan and Ottawa County stations. Counts by county: Allegan 154, Lenawee 42, Livingston 61, Ottawa 167. (Newman). ILLINOIS - Remains light on wheat in central half of State. Larvae averaged less than one per linear foot in all counties surveyed. (Ill. Ins. Rpt.). MISSOURI - Early instars up to 9 per square foot of bromegrass in northwest area. (Munson). KANSAS - Larvae averaged less than 1 per square foot of bromegrass pasture in Brown County. (Bell).

**ASTER LEAFHOPPER (Macrosteles fascifrons)** - NORTH DAKOTA - Adults ranged 10-70 (averaged 35) per 100 sweeps of headed rye in Barnes, La Moure, and Dickey Counties. (Brandvik). MINNESOTA - Ranged 50-500 per 100 sweeps of small grain in southwest district, averaged 70 per 100 sweeps in alfalfa. Ranged 10-200 per 100 sweeps of alfalfa and small grain in south-central and central districts, ranged 130-220 per 100 sweeps in west-central district small grains. (Minn. Pest Rpt.). WISCONSIN - Ranged 300-500 per 100 sweeps of oats in Trempealeau and La Crosse Counties. Ranged 15-30 per 100 sweeps in Waushara, Marquette, and Green Lake Counties, under unfavorable sampling conditions. Very serious aster yellows potential for lettuce, carrots, celery, and potatoes based upon population data and percentage of leafhoppers carrying aster yellows disease (3 to 4 percent). (Wis. Ins. Sur.).

**BEEF LEAFHOPPER (Circulifer tenellus)** - WASHINGTON - Adults collected past 3 weeks on yellow sticky traps in wheat in Franklin and Benton Counties indicated increased adult flight. (Klostermeyer). CALIFORNIA - High winds hampered surveys. Surveys of sugar beet fields in Coalinga area, Fresno County, showed 8-20 percent curly top infestations. Due to late spring rains, thistle in Coalinga area showing good growth. Curley top incidence ranged 8-99 percent in sugar beets 4-inches tall in Antelope Valley, Los Angeles County. (Cal. Coop. Rpt.). UTAH - Curley top disease present in occasional tomato plants in Washington County. (Huber).

**CORN EARWORM (Heliothis zea)** - OKLAHOMA - First small larva of season on alfalfa in Payne County. (Okla. Coop. Sur., May 29). ALABAMA - Larvae on corn throughout Monroe County. Much damage reported. (Gamble). SOUTH CAROLINA - Larvae abundant and crawling from harvested barley in Allendale County. Light damage on young corn adjoining barley. (Cely, May 28). DELAWARE - First adults in Sussex County blacklight trap May 31. (Traino).

**CORN LEAF APHID (Rhopalosiphum maidis)** - NEVADA - Averaged 50+ per leaf in winter wheat test plots at Reno, Washoe County. (Arnett). OKLAHOMA - Ranged 30-200 per terminal on 8 to 12-inch corn in Garvin County and 30-400 per terminal in 12 to 18-inch corn in Johnston County. (Okla. Coop. Sur., May 29). ARKANSAS - Built up in some fields in southwest areas. As high as 300-400 per whorl in Lafayette County field. Treated. (Sterling).

**GREENBUG (Schizaphis graminum)** - OKLAHOMA - Moved from wheat to young sorghum in Texas County and destroyed stand in some fields making replanting necessary. Moderate in grain sorghum in Craig County week ending May 29. Currently moderate on young sorghum in Kingfisher County. (Okla. Coop. Sur.). KANSAS - Very light,

less than 1 per 10 plants of sorghum in Shawnee County field. (Bell). NORTH DAKOTA - Winged forms appeared in traps in Cass County. (Schulz).

POTATO LEAFHOPPER (Empoasca fabae) - OHIO - Adults up to 4 per 100 sweeps of alfalfa. (Flessel). NEW YORK - Single adult collected at Aurora, Cayuga County. (N.Y. Wkly. Rpt.). WISCONSIN - Adults conspicuous by absence in alfalfa in Monroe, La Crosse, and Trempealeau Counties. Counts remain unchanged in southern counties. (Wis. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Averaged 150 per linear foot of alfalfa in Eakly area, Caddo County. (Okla. Coop. Sur., May 29). NEW MEXICO - Increasing in many Dona Ana County alfalfa fields. (N.M. Coop. Rpt.). Light in alfalfa near Los Lunas, Valencia County, and Springer, Colfax County. (Heninger, Mathews).

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - Five to 30 percent of tobacco plants infested, averaged 20 percent, in 15 fields in Columbus and Bladen Counties. Five per 50 plants considered economic. (Robertson, May 28).

### CORN, SORGHUM, SUGARCANE

BLACK CUTWORM (Agrotis ipsilon) - KANSAS - Damage severe in one field of seedling corn in Brown County week ending May 29 with up to 6 larvae per row foot. Very light in other cornfields surveyed in county. (Bell). NEBRASKA - Several reports of activity in east and southeast districts. Destroyed several fields in Richardson County. About 60 percent of plants in 1 field near Uehling in Dodge County damaged. Ranged 1-1.5 per 3 feet of row. (Keith et al.). IOWA - Outbreaks reported from 15 counties border to border. Larvae averaged 1 per linear foot in damaging populations. Destroyed 1 percent of soybeans adjacent to infested corn in Polk County. (Iowa Ins. Sur.). SOUTH DAKOTA - Damaged field corn near Elk Point, Union County. (Kantack).

NOCTUID MOTHS - TENNESSEE - Spodoptera ornithogalli (yellowstriped armyworm) larvae heavily damaged corn in Cumberland County. (Mullins). KENTUCKY - Papaipema nebris (stalk borer) larvae damaged corn in Livingston, Todd, Christian, and Warren Counties. (Barnett).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MINNESOTA - Pupation increased; averaged 22 percent in Le Sueur County, 3 percent in southwest district; none observed in west-central district. Overwintering mortality averaged 50 percent in some Wilkin County fields; this is very heavy. (Minn. Pest Rpt.). WISCONSIN - Few adults collected in blacklight traps in southern areas. (Wis. Ins. Sur.). MICHIGAN - First adults of season collected at Lenawee County station June 1. Field checks in Livingston County indicate winter mortality light. (Newman). ILLINOIS - Pupation near completion in southern two-thirds of State. Adults in all counties. Percent pupation by county: Schuyler 58 and Ogle 56; adult emergence 42 in Schuyler, 8 in Ogle. (Ill. Ins. Rpt.). INDIANA - Adults noted in 2 abandoned cornfields June 1 in Porter County; all specimens still in stalks pupated. (Meyer). Adults also taken at lights in Tippecanoe County. (Matthew). OHIO - First moth of season in blacklight trap on June 1. This is 13 days later than in 1970 and 14 days later than 1969. (Rings). DELAWARE - Most overwintering larvae pupated. Adults averaged 7 per night in blacklight traps. First egg masses on sweet corn found June 3 in Sussex County. (Burbutis, Lesiewicz).

CORN ROOT WEBWORM (Crambus caliginosellus) - OHIO - Damaged corn in Hancock County. Crambus sp. damaged corn in Carroll County. (Blair).

BILLBUGS (Sphenophorus spp.) - MARYLAND - S. maidis (maize billbug) caused light injury to seedling corn in Wicomico, Dorchester, and Somerset Counties. Damaged plants averaged less than 1 per 100 in most fields. (U. Md., Ent. Dept.). OHIO - Sphenophorus spp. feeding on young corn plants in Pickaway County field. Replanting needed in some areas of field. (Blair, Hamrick). NORTH CAROLINA - S. callosus and S. maidis adults causing extreme suckering in Columbus, Bladen, and Sampson



Counties; damage in all of 13 randomly observed fields; however, infestation heaviest in Sampson County. In Sampson County, 3 of 7 fields observed had spots of 0.25-15 acres with 30+ percent of plants heavily suckered. Much corn in area 2 feet high. S. callosus dominant species in Camden County area; 3 fields of about 20 acres each had 20 percent of plants damaged with about 10 percent heavily suckered. Replanting about 10 percent of field after treatment common. Damage observed in Edgecombe, Halifax, Martin, Bertie, and Chowan Counties in random survey of 3 fields per county. (Pleasants, Sawyer, Hunt). SOUTH CAROLINA - S. maidis continues damaging in most coastal counties. (Thomas).

CORN FLEA BEETLES (Chaetocnema spp.) - ALABAMA - C. pulicaria (corn flea beetle) damage severe to corn in several Jefferson County areas. (Johns). VIRGINIA - C. pulicaria adults light on corn in Montgomery, Pulaski, Craig, Giles, and Bland Counties. Vector for important disease of corn. (Allen). UTAH - C. ectypa (desert corn flea beetle) caused moderate injury to young corn and sorghum in "Dixie" area of Washington County. (Huber).

SEED CORN BEETLE (Agonoderus lecontei) - OHIO - Heavy flights indicated by black-light trap collections. (Rings).

WIREWORMS - NEW JERSEY - Counts of 2-3 per seedling caused severe damage to corn plants in one 15-acre field near Vincentown, Burlington County. This field was planted to soybeans in 1970. (Ins.-Dis. Newsltr.). OHIO - Damage in field corn in Pickaway County extensive enough so that replanting was necessary. (Blair, Hamrick). COLORADO - Affecting portions of cornfields in area northeast of Greeley, Weld County. Replanting thought to be necessary. (Urano). UTAH - Heavy and damaged young corn at Trenton, Cache County. (Roberts).

#### SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - NORTH DAKOTA - Wingless adults and immature forms ranged up to 40 (averaged 11) per 100 sweeps in headed rye in Barnes, La Moure, and Dickey Counties. Occasional winged forms evident. (Brandvik).

A LYGUS BUG (Lygus sp.) - VIRGINIA - Adults 930 per 100 sweeps in field of wheat in Prince Edward County. Nearby field averaged 70 per 100 sweeps. (Perry, May 27).

#### TURF, PASTURES, RANGELAND

MEADOW PLANT BUG (Leptopterna dolabratus) - MISSOURI - Counts on roadside bluegrass averaged 180 per 100 sweeps in Clinton County and 76 per 100 sweeps in Grundy County. Also collected for first time in Clay, Livingston, and Ray Counties. These are new county records. (Munson).

A MEALYBUG (Humococcus caritus) - CALIFORNIA - Infesting Distichlis spicata (saltgrass) at Westmoreland, Imperial County. Collected by R.A. Flock and D. Jones on May 5, 1971. Determined by R.E. Wilkey. This is a new county record. (Cal. Coop. Rpt.).

BANKS GRASS MITE (Oligonychus pratensis) - NEVADA - Increasing on Merion bluegrass plots at Sparks, Washoe County. These plots severely damaged before treatments applied in February. (Arnett).

A SAWFLY - OREGON - Larvae, probably Dolerus collaris, averaged 14.3 per sweep in 10-year-old planting of fescue near Rosedale, Marion County. About 100 of most heavily infested acres sprayed. Also noted in adjacent planting of fescue, larvae averaged less than one per sweep. (Westcott, Penrose).

## FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae (all stages) ranged 8-100 per sweep in Douglas County alfalfa. Treatments planned. (Martinelli, Munk). Ranged 70-110 per sweep in Lovelock area, Pershing County, with treatments continuing. (Stitt). UTAH - Damage apparent in some Orem and Pleasant Grove alfalfa fields, Utah County. Cold, stormy weather made chemical control difficult, but reduced larval numbers and damage. Fields harvested to stop injury. Stubble control desirable in many places. (Davis, Knowlton). First crop sustained moderate damage in parts of Washington County. (Huber). Adults ranged 10-14 and larvae 500-800 per 10 sweeps at Lindon, Utah County. (Knowlton). WYOMING - Counts per 5 sweeps of alfalfa: Larvae 4-7 in 2 Washakie County fields and adults 2-3 in Hot Springs County field on May 28. (Burkhardt). Adults ranged 0-31 and larvae 0-80 per 10 sweeps in alfalfa in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. Average per 10 sweeps by county: Fremont, 2 larvae and 15 adults; Hot Springs, 2 larvae and 3 adults; Washakie, 5 larvae and 2 adults; Big Horn, 42 larvae and 7 adults; Park, 11 larvae and 8 adults. Damage evident in 2 Big Horn County fields. Alfalfa 8-30 inches tall with one field blooming in Big Horn County. (Parshall). NEW MEXICO - Damage light to moderate on alfalfa near Los Lunas, Valencia County. Larvae ranged 8-18 and adults 1-2 per 25 sweeps. (Heninger). COLORADO - Larvae ranged 30-90 to 800-850 per 100 sweeps in Weld County alfalfa. Counts up to 5,000 per 100 sweeps in Pueblo County. (Urano, Hantsbarger).

OKLAHOMA - H. postica ranged 4-6 adults and 6-10 larvae per 25 sweeps in second-crop alfalfa in southern Love County. Several adults taken on alfalfa in McIntosh County. These are new county records. Adults damaged second-crop alfalfa in many eastern counties. Heavy in Mayes County, moderate to heavy in Cleveland County, light and decreasing in Bryan County. Decreasing in Garvin County. Adults ranged up to 10 per 25 sweeps of alfalfa in Caddo and Washita Counties. Adults heavy on alfalfa and vetch in Stephens County and adults and larvae light in alfalfa in Washita and Comanche Counties week ending May 29. Current counts per 10 sweeps averaged 30 adults and 8 larvae in alfalfa in Nowata County, 1 adult and 2 larvae in yellow sweetclover in Craig County. These are new county records. Larvae still heavy in Mayes County; reported moderate in Johnston County, light in Kingfisher County. (Okla. Coop. Sur.). ARKANSAS - Collected on white clover in Arkansas County. This is a new county record. (Dumas, Boyer). MISSOURI - Collected from alfalfa in Andrew, Atchison, Buchanan, Gentry, and Worth Counties. These are new county records. Populations very light in northwest area. (Munson). KENTUCKY - Adults averaged 16 and larvae 100 per 100 sweeps in alfalfa after first cutting in Logan County. (Barnett). NEBRASKA - Following are new county records: Saline (2 larvae); Fillmore (2 larvae); Thayer (2 larvae); Nuckolls (5 larvae); Webster (3 larvae, 1 adult); Franklin (4 larvae, 1 adult); Adams (5 larvae); Clay (1 larva); 200 sweeps taken per field (Manglitz, Keith, June 1, 2); Lancaster (4 larvae in 50 sweeps) (Kindler, June 2). In 24 Dawson County fields larvae averaged 27, adults averaged 4 per 100 sweeps. No widespread weevil damage expected. (Manglitz, Keith).

ILLINOIS - H. postica continues to increase in northern areas. Area of potential damage considered to be south of U.S. Highway 136; most fields in area either mowed or about to be mowed. Larval averages per 100 sweeps by county: Hancock 750, Warren 500, Grundy 700. Of larvae collected May 18, percent parasitism by Bathyplectes curculionis (an ichneumon) by county: Champaign 78.4, Mason 57.7, Morgan 41.9. (Ill. Ins. Rpt.). INDIANA - Larval damage evident in northern district alfalfa, but noneconomic. This in contrast to central district fields north of Indianapolis where feeding scarce. Alfalfa in northern district in bud stage with occasional blooms, and occasional harvesting observed. (Meyer). OHIO - Eggs per square foot decreased to 75 in Wayne County and less than 10 in Erie County. Larvae per 10 sweeps by county: Clinton 700, Wayne 300, and Erie 260. Damaging populations remain spotty and growers advised to watch all fields. Larval counts per 100 sweeps in 2 untreated fields on same farm in Warren County: 1,200 (damage light) and 4,000 (damage heavy). (Flessel). Larvae feeding south of Columbus in unharvested fields caused extensive damage. Some fields appear completely gray. (Blair).

PEA APHID (Acyrtosiphon pisum) - UTAH - Moderate on first-crop, and on some second-crop alfalfa in Washington County (Huber); 35-200 per 10 sweeps in Lyndon, Utah County (Knowlton). WYOMING - Ranged 13-35 per 5 sweeps in 2 alfalfa fields in Washakie County on May 28. Trace in Hot Springs County. (Burkhardt). Ranged 1-110 per 10 sweeps of alfalfa in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. Heaviest counts in Washakie and Big Horn Counties. (Parshall). OKLAHOMA - Counts per 10 sweeps averaged 350 on alfalfa in Nowata County, 100 on yellow sweetclover in Craig County. (Okla. Coop. Sur.). SOUTH DAKOTA - Generally present in alfalfa in southeast area. Counts of 450 per 100 sweeps in fields near Bereford, Clay County. Lady beetle adults 100 per 100 sweeps. (Kantack). MINNESOTA - Ranged 300-1,200 per 100 sweeps of alfalfa in southwest district; predator counts low. A. pisum ranged trace to 220 per 100 sweeps in south-central, central, and west-central districts. Alfalfa cutting to begin soon, will alleviate problems temporarily. (Minn. Pest Rpt.). WISCONSIN - Increased counts as high as 25 per sweep in many fields of alfalfa. Winged forms increased, few appearing in peas. (Wis. Ins. Sur.). OHIO - Heavy in some northern counties. (Flessel). NEW YORK - Nymphs and adults ranged 15-200 per 100 sweeps of alfalfa in Tompkins County. (N.Y. Wkly. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae averaged 5 per 100 sweeps of alfalfa in Yuma Valley, Yuma County. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Larvae ranged 20-30 per 25 sweeps of alfalfa near Springer, Colfax County. (Mathews).

LYGUS BUGS (Lygus spp.) - ARIZONA - Averaged 400 per 100 sweeps of alfalfa in Yuma Valley, Yuma County. (Ariz. Coop. Sur.). WYOMING - Adults and nymphs ranged 1-3 per 5 sweeps of alfalfa in Washakie and Hot Springs Counties on May 28. (Burkhardt). Adults and nymphs ranged 3-16 per 10 sweeps of alfalfa in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. (Parshall). NEW MEXICO - Counts per 25 sweeps: Los Lunas, Valencia County, 15-30 and Springer, Colfax County, 3-8. (Heninger, Mathews). WISCONSIN - L. lineolaris (tarnished plant bug) nymphs as high as 50 per sweep in alfalfa in Sauk City area. Combination of nymphs and dry weather caused plants to appear wilted. (Wis. Ins. Sur.).

MEADOW SPITTLEBUG (Philaneus spumarius) - OHIO - Nymphs 0.5-0.7 per stem. Most nymphs per stem for several years and fairly common statewide. (Flessel). KENTUCKY - Adults averaged 48 per 100 sweeps of alfalfa in Logan County. (Barnett).

FALSE CHINCH BUGS (Nysius spp.) - OKLAHOMA - Very heavy in alfalfa in Harper and Grant Counties; controls planned. Heavy in Cotton County, moderate in Kingfisher County. (Okla. Coop. Sur.).

## PEANUTS

GRANULATE CUTWORM (Feltia subterranea) - FLORIDA - Larvae very heavy May 26 around marginal areas of experimental 2-acre field at Gainesville, Alachua County. Heaviest population probably moved from recently harvested lupine nearby. Determined by D.H. Habeck. (Strayer).

## COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - In McLennan and Falls Counties, weevils averaged 5 (maximum 62) per acre in 4 of 42 treated fields; averaged 55 (maximum 1,125) per acre in 7 of 25 untreated fields. One taken on flight screen, total to date 14. Total of 371 in pheromone-baited wing traps, total to date 1,902. (Cowan et al.). LOUISIANA - In Madison Parish, collected 165 weevils from 20 nonsticky traps and 230 from 4 sticky traps; total to date 1,707. Collected 242 weevils from 10 wing traps near ground trash sites; total to date 815. From 126 wing traps 93 weevils recovered on isalnd in Mississippi River; total to date 248. (Cleveland et al.). MISSISSIPPI - Weevils collected from pheromone-baited wing traps by county: Washington 1, Bolivar 372. Temperature range 50°-92°F. (Pfrimmer et al.). ALABAMA - Weevil counts per acre on 4 farms by county:

Covington 185, 116, 146, 24; Monroe 50, 50, 0, 0; Shelby 58, 0, 0, 0; Calhoun and Marshall zero on 8 farms. (Pike et al.). TENNESSEE - Some overwintered weevils feeding in terminal buds in southern tier of counties. More expected as weather warms. (Locke).

BOLLWORMS (Heliothis spp.) - TEXAS - In McLennan and Falls Counties, larvae taken on various hosts identified 157 H. zea and 1 H. virescens. Total to date from all hosts 919 H. zea and 22 H. virescens. (Cowan et al.).

THRIPS (Frankliniella spp.) - NEW MEXICO - Deforming foliage in most of cotton checked in Chaves County. Counts 0-6 per leaf. (Mathews). TEXAS - In McLennan and Falls Counties, counts light in 30, medium in 5, and heavy in 1 of 42 treated fields. Light in 10, medium in 10, and heavy in 5 of 25 untreated fields. (Cowan et al.). MISSISSIPPI - In delta counties, thrips, primarily F. fusca (tobacco thrips), heavy on cotton. (Pfrimmer et al.).

#### TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Light numbers damaged plants in tobacco beds in Todd County. (Barnett). TENNESSEE - Light to moderate (4-10 per plant) in fields surveyed. Controls underway in many fields, but not effective in some cases. (Gordon). MARYLAND - Feeding damage light in newly planted fields in St. Marys County. Adults ranged 1-3 per plant in heaviest infested fields. (U. Md., Ent. Dept.).

WIREWORMS - KENTUCKY - Damaged tobacco in plant beds in Todd County. (Barnett).

#### SUGAR BEETS

SUGARBEET ROOT MAGGOT (Tetanops myopaeformis) - NORTH DAKOTA - In Walsh County, 90 percent pupated and 80 percent of adults emerged. Pupation 75 percent and emergence 30 percent in Pembina County. Adults migrated into new beet fields and eggs present. Beets in 2 to 4-leaf stage. (Kaatz, Callenbach). COLORADO - Adults emerging in Larimer and Weld Counties. (Jenkins). WYOMING - Adults 8-12 per trap in Powell area, Park County, May 27. More males than females. Marked increase in fly activity expected with warmer weather. Mating continues with some females having high numbers of eggs developed. Oviposition probably begun. Several fields in Washakie County with adult activity. Numbers light. (Burkhardt). Adults also in sugar beet fields of Hot Springs and Big Horn Counties. (Parshall).

BEEB WEBWORM (Loxostege sticticalis) - WYOMING - Few moths active in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. (Parshall). UTAH - Moths in blacklight traps at Ogden, Weber County, and at Logan, Cache County. (Knowlton, Davis).

GREEN PEACH APHID (Myzus persicae) - WASHINGTON - Abundant on volunteer diseased sugar beets in tare piles in Walla Walla County. (Landis).

#### MISCELLANEOUS FIELD CROPS

REDBACKED CUTWORM (Euxoa ochrogaster) - WASHINGTON - Serious in 20 acres of mint near Royal Camp, Grant County. (Klostermeyer).

#### POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - UTAH - More numerous than normal in infested northern areas. Common on early potatoes in Weber and Box Elder Counties. Numerous on potatoes at West Point, Davis County. (Knowlton, Knighton). Infested tomato plants, often before potatoes emerged in Weber, Box Elder, Davis, and Cache Counties. (Knowlton et al.). TENNESSEE - Adults and immatures on potatoes in several central areas; damage very minor, controls effective. (Gordon). SOUTH CAROLINA - All stages observed, damage moderate on 2 acres of tomatoes in Richland County. (Ezell). KENTUCKY - Light on potatoes in

Warren County. (Barnett). MARYLAND - Adults laying eggs in most fields of potatoes in Somerset and Worcester Counties. Second and third instars present in many unsprayed fields. (U. Md., Ent. Dept.). DELAWARE - Adults, eggs, and early larvae common on potatoes in Kent County. (Burbutis, Lesiewicz).

#### BEANS AND PEAS

BEAN LEAF BEETLE (Cerotoma trifurcata) - ALABAMA - Adult feeding severe on leaves of commercial lima beans and in gardens in Jefferson County. (Johns).

#### CUCURBITS

STRAWBERRY SPIDER MITE (Tetranychus turkestani) - ARIZONA - Few cantaloup fields treated at Yuma, Yuma County. (Ariz. Coop. Sur.).

#### GENERAL VEGETABLES

ASPARAGUS BEETLE (Crioceris asparagi) - MICHIGAN - Adults of this species and C. duodecimpunctata (spotted asparagus beetle) present in potentially damaging numbers in most fields. First-generation larvae must be controlled to prevent large buildups in fern after harvest. (Cress). NEW JERSEY - C. duodecimpunctata still plentiful on brush and spears in southern counties. (Ins.-Dis. Newsltr.).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - ALABAMA - Adults widespread and heavy in 10 acres of young sweetpotatoes in Tuscaloosa County. Feeding caused heavy etching of leaves. (Pitts).

CABBAGE MAGGOT (Hylemya brassicae) - RHODE ISLAND - Heavy on spring radishes in Providence County June 1. (Field).

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### NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

JUNE 1971

The National Weather Service's 30-day outlook for June is for temperatures to average above seasonal normals in New England, the Pacific Northwest, the central and southern Plains, and the gulf coast region. Below normal averages are indicated for southern and central portions of both the intermountain region and the Pacific coast and also from the northern Plains to the upper Great Lakes and in the South Atlantic Coast States. Elsewhere near normal temperatures are in prospect. Precipitation is expected to exceed normal over the northern and central Plains and west of the Divide, except for near to below normal in the Northwest and in portions of the southern Plateau. Subnormal totals are indicated for the gulf coast region and the Tennessee Valley. In unspecified areas near normal precipitation is expected.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

## DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - WASHINGTON - Eggs laid May 4, hatched May 25 at Yakima, Yakima County. (Johnson). OREGON - Hatching of first-generation eggs retarded due to cold weather in Medford area, Jackson County. Eggs first noted May 18; most in "red-ringed" stage June 2. (Gentner). Pheromone traps indicate adults peaked in apple orchards at Hood River, Hood River County. (Zwick). UTAH - Flight on warm evenings in Weber County since May 25, and in Cache County since May 26. (Davis, Gerber). MISSOURI - First larval entries in Red Delicious apples in unsprayed orchards in southeast and central areas week ending May 28. Larvae currently in apple fruit in central and southeast areas in unsprayed plantings. (Craig). MICHIGAN - Moths in emergence cages and experimental sexlure traps throughout southwest area since May 28. Eggs deposited within 2-3 days of emergence; hatch in 8-14 days. (Thompson).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MISSOURI - Heavy on unsprayed peaches in southwest and east-central areas, light in central and west-central areas week ending May 28. Larvae currently in terminals in sprayed and unsprayed apple plantings in central areas. (Craig). MICHIGAN - First moths in pheromone traps May 26 to June 2. (Thompson). UTAH - Moths still coming to bait pots in Pleasant Grove, Orem, and Linden area, but fewer than earlier; peak past. (Davis, Barlow).

LESSER PEACHTREE BORER (Synanthedon pictipes) - MICHIGAN - First pupal cases found in Berrien County peach orchard May 28. Peak emergence normally occurs mid to late June. (Thompson).

PEACH TWIG BORER (Anarsia lineatella) - WASHINGTON - Adults appeared May 24 at Wenatchee, Chelan County. (Anthon).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - NEW YORK - Moths heavy, totaled 175 in 20 pheromone traps in Clinton County May 16-21. (N.Y. Wkly. Rpt.).

PLUM CURCULIO (Conotrachelus nenuphar) - PENNSYLVANIA - Adults on apple in Centre County; no cutting noted on small fruits May 31. (Gesell). CONNECTICUT - Adults observed at New Haven and Storrs. Activity should increase with rising temperatures. (Savos, June 1).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - FLORIDA - Difficult to find on commercial peaches but common on unsprayed experimental peaches at Gainesville, Alachua County; second generation mainly in first sedentary stage; some eggs and crawlers still present June 3. (Kuitert).

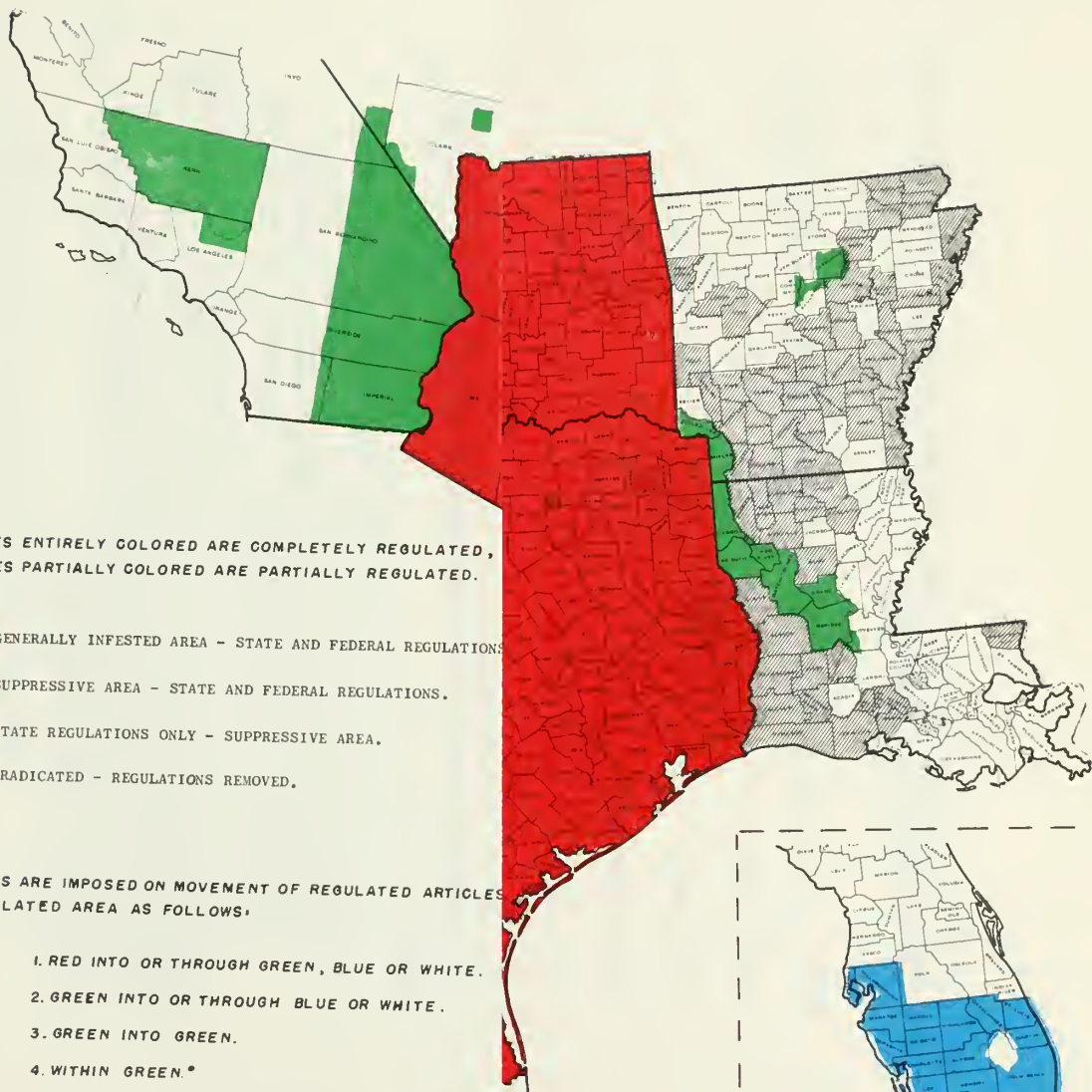
OYSTERSHELL SCALE (Lepidosaphes ulmi) - WISCONSIN - Eggs hatching, crawlers active on apple in northern Grant County June 2. (Wis. Ins. Sur.).

APPLE MEALYBUG (Phenacoccus aceris) - CALIFORNIA - Heavy on cotoneaster and pyracantha shrubs at Mt. Shasta, Siskiyou County. Collected by Ralph Richards, May 25, 1971. Determined by G.M. Buxton, confirmed by R.F. Wilkey. This is a new State record. (Cal. Coop. Rpt.).

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - Overlapping first and second generations noted. Infestations very heavy in Yakima Valley, much honeydew on fruit, buds, branches, and leaders where orchards unsprayed or sprayed after first summer-generation eggs hatched. Natural control not satisfactory. (Johnson, Gregorich).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - CONNECTICUT - Single adult collected June 1 at Storrs. Larvae active at New Haven and Storrs. (Savos).

CALIFORNIA PEARSLUG (Pristiphora abbreviata) - WASHINGTON - Light to serious damage observed on lower third of trees in pear orchards throughout Yakima Valley; increased over last year. (Johnson).



\* IF IT IS DETERMINED BY THE INSPECTOR THAT A HAZARD OF SPRE  
 \*\* IF REQUIRED BY STATE REGULATIONS OR BY AN AUTHORIZED INSP

FLORIDA

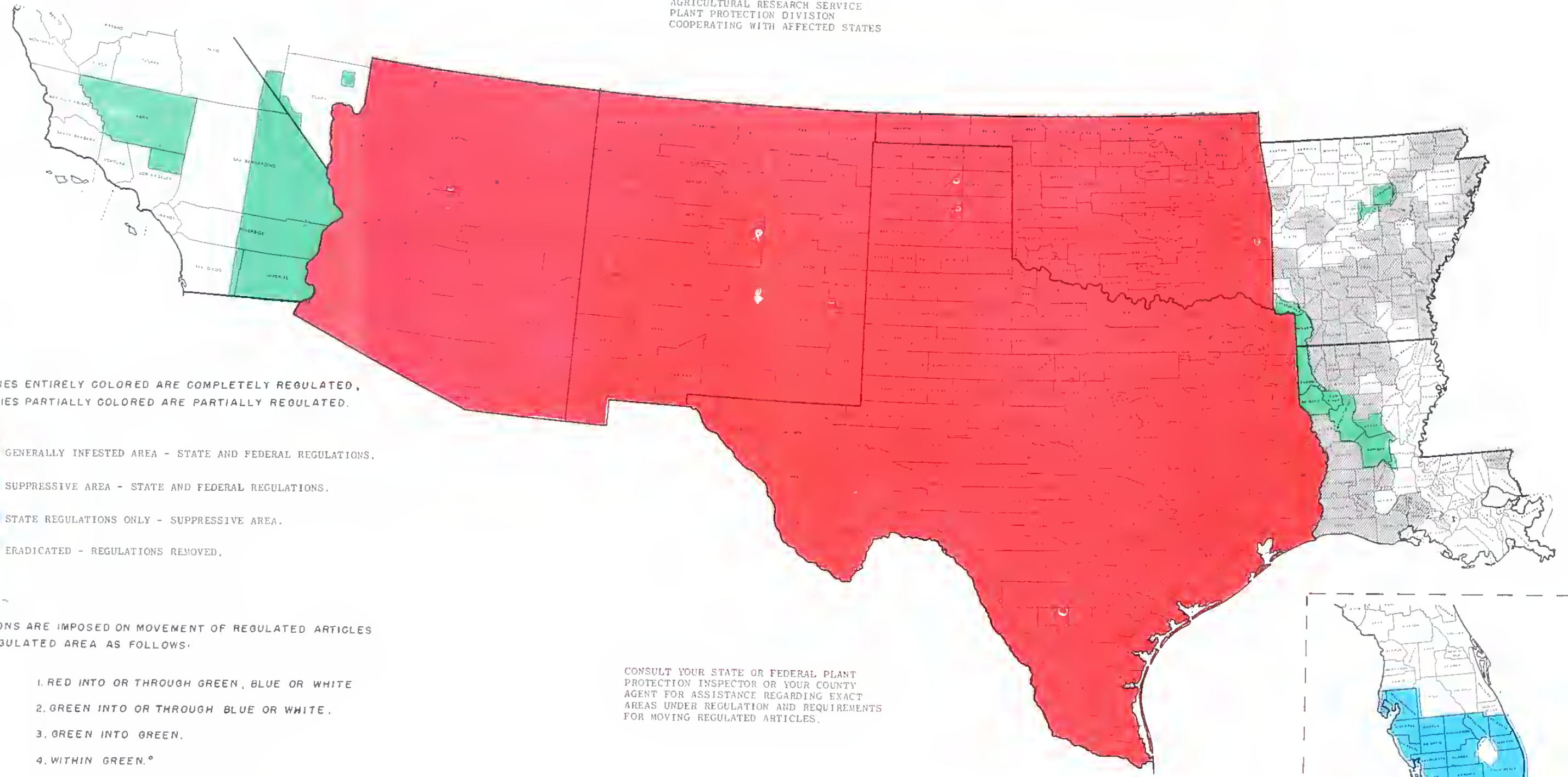




EUROP  
June  
Hamps

# PINK BOLLWORM QUARANTINES

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH SERVICE  
PLANT PROTECTION DIVISION  
COOPERATING WITH AFFECTED STATES



COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED,  
COUNTIES PARTIALLY COLORED ARE PARTIALLY REGULATED.

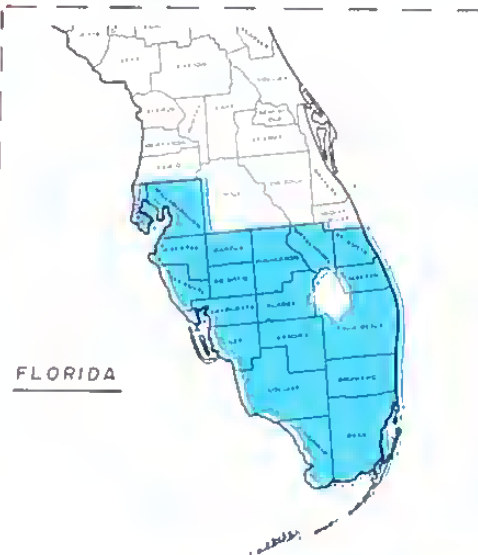
- GENERALLY INFESTED AREA - STATE AND FEDERAL REGULATIONS.
- SUPPRESSIVE AREA - STATE AND FEDERAL REGULATIONS.
- STATE REGULATIONS ONLY - SUPPRESSIVE AREA.
- ERADICATED - REGULATIONS REMOVED.

RESTRICTIONS ARE IMPOSED ON MOVEMENT OF REGULATED ARTICLES  
FROM A REGULATED AREA AS FOLLOWS:

1. RED INTO OR THROUGH GREEN, BLUE OR WHITE
2. GREEN INTO OR THROUGH BLUE OR WHITE.
3. GREEN INTO GREEN.
4. WITHIN GREEN.\*
5. BLUE INTO ANY OTHER AREA.\*\*

CONSULT YOUR STATE OR FEDERAL PLANT  
PROTECTION INSPECTOR OR YOUR COUNTY  
AGENT FOR ASSISTANCE REGARDING EXACT  
AREAS UNDER REGULATION AND REQUIREMENTS  
FOR MOVING REGULATED ARTICLES.

\* IF IT IS DETERMINED BY THE INSPECTOR THAT A HAZARD OF SPREAD EXISTS.  
\*\* IF REQUIRED BY STATE REGULATIONS OR BY AN AUTHORIZED INSPECTOR.



FLORIDA

THE FOLLOWING REGULATED ARTICLES REQUIRE A CERTIFICATE OR PERMIT YEAR-ROUND EXCEPT AS INDICATED:

1. Cotton and wild cotton, including all parts of such plants.
2. Seed cotton.
3. Cottonseed.
4. Cottonseed hulls.
5. Cotton lint.

Baled cotton lint is exempt if compressed to a minimum of 22 pounds per cubic foot.

Baled cotton lint moving from the generally infested area into the suppressive area is exempt if the lint is from seed cotton produced in the suppressive area and moved to the generally infested area for ginning, provided the identity of the baled cotton lint is maintained.

Samples of cotton lint of the usual trade size are exempt. The samples may be assembled in a single package for shipment.

6. Cotton linters.

Linters are exempt if compressed to a minimum of 22 pounds per cubic foot.

Samples of cotton linters of the usual trade size are exempt. Samples may be assembled in a single package for shipment.

7. Cotton waste produced at cotton gins, cottonseed oil mills, and cotton textile mills.

Lint cleaner waste is exempt if compressed to a minimum of 22 pounds per cubic foot.

8. Cotton gin trash.

9. Used bagging and other used wrappers for cotton.

10. Used cotton harvesting equipment and used cotton ginning and cotton oil mill equipment.

11. Okra and kenaf, including all parts of such plants except canned or frozen okra.

Edible okra is exempt if produced during the period December 1 to May 15 inclusive, except that okra consigned to California is exempt only if produced during the period of January 1 to March 15 inclusive.

12. Any other products, articles, or means of conveyance of any character whatsoever, not covered by the above, when it is determined by an inspector that they present a hazard of spread of the pink bollworm and the person in possession thereof has been so notified.



THE FOLLOWING REGULATED ARTICLES REQUIRE A CERTIFICATE OR PERMIT  
YEAR-ROUND EXCEPT AS INDICATED:

1. Cotton and wild cotton, including all parts of such plants.
2. Seed cotton.
3. Cottonseed.
4. Cottonseed hulls.
5. Cotton lint.

Baled cotton lint is exempt if compressed to a minimum of  
22 pounds per cubic foot.

Baled cotton lint moving from the generally infested area  
into the suppressive area is exempt if the lint is from  
seed cotton produced in the suppressive area and moved to  
the generally infested area for ginning, provided the  
identity of the baled cotton lint is maintained.

Samples of cotton lint of the usual trade size are exempt.  
The samples may be assembled in a single package for  
shipment.

6. Cotton linters.

Linters are exempt if compressed to a minimum of  
22 pounds per cubic foot.

EUROPEAN RED MITE (Panonychus ulmi) - VERMONT - Slow hatch continues. (Nielsen, June 1). MASSACHUSETTS - Second-generation eggs deposited on apple foliage in Hampshire County. (Jensen). CONNECTICUT - Eggs numerous on foliage in New Haven. (Savos, June 1). WASHINGTON - Summer generation noted on apple foliage May 26 at Pomona, Yakima County. (Gregorich).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - First eggs found May 21 in Madill area, Marshall County. By May 27, one orchard in area 6-10 percent infested with eggs. Eggs light in Atoka County on May 24, 1 egg found in Love County on May 25, and 2 in Jefferson County on May 27. Overwintered larvae still heavy in Mayes County pecans May 22. No eggs found in Payne and Hughes Counties May 29. Light numbers of white eggs found May 31 in Creek County, white and pink eggs in Lincoln County, mostly white eggs in Tulsa County. On June 1, white eggs ranged up to 5 percent in scattered areas of Tulsa County, averaged less than 1 percent in Atoka County; white and few pink eggs found in Payne County. On June 2, pink eggs averaged 4 percent in western Tulsa County, white eggs 6 percent in eastern Payne County. On June 3, mostly white eggs ranged 2-6 percent in Craig and Nowata Counties. (Okla. Coop. Sur.).

PECAN SPITTLEBUG (Clasoptera achatina) - ALABAMA - Nymphs heavy, 1-2 per twig, and widespread first week of May in Mobile County in commercial pecan orchards. Limited controls applied. (Deakle).

#### CITRUS

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Treatments underway in nurseries and groves at Yuma, Yuma County. Heavy in residential home plantings in Salt River Valley in Maricopa County. (Ariz. Coop. Sur.).

CITRUS RED MITE (Panonychus citri) - ARIZONA - Up to 20 per leaf in few lemon groves at Yuma, Yuma County. (Ariz. Coop. Sur.).

CARMINE SPIDER MITE (Tetranychus cinnabarinus) - ARIZONA - Found in several groves at Yuma, Yuma County. (Ariz. Coop. Sur.).

#### SMALL FRUITS

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Newly emerged moths first taken in pheromone traps June 2. (Thompson). UTAH - Observed in "Dixie" area vineyards of Washington County. (Huber).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - UTAH - Larvae in "Dixie" area vineyards of Washington County. Moths still numerous. (Huber, Knowlton).

A SAP BEETLE (Stelidota geminata) - MICHIGAN - Adults first found in woodlots bordering Berrien County strawberry plantings May 28. More numerous at special baiting stations since May 30. Once established in planting, eradication difficult. (Thompson).

A PSYLLID (Trioza tripunctata) - FLORIDA - Early nymphs stunting and distorting leaves of blackberry locally at Samsula, Volusia County, May 18, 1971. (Pott). This is a new county record. (Fla. Coop. Sur.).

A STRAWBERRY SAWFLY (Empria maculata) - NORTH DAKOTA - Larval damage evident on 100 percent of strawberry plants in home garden in Cass County. Populations averaged 1 larva per plant with up to 4 shotholes per leaf. (Brandvik).

#### ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - KENTUCKY - First hatch of season observed in Warren County on Juniperus spp. (Barnett).

HOLLYHOCK WEEVIL (Apion longirostre) - VIRGINIA - Adults collected on hollyhock in Wythe, Bland, and Pulaski Counties. These are new county records. (Allen).

#### FOREST AND SHADE TREES

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - OREGON - Detected for first time at Pendleton, Umatilla County. Nearest known infestation in Hermiston and McNary Dam area, about 25 miles to northwest. Record based on single larva collected from 4-foot mugho pine April 18 by W. Depney. Determined by L. Kline, confirmed by R.L. Westcott. Additional surveys and corrective measures underway. (Kline, Westcott). Survey of all nurseries in Portland area and Willamette Valley complete. (Larson et al.). NEW YORK - Larvae in shoots of mugho pine in Ithaca area, Tompkins County. (N.Y. Wkly. Rpt.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - MISSOURI - Collected from mugho pine at New Madrid, New Madrid County, by R. Thompson. This is a new county record. (Munson).

SPRUCE BUDWORM (Choristoneura fumiferana) - MICHIGAN - Larvae out of hibernaculae and mining buds north of St. Ignace in Mackinac County. (Wallner).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Infesting pines in Carteret, Onslow, Rowan, Durham, Davidson, and Rutherford Counties; only known serious problems in New Bern area and in Davidson and Rowan Counties. (N.C. For. Pest Newsltr.).

APHIDS - WISCONSIN - Mindarus abietinus (balsam twig aphid) very heavy on balsam fir Christmas trees at site in southern Dane County. Severe distortion of twigs occurring. Reproduction of Cinara strobi (white pine aphid) continues heavy at some Dane County sites. Concentrations heaviest on tips of 1970 growth; many moving onto 1971 shoots. Ants tending many colonies; lady beetle larvae and syrphid larvae preying on some colonies. (Wis. Ins. Sur.). MICHIGAN - Eulachnus agilis nymphs heavy on Scotch pine in Oceana County. (Stebbins, Wallner). Increasing, will cause severe browning and thinning of foliage. (Sauer).

PINE SPITTLEBUG (Aphrophora parallela) - DELAWARE - Very common on small loblolly pines in Sussex County. (Burbatis, Lesiewicz). KENTUCKY - Problem on pine trees in McCracken County. (Barnett). MINNESOTA - Some early instar nymphs observed on various pines in central area May 30. (Minn. Pest Rpt.).

CONIFER SAWFLIES (Neodiprion spp.) - NEW YORK - N. sertifer (European pine sawfly) eggs hatched in Ithaca area, Tompkins County. Some injury on mugho pine. (N.Y. Wkly. Rpt., June 1). KENTUCKY - N. taedae linearis larvae infested 60 percent of loblolly and shortleaf pines in McCracken County; defoliation 75 percent. (Barnett). NORTH CAROLINA - Infestations of N. pratti pratti scattered over Piedmont area; light in Caswell, Person, Alamance, and northern Granville Counties; moderate in northern Alamance County. Egg samples taken during winter and recent aerial surveys indicate slight reduction in populations. (N.C. For. Pest Newsltr.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - MONTANA - Larvae heavy in green ash trees and surrounding areas in Billings, Yellowstone County. (Pratt). WYOMING - Heavy on ash and elm in Worland, Washakie County. Many trees treated. (Petersen, Parshall). KENTUCKY - Pupating on maples in McLean County; defoliation 50 percent on infested trees. (Barnett). NEW HAMPSHIRE - One colony in second instar noted at Madison, Carroll County. (Morse).

CARPENTERWORM (Prionoxystus robiniae) - SOUTH DAKOTA - Heavily damaged and destroyed shelterbelt plantings of green ash and Siberian elm near Meadow in eastern Perkins County. Infestations light, less than 10 percent, in green ash on Shadehill Reservoir Recreation Area in northeastern Perkins County. (McKnight, May 28).

CANKERWORMS - TENNESSEE - Paleacrita vernata (spring cankerworm) defoliated elms in Davidson County. (Williams). WEST VIRGINIA - Alsophila pometaria (fall cankerworm) larval damage moderate on maples in Wood County noted June 1. (W. Va. Ins. Sur.).

COTTONWOOD LEAF BEETLE (Chrysomela scripta) - TENNESSEE - Defoliated willows in many eastern and central counties. Some native willows died as result of defoliation in 1970. (Gordon, Williams).

MAPLE PETIOLE BORER (Caulocampus acericaulis) - TENNESSEE - Damaged maples in Knox, Loudon, and Davidson Counties; infestation very heavy. (Ponchillia, Williams).

#### MAN AND ANIMALS

MOSQUITOES - VERMONT - Severe in some locations including New Haven and Salisbury. (Nielsen, June 1). KENTUCKY - First-generation adults of Aedes sollicitans (saltmarsh mosquito) reached peak May 29 in Hopkins County. (Barnett). MINNESOTA - A. vexans in 50 percent of 656 larval collections made week ending May 29. Warm weather June 1-4 accelerated development of present brood. First pupae found June 2; pupation about complete June 6. Adult emergence began June 2; widespread by June 7. Annoyance will increase after June 10. Over 30,000 acres of breeding sites treated in Minneapolis and St. Paul area since April 1. Light trap counts very low. (Minn. Pest Rpt.). UTAH - A. dorsalis adults moderate on lakeshore areas, spotty elsewhere in western Weber County. Culex tarsalis larvae more numerous, A. nigromaculis larvae general in Kaneshville area. (Fronk). NEVADA - Heavy numbers of Aedes spp. adults emerged in localized areas along Humboldt River, Elko County. Treatments planned. (Peters, Wallace).

HORN FLY (Haematobia irritans) - OKLAHOMA - Heavy on cattle in Garvin County and moderate in Craig, Cherokee, and Cleveland Counties week ending May 29. Heavy on cattle in Cotton County, moderate in Hughes County week ending June 4. (Okla. Coop. Sur.). NEBRASKA - Ranged 20-30 per animal in Red Willow, Furnas, Frontier, and Lincoln Counties. (Campbell). WYOMING - Ranged 10-60 per head of cattle on 2 herds in Washakie County. (Parshall).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 4 per head on untreated dairy cattle in Payne County week ending May 29. Decreased on dairy cattle checked in county week ending June 4; averaged less than 1 per head. (Okla. Coop. Sur.). WISCONSIN - Light annoyance to cattle reported from Sauk, Juneau, and Polk Counties. (Wis. Ins. Sur.).

SCREWWORM (Cochliomyia hominivorax) - Total of 4 cases reported in U.S. May 30 to June 5 as follows: TEXAS - Edwards, Hidalgo, Kinney, Real. Total of 61 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico as follows: Sonora 8, Chihuahua 13, Coahuila 8, Nuevo Leon 11, Tamaulipas 21. Total of 38 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screwworm flies released: Texas 42,898,000; Arizona 3,310,000; Mexico 102,468,000. (Anim. Health Div.).

FACE FLY (Musca autumnalis) - VERMONT - Populations decreased on livestock. (Nielsen, June 1). UTAH - Active in Ogden area of Weber County and near Logan, Cache County. (Knowlton).

SHEEP KED (Melophagus ovinus) - UTAH - Moderate on range sheep throughout Beaver County. (Esplin).

A NOSE BOT FLY (Cephenemyia jellisoni) - OKLAHOMA - Adult activity noted in Cherokee County about May 25. (Okla. Coop. Sur.).

A LOUSE FLY (Lipoptena mazamae) - OKLAHOMA - Ranged 25-50 per head on fawns checked in Cherokee County. (Okla. Coop. Sur.).

A BLISTER BEETLE (Hornia minutipennis) - OKLAHOMA - Three dead specimens collected from cells of a bee (probably Anthophora occidentalis) nesting in dirt bank under bridge in Osage County. This is a new county record. (Okla. Coop. Sur.).

TICK SURVEILLANCE - Survey throughout the U.S. is to show seasonal distribution of potential vectors and hosts of livestock diseases, and to detect exotic species. Some of the more interesting determinations for May were as follows: Otobius megnini (ear tick) - TEXAS - bovine; COLORADO - bovine; OKLAHOMA - bovine. Amblyomma cajennense (Cayenne tick) - TEXAS - bovine. Dermacentor andersoni (Rocky Mountain wood tick) - OREGON - man, bovine, equine; MONTANA - equine; WASHINGTON - bovine; COLORADO - canine. (Anim. Health Div.).

HARDBACKED TICKS - SOUTH CAROLINA - Rhipicephalis sanguineus (brown dog tick) moderate in wooded areas in Pickens County with heavy populations in certain areas. (Fleming). TEXAS - Quarantines for Boophilus spp. (cattle ticks) issued for total of 52 premises during February tick outbreak. During March, April, and May, additional premises infested in Cameron County. During April, one premise infested in Hidalgo County. (Anim. Health Div.). See CEIR 21(15):235. (PPD). OKLAHOMA - Amblyomma americanum (lone star tick) moderate to heavy on cattle, dogs, man, and in lawns in Mayes, Cherokee, and Marshall Counties week ending May 29. Currently continues very abundant in Cherokee County; larvae appearing. Moderate on cattle in Hughes County. (Okla. Coop. Sur.). UTAH - Dermacentor andersoni (Rocky Mountain wood tick) infested humans or their clothing in Logan Canyon, Cache County, and Parleys Canyon, Salt Lake County, recently. (Knowlton). MONTANA - D. andersoni adults 38 in 25 steps pulling sack in range grass and 22 in brushy area in Meagher County. (Pratt, May 28).

#### HOUSEHOLDS AND STRUCTURES

INDIAN MEAL MOTH (Plodia interpunctella) - NEVADA - Light in candy and nuts in market at Las Vegas, Clark County. (Barton).

BROWN SPIDER BEETLE (Ptinus clavipes) - IOWA - Collected in Dallas County June 2. This is a new county record. (Iowa Ins. Sur.).

RUSTIC BORER (Xylotrechus colonus) - WEST VIRGINIA - Collected in basement of home in Wyoming County, May 25, 1971. This is a new county record. (W. Va. Ins. Sur.).

#### BENEFICIAL INSECTS

LADY BEETLES - TENNESSEE - Adults and immatures 20-60 per 20 sweeps observed in small grain fields resulting in low populations of aphids. (Gordon). OKLAHOMA - Hippodamia convergens (convergent lady beetle), mostly adults, ranged 0-5 per plant in young corn in Garvin County and 0-2 per plant in Johnston County. Occasional Scymnus sp. adult also seen in Johnston County. (Okla. Coop. Sur., May 29). KANSAS - H. convergens adults averaged 1 per 10 plants in field of 6-inch sorghum in Shawnee County. (Bell). WYOMING - Unspecified adults ranged 5-6 per 5 sweeps in 2 alfalfa fields in Washakie County (Burkhardt); 0-13 per 10 sweeps of alfalfa in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties (Parshall).

AN ICHNEUMON (Bathyplectes curculionis) - WYOMING - Adults 2-3 per 5 sweeps of alfalfa in Hot Springs County field. (Burkhardt). KENTUCKY - Parasitized 4 of 56 Hypera postica (alfalfa weevil) larvae taken in Warren County, none of 16 larvae from Lincoln County, 9 of 20 larvae from Fayette County, and 3 of 96 larvae from Hardin County. (Barnett). WISCONSIN - Percent parasitism of H. postica adults and pupae by county: Grant 36, Lafayette 46, Green 15, Rock 33, and Iowa 12. (Wis. Ins. Sur.).

BRACONIDS - ILLINOIS - Parasitism of Acyrtosiphon pisum (pea aphid) by Lyciphlebus sp. and Praon sp. 41 percent. First time Praon sp. has appeared this year. (Ill. Ins. Rpt.).



A PHYTOSEIID MITE (Metaseiulus occidentalis) - WASHINGTON - This predator observed effectively controlling Tetranychus mcdanieli (McDaniel spider mite) on apples at Selah, Yakima County, May 26. (Gregorich).

#### FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - MICHIGAN - Second to third instars 4 and eggs 3 per plant on unsprayed oats near Gallien, Berrien County. Oats in jointing stage, and field will be badly damaged shortly. Larva 1 per 10 stems in adjacent wheat in heading stage. Feeding damage negligible. (Webster, Smith). INDIANA - Egg and larval counts in oats north of U.S. Highway 30 in northeast district still low; eggs and larvae averaged 2 per linear foot of row. (Denton, Meyer). OHIO - Larvae noneconomic on wheat in Tuscarawas County and light on oats and wheat in Wayne County. (Treece). Eggs averaged 51 per square foot, larvae 25 per sweep, and adults 311 per 100 sweeps of oats. Adult and larval feeding on 100 percent of plants checked in Logan County. Eggs averaged 43 per square foot, larvae 195 and adults 53 per 100 sweeps of oats. Yield loss estimated at 4 percent in Miami County. (Forrester). Larvae ranged 3-8 per stem, estimated 10 percent yield reduction in Pike County. (Wheeler). Occasional larvae on wheat, ranged 1-7 per stem of oats in Pickaway County. Field edges appear gray due to feeding. (Blair). PENNSYLVANIA - First and second instars common on oats in eastern counties; 50 per 100 sweeps near Enon Valley area in Beaver and Lawrence Counties. Some farmers treated infested fields May 28. (Adams). Approximately 19,000 Anaphes flavipes (a mymarid wasp) released at 11 sites in 8 counties June 3. (Eckess). TENNESSEE - Extensive surveys in Campbell, Claiborne, Fentress, Pickett, Clay, Macon, Overton, Cumberland, and Chester Counties negative. (PPD). ILLINOIS - Adult collected on oats in Bond County by L. Niggli on May 24, larvae and adult in Jefferson County by J.E. Schafer and Crippen on May 25, larvae in Washington County by J.E. Schafer on May 26, larvae in Cass County by R. Denney on May 25, 1971. INDIANA - Larvae collected on oats in Clinton County by J.C. Larson on May 28. KENTUCKY - Larvae collected on oats in Daviess and Ohio Counties May 26, Butler County May 25, and Hancock County May 25, 1971, by W.A. Smith. MARYLAND - Adult on oats in Baltimore County by L. Selmon May 28, 1971. Determinations by R.E. White. These are new county records. (PPD). WEST VIRGINIA - Averaged 2 larvae and 3 eggs per square foot in Hampshire County, 2 larvae in Hardy County, June 3, 1971. On oats, 2 larvae collected in Morgan County, 2 larvae and one adult in Berkeley County, 5 larvae in Jefferson County, June 2, 1971. Morgan, Jefferson, and Berkeley are new county records. Determined by J.D. Hacker and A.E. Tustin. (W. Va. Ins. Sur.).

EUROPEAN CRANE FLY (Tipula paludosa) - WASHINGTON - Cooperative soil irritant survey for 1971 completed in Whatcom and Skagit Counties; 627 sites sampled as of June 1 representing 200,640 acres of pasture, parks, and residence lawns. Of 70 samples submitted for identification, 9 determined T. paludosa. Positive finds show southern most movement of 4 miles from 1970 finds. Most southerly find 3 miles north of Bellingham city limits. (Rosander).

GRASS BUGS - IDAHO - Irbisia spp. numerous on wild ryegrass, crested wheatgrass, and needle and thread grasses in Glenns Ferry area of Elmore County. (Evans). UTAH - I. pacifica adults 1-2 per 10 sweeps on planted grasses at Spring Lake, Utah County. Large green nymphs of another grass bug averaged 6 per 10 sweeps. Grass showed feeding markings. (Knowlton). WYOMING - Labops hesperius infested 50 acres of intermediate wheatgrass east of Chugwater, Platte County, on May 25. Abundant in roadside ditches. (Hardy). SOUTH DAKOTA - Labops sp. damaged 150 acres of crested wheatgrass near Martin, Bennett County. Controls applied. Ranged 30-45 per sweep of grass (crested wheatgrass, some bluegrass) in ditches and few rows of winter wheat in Shannon County. Ranged 20-30 per sweep of grass in pasture, some damage, in Bennett County. (Zimmerman, Nies).

GRASSHOPPERS - WASHINGTON - Oedaleonotus enigma fourth instars averaged 7 per square yard on 5,000 acres between West Richland and Benton City, Benton County. First instars of Melanoplus sanguinipes appearing in Rex and Del Rio area, Douglas County; cool wet weather delayed movement. (Nonini). WYOMING - Aulocara elliotti and M. confusus hatched north of Hartville, Platte County, May 25. (Hardy). UTAH - Unspecified nymphs on rangelands. Small but heavy infestation north of Gunnison, Sanpete County, and threatening population west of Utah Lake, Utah County (Thornley et al.); 2 per sweep in alfalfa at Salem, Utah County (Knowlton). MINNESOTA - M. femurrubrum eggs in eyespot stage in southwest district; only coagulated eggs found in west-central district. (Minn. Pest Rpt.). OKLAHOMA - Nymphal surveys during May showed general hatch underway in all counties surveyed, although dry weather slowed hatch in southwest area. Heaviest counts in south-central and eastern counties in crop margins, roadsides, Bermuda grass pastures, and weedy grasslands; ranged 5-25 per square yard, occasionally up to 50. In western and southwestern counties grassland counts ranged 3-15 per square yard, roadside counts 5-20. Surveys week ending May 14, in 9 northwest and panhandle counties, showed 5-8 species hatching in southern portion and 3-5 species in northern areas. As of May 26, hatch not complete in any area surveyed. Mainly M. femurrubrum currently heavy in alfalfa in Caddo County. (Okla. Coop. Sur.).

GYPSY MOTH (Porthetria dispar) - NEW HAMPSHIRE - Many third instars on oaks; heavy defoliation expected in some localities in Madison, Carroll County. (Morse). VERMONT - Much wind dispersion of larvae in Champlain Valley. (Nielsen, June 1). NEW YORK - Outbreak in apple orchard apparently after "pink" spray, no egg masses found, in Westchester County. (N.Y. Wkly. Rpt.). RHODE ISLAND - Some second instars, many complaints in Kent County. (Reli, May 27). NEW JERSEY - Larvae found only in Monmouth County blueberry fields. First 2 instars seemed to prefer blossoms over foliage and destroyed large numbers of flowers in areas close to oak forest. Larvae common on trees and shrubs in central counties. Most populations in home grounds situations second and third instars; probably blown in during May from nearby wooded areas. (Ins.-Dis. Newsltr.).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Four-day-old fly trapped at Corona, Riverside County; 50 additional traps placed in area. Surveillance will be increased as necessary. (PPD).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Few moths caught in emergence cages at Safford, Graham County. Two moths caught in 10 traps between Parker and Poston, Yuma County. (Ariz. Coop. Sur.). CALIFORNIA - Sterile moths released in Kern County 5,454,000; total to date 24,166,250. (PPD).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Larvae continue to damage cotton in 30-acre field at Excel, Monroe County. About 20 percent of corn plants completely destroyed and 10 percent of remaining plants damaged by larvae in 15-acre field at Locust Fork, Blount County. (Green).

HAWAII INSECT REPORT

Turf, Pastures - Larvae of a BILLBUG (Sphenophorus venatus vestitus) light, about 1 per 2 square feet, in Bermuda grass lawn at Kaneohe, Oahu. Larvae and adults averaged 10 per square foot in same host at Hawaii Kai. (Funasaki, Kashiwai). GRASS WEBWORM (Herpetogramma licarsisalis) larvae 1 per square foot in Kikuyu grass pastures at Haiku and Waihee, Maui. (Ah Sam).

Fruits and Nuts - All stages of a SWALLOWTAIL BUTTERFLY (Papilio xuthus) collected on citrus trees at Ewa, Oahu, about 7 miles from original site. Delimiting surveys in Moanalua and Tripler areas of Oahu negative. (Rose et al.). A CLICK BEETLE (Chalcolepidius erythroloma) adult observed feeding on Litchi fruit at Nuuanu Valley, Oahu. C. erythroloma relatively rare in State and this host relationship apparently incidental. (Howarth).

Ornamentals - All stages of CYCLAMEN MITE (Steneotarsonemus pallidus) heavy, as many as 600 per blossom, on Chrysanthemum at Wahiawa, Oahu. This is a new host record. Previously reported on various vegetables and ornamentals including watercress (Jasminum sambac) and African-violet. (Kitagawa). TUMID SPIDER MITE (Tetranychus tumidus) light on Anthurium blossoms at Hilo, Hawaii. This is a new island and host record. Previously reported from island of Oahu; this pest commonly found on Amaranthus spinosus, sweetpotato, and corn. (Kobayashi). Delimiting surveys for an ADELGID (Pineus pini) completed and infestations noted at Hawaii Kai, Kaneohe, Liliha, and Manoa, Oahu. Nurseries, garden shops, and residences included in survey. Trees involved in original infestation at Waikii, Hawaii, to be destroyed. (Kashiwai, Funasaki).

Forest and Shade Trees - All stages of CUBAN LAUREL THRIPS (Gynaikothrips ficorum) moderate on young leaves of 6 Chinese banyan trees (Ficus retusa) at Lahaina and Wailuku, Maui; about 25 percent of young leaves affected. Nymphs and adults averaged 14 per leaf; an anthocorid predator trace. (Miyahira).

Man and Animals - Heavy swarming of FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus) and Cryptotermes brevis (a powderpost termite) at Kahului and Wailuku, Maui. Moderate to heavy in light trap collections at Kailua, Kaneohe, Ewa, and Waipahu, Oahu, during last week of May; adults ranged 30-300 per light trap. Highest count 150 last week of April. (Miyahira, Au).

Miscellaneous Pests - A GRASSHOPPER (Oedaleus abruptus) adults light to moderate in dry grassy area at Hickam Air Force Base and Barbers Point, Oahu; as many as 7 per square yard at Hickam AFB. (Garcia, Olson). KOU LEAFWORM (Ethmia colonella) moderate to heavy on kou (Codia subcordata) trees at Maunakea Beach, Kawaihae, and Kona, Hawaii; defoliation 25-33 percent on up to 20 percent of trees. (Matayoshi).

**DETECTION**

New State Record - APPLE MEALYBUG (Phenacoccus aceris) CALIFORNIA - Siskiyou County. (p. 414).

New County and Island Records - ALFALFA WEEVIL (Hypera postica) OKLAHOMA - Love, McIntosh, Nowata, Craig; ARKANSAS - Arkansas; MISSOURI - Andrew, Atchison, Buchanan, Gentry, Worth; NEBRASKA - Saline, Fillmore, Thayer, Nuckolls, Webster, Franklin, Adams, Clay, Lancaster. (p. 410). A BLISTER BEETLE (Hornia minutipennis) OKLAHOMA - Osage (p. 418). BROWN SPIDER BEETLE (Ptinus clavipes) IOWA - Dallas (p. 418). CEREAL LEAF BEETLE (Oulema melanopus) ILLINOIS - Bond, Jefferson, Washington, Cass; INDIANA - Clinton; KENTUCKY - Daviess, Ohio, Butler, Hancock; MARYLAND - Baltimore; WEST VIRGINIA - Morgan, Jefferson, Berkeley. (p. 419). HOLLYHOCK WEEVIL (Apion longirostre) VIRGINIA - Wythe, Bland, Pulaski (p. 416). MEADOW PLANT BUG (Leptopterna dolabratus) MISSOURI - Clinton, Grundy, Clay, Livingston, Ray (p. 409). A MEALYBUG (Humococcus caritus) CALIFORNIA - Imperial (p. 409). NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) MISSOURI - New Madrid (p. 416). A PSYLLID (Trioza tripunctata) FLORIDA - Volusia (p. 415). RUSTIC BORER (Xylotrechus colonus) WEST VIRGINIA - Wyoming (p. 418). TUMID SPIDER MITE (Tetranychus tumidus) HAWAII - Hilo (p. 421).









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