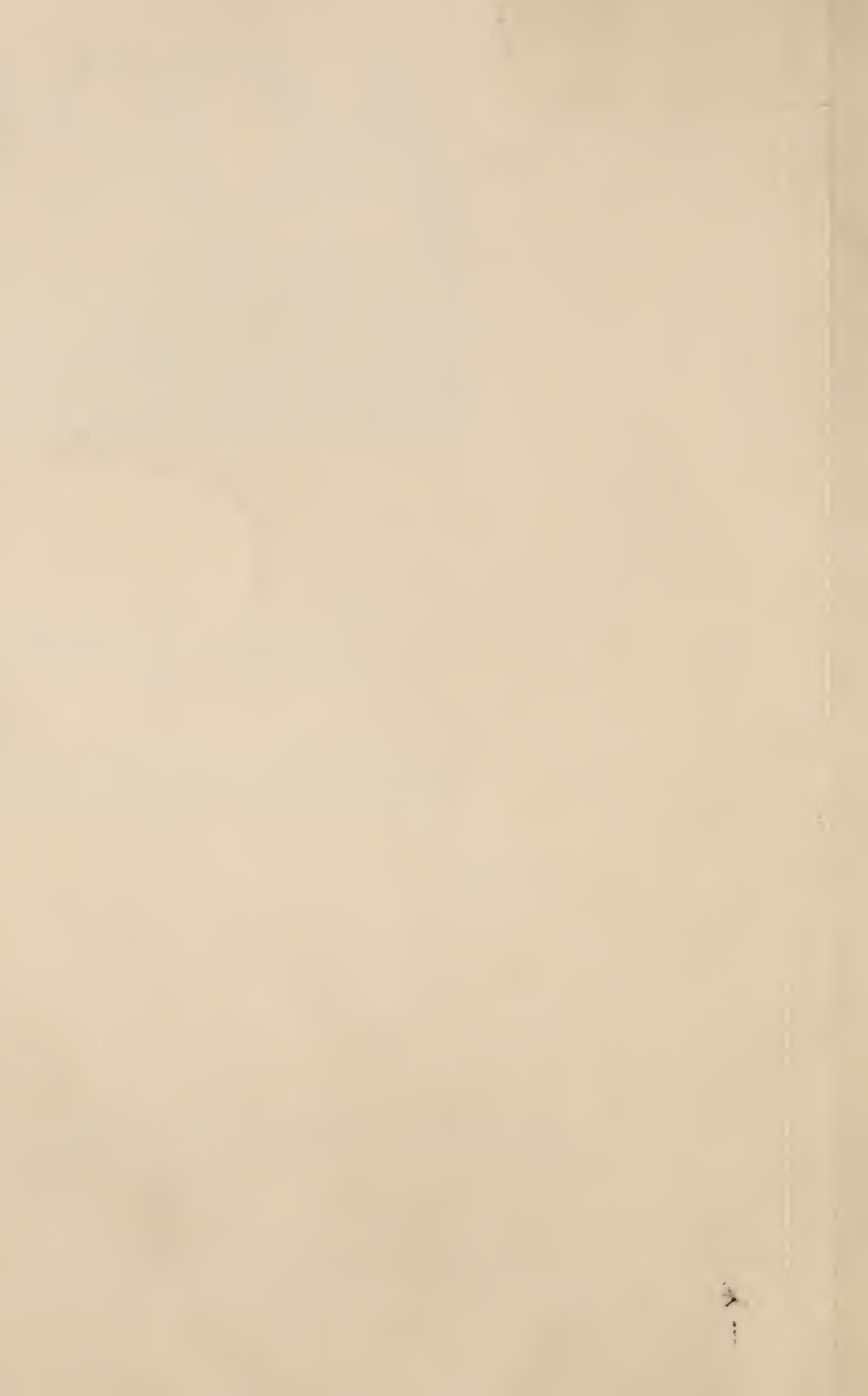


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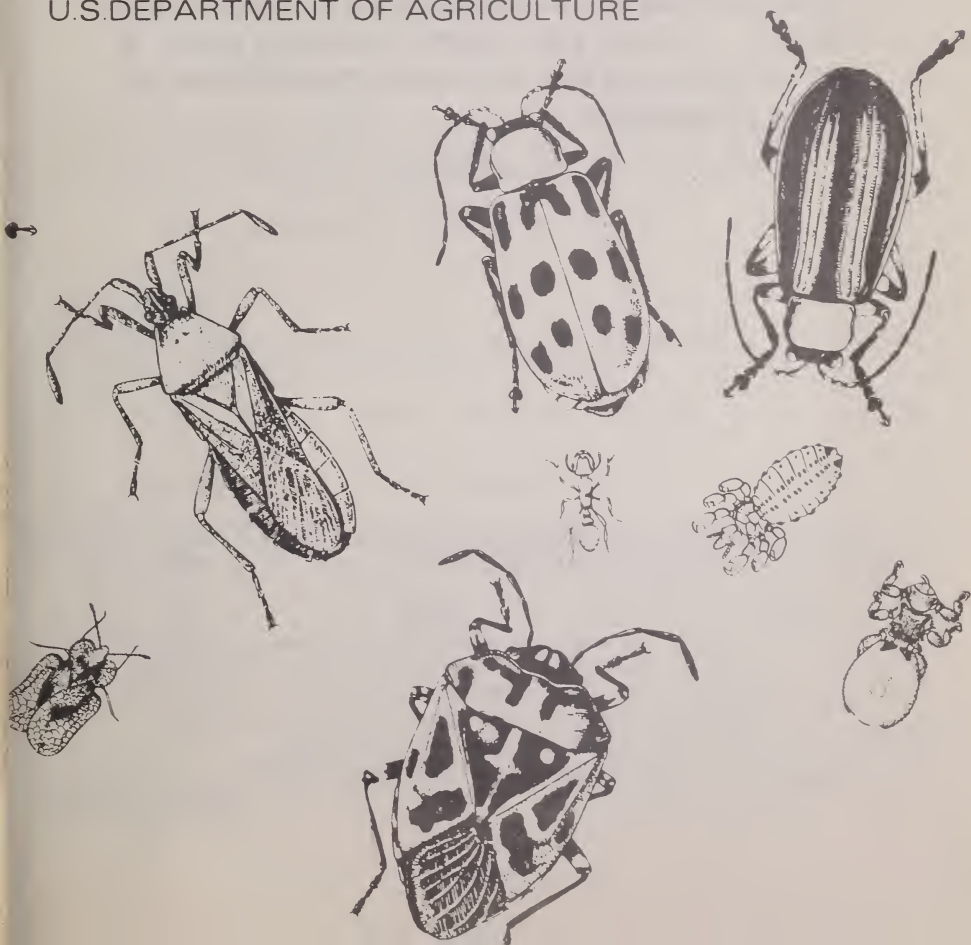


Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
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U.S. DEPARTMENT OF AGRICULTURE



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

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

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

CEIR

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

EUROPEAN CORN BORER winter survival low in northwest Illinois and southwest Kansas. (p. 165).

DOUGLAS FIR TUSSOCK MOTH expected to cause heavy defoliation in eastern Oregon. CALIFORNIA FLATHEADED BORER severely damaged Jeffrey pines on Cleveland National Forest in southern California. (p. 167).

There were no confirmed SCREWORM cases reported in continental U.S. this period. (p. 168).

CEREAL LEAF BEETLE active earlier than usual in southwest Michigan due to unseasonably warm weather. (p. 170).

Detection

New State records include 2 APHIDS and a EULOPHID parasite of leafminer flies in Idaho (pp. 167, 168, 169), an ITCH MITE in California (p. 169), and STRIPED MEALYBUG in Arizona (p. 165).

For new county records see page 171.

Special Reports

Summary of Insect Conditions in the United States - 1972
Forest Insect Highlights (pp. 173-177).

Distribution of Giant Hornet. Map. (p. 172).

Some First Occurrences of the Season

EASTERN TENT CATERPILLAR larvae in Kentucky, Mississippi, Alabama, and Oklahoma. SPRING CANKERWORM male and female moths in Minnesota. ELM LEAF BEETLE overwintered adults in Kentucky and Colorado. Adults and nymphs of a TREEHOPPER on oak in Florida. HORN FLY adults in southern Mississippi. EASTERN SUBTERRANEAN TERMITE swarms in Delaware.

Reports in this issue are for week ending March 16 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING MARCH 19

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

PRECIPITATION: Flagstaff, Arizona, began Monday, March 12, with 6 inches of snow bringing the total from the storm extending back to the previous week to 9 inches. Monday's snow brought the Flagstaff total to an incredible 140 inches since October 1. A storm developing in the Southwest caused widespread precipitation from southern California into the Plateau region. It rained in the valleys and snowed at higher elevations. While the Great Lakes, Ohio Valley, and New England remained cloudy, the southern Plains area, across Tennessee and the Atlantic States enjoyed sunshine. Early Tuesday a vigorous late winter storm crossed the Rockies and blanketed northern Arizona and southern Utah with snow. Salt Lake City recorded 3 inches. At higher elevations over one foot of snow accumulated. A dangerous storm moved into the Plains; southerly winds gusted up to 40 m.p.h. Thunderstorms developed in an explosive manner Tuesday morning in the central and southern Plains. Wind damage occurred at Lees Summit, Missouri, about noon. A tornado hit Newkirk, Oklahoma, in mid-afternoon. The path of the storm measured 30 miles long and one to two blocks wide as it tore through the center of the town damaging the courthouse, schools, businesses, cars, and homes. Ahead of the severe storm, heavy rain fell in places. Part of Kansas City, Missouri, received 1 inch of rain in an hour, at Quincy, Illinois 2 inches. Most of the East and South remained sunny and warm. By Wednesday an enormous storm centered in the central Plains moved slowly to the northeast. Tropical air flowing across the Mississippi Valley provided heat and moisture to trigger violent thunderstorms. Late Wednesday, 21 tornadoes were sighted from Texas to Illinois. North of the storm, a blizzard shaped up in the North Central States. Cheyenne, Wyoming, reported 13 inches of snow driven by wind gusts up to 60 m.p.h. Weather of the week continued on page 178.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

GREENBUG (*Schizaphis graminum*) - OKLAHOMA - Averaged 5 per linear foot in wheat checked in Washita and Caddo Counties. (Okla. Coop. Sur.). MISSOURI - Light, ranged 0-10 per row foot in wheat throughout southwest area. (Munson). ARKANSAS - Averaged less than 100 per 100 sweeps in small wheat in northwest area. (Boyer). MISSISSIPPI - This grain pest and other aphids light in wheat field in Noxbee County week ending March 9; no damage seen. (Robinson).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - ILLINOIS - Preliminary overwintering survival survey indicates survival much lower than normal (less than 50 percent) in Henderson and Knox Counties. This area had heaviest second-generation population in State in 1972. Survival appears normal (80-85 percent) in east district. (Cooley). KANSAS - Larval winter survival generally less than 25 percent in cornfields checked in Stevens County. (Bell).

WESTERN CORN ROOTWORM (*Diabrotica virgifera*) - WISCONSIN - Collected August 18, 1970, near Mauston, Juneau County, and August 20, 1970, near Nabob, Washington County. Determinations confirmed by R.E. White. These are new county records. (Wis. Ins. Sur.).

A WIREWORM (*Melanotus communis*) - FLORIDA - All larval instars on sugarcane; more pupae and adults present than larvae, which is unusual for so early in season. Pupae and adults usually do not develop until May and June on sugarcane in Palm Beach County. (Fla. Coop. Sur.).

GRASS THRIPS (*Anaphothrips obscurus*) - IDAHO - This species and *Thrips tabaci* (onion thrips) collected in cornfield near Shoshone, Lincoln County, August 3, 1968, by R. Portman. Determined by K. O'Neill. These are new county records. (Portman).

TURF, PASTURES, RANGELAND

CHINCH BUG (*Blissus leucopterus leucopterus*) - KANSAS - Annual winter survey, including 57 counties, completed March 9. Total of 219 bunch grass samples taken. Samples generally indicated non-economic infestations. Moderate to near severe populations found in at least one sample in McPherson and Montgomery Counties. Heaviest count, 914 per square foot, taken in little bluestem from Montgomery County. Number of bugs surviving until early March 1973 generally lower than 1971 and 1972 in north-central and central districts. Counts in 1973 remained about same as 1972 in northeast and south-central districts, counts slightly higher in east-central and southeast districts. (Bell).

AN ANTHOCORID BUG (*Orius tristicolor*) - IDAHO - Collected from bluegrass at Post Falls, Kootenai County, July 1, 1970, by R. Portman. Determined by J.L. Herring. This is a new county record. (Portman).

STRIPED MEALYBUG (*Ferrisia virgata*) - ARIZONA - Collected on Texas sage at Mesa, Maricopa County, by R. Toth February 9, 1973. Determined by T. Halstead. This is a new State record. (Ariz. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - OKLAHOMA - Percent terminal infestations in alfalfa in south-central counties ranged as follows (number of fields in parenthesis): Bryan 11 (2); Marshall 48 (1); Johnston 92 (1); Carter 52 (1); Murray 88 (1); Garvin 30-48 (3); and Pontotoc 24 (1). Adults light in most fields, some fields in Bryan County treated. Foliage damage averaged less than 10 percent except in Bryan County where loss ranged 15-20 percent. Larvae ranged 20-30 and adults 6-8 per square foot in Caddo, Washita, Grady, and Garvin Counties; larvae ranged 30-40 per square foot in Stephens County. Adults averaged 15 and larvae 1 per 25 sweeps in Wagoner County; 16 percent of terminals infested in Lincoln County. (Okla. Coop. Sur.). ARKANSAS - Survey continued negative in Washington County. (Boyer). MISSOURI - Larvae observed in all alfalfa in southern areas. Counts in southwest ranged 3-11 larvae per 10 stems. Infested plants averaged 30 percent in south-central area. (Munson).

INDIANA - H. postica egg counts ranged 200-300 per square foot in some alfalfa in Knox and Harrison Counties. Larvae ranged 0-4 per 50 stems in Daviess, Dubois, Spencer, Crawford, Harrison, and Washington Counties. First through third instars predominant. One field with 20 percent feeding damage in Spencer County. (Wilson, Meyer). KENTUCKY - Larvae, mostly first instar, and adults active in alfalfa in Warren and Barren Counties. Larvae infested 75 percent of alfalfa tips. Adults averaged 68 per 100 sweeps. (Barnett, Parr). VIRGINIA - Survey conducted on 9 fields of alfalfa (51 acres) in Washington, Powhatan, Roanoke, Bedford, Wythe, and Hanover Counties. Based on 5 samples of 10 tips from each field, infestation averaged 12.6 percent. Defoliation less than one percent. (Allen et al.).

TENNESSEE - Surveys in western part of State indicate H. postica major "hatchout" not yet occurred. Counts per 50 tips per field by county as follows: Madison (1 field) - larvae 2, tips infested 2, no damage; Tipton (3 fields) - larvae 4, tips infested 4, no damage; Lauderdale (1 field) - larvae averaged 2.5, 80 percent of tips infested 65 percent damaged; Franklin - 10 percent of tips infested. (Cagle). MISSISSIPPI - Vacuum samples from alfalfa near Scott, Bolivar County, indicated 3,500 adults and 8,700 immatures per acre week ending March 9. (Schuster).

CLOVER LEAF WEEVIL (Hypera punctata) - MISSOURI - Counts in alfalfa in southwest area ranged 0-8 larvae (averaged 3.5) per square foot. (Munson).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Ranged 5-25 per 10 sweeps of alfalfa in Bryan County and 10-12 per linear foot in Caddo, Washita, Grady, and Garvin Counties. Very light (less than 5 per square foot) in Murray, Carter, Marshall, Johnston, Pontotoc, Lincoln, and McCurtain Counties. (Okla. Coop. Sur.). ARKANSAS - Numbers remain low, 100-150 per 100 sweeps, in alfalfa in Washington County. (Boyer). ALABAMA - Light, 5-15 per 5 sweeps of bur and crimson clovers in lawns and fields in Lee County. (McQueen).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Light, up to 1 per 10 sweeps in alfalfa in most south-central counties. (Okla. Coop. Sur.).

SUGAR BEETS

BEE T ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae ranged 0-30 per 100 whorls in sugar beets in Yuma County. (Ariz. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

TOMATO PINWORM (Keiferia lycopersicella) - FLORIDA - Heavy on tomatoes at Homestead, Dade County. (Fla. Coop. Sur.).

BEE T ARMYWORM (Spodoptera exigua) - FLORIDA - Averaged about 1 late-instar larva per row foot in unsprayed bell peppers at Delray Beach, Palm Beach County. (Fla. Coop. Sur.).

GENERAL VEGETABLES

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Required controls to maintain quality standards on some lettuce in Salt River Valley, Maricopa County. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Required controls on lettuce in parts of Yuma County. (Ariz. Coop. Sur.).

ORNAMENTALS

APHIDS - IDAHO - Nasonovia pallida and Capitophorus elaeagni collected September 12, 1972, at Paris, Bear Lake County, by Johnson. Determined by L.M. Russell. N. pallida is a new State record, C. elaeagni a new county record. (Portman).

FOREST AND SHADE TREES

DOUGLAS FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) - OREGON - Incidence of polyhedrosis virus in first-instar larvae low (averaged less than 1 percent) throughout infested area in eastern counties. Heavy defoliation expected this season. (Larsen).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - OREGON - Survey of 183 randomly selected pines in Hermiston, Umatilla County, revealed 30 trees attacked; 6 of total trees sampled contained live larvae. Based on above data, winter mortality appears near 80 percent. Lowest temperature was -11 degrees F. for week of December 8-15. Infestations difficult to find in Hermiston due to extremely small size of tents and pitch exudations. Larvae easily found at McNary Dam. (Larson, Bowman).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - ALABAMA - Additional groups of 2-10 pine trees observed dying along highways in Cleburne, Randolph, Chambers, and Lee Counties. Nature of recent mortality indicates D. frontalis and Ips spp. (engraver beetles) active. Woodpeckers very active on several recently dead trees feeding on larvae, pupae, and adults. (Barwood et al.).

CALIFORNIA FLATHEADED BORER (Melanophila californica) - CALIFORNIA - Population explosion of this pest of Jeffrey pine observed on private and forest land in vicinity of Cleveland National Forest, San Diego County. About 6,000 trees severely damaged. Salvage operations planned. (Cal. Coop. Rpt.).

PINE BARK APHID (Pineus strobi) - TENNESSEE - Heavy on white pine in 2 Nashville locations. (Schmitt).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - KENTUCKY - Egg hatch noted in southern areas of State and as far north as Woodford, Fayette, Franklin, and Shelby Counties. (Barnett).

MISSISSIPPI - Eggs hatched in most counties in lower two-thirds of State. Webs noted with young larvae feeding on wild plum, peach, and apple trees. (Robinson). ALABAMA - First hatch of season noted on black cherry trees in Lee County; 8-10 days earlier than usual. First-instar larvae and 3 to 5-inch tents present. (McQueen). FLORIDA - Larvae nearly full grown on wild plum at Gainesville, Alachua County, March 16. (Fla. Coop. Sur.). OKLAHOMA - First larvae of season noted on wild plum in Love County March 13. (Okla. Coop. Sur.).

SPRING CANKERWORM (Paleacrita vernata) - MINNESOTA - Male and female moths reported from several locations in St. Paul and Minneapolis in areas where infestations moderate to heavy during 1972. (Minn. Pest Rpt.).

ELM LEAF BEETLE (Pyrrhalta luteola) - KENTUCKY - Adults emerged from hibernation and nuisance to homeowners in Washington County. (Barnett, Scheibner). COLORADO - Overwintering adults active in Loveland area, Larimer County. (Fronk).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - MINNESOTA - Survey of elm along St. Croix River north of Stillwater, Washington County, and along Crow River in Hennepin and Wright Counties revealed that only galleries of this species were numerous, especially in areas where Dutch elm disease had killed many trees. (Minn. Pest Rpt.).

AN APHID (Chaitophorus populifolii) - IDAHO - Collected by Edmiston on black cottonwood at Mackay, Custer County, August 18, 1972. Determined by L.M. Russell. This is a new State record. (Edmiston).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - OKLAHOMA - Damaged live oak trees in Stephens and Kiowa Counties. (Okla. Coop. Sur.).

A TREEHOPPER (Platycotis vittata) - FLORIDA - Adults and full-grown nymphs collected on water oak at Gainesville, Alachua County, March 13. First report of season. (Fla. Coop. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - There were no confirmed cases reported in the continental United States during the period March 4-10. Light case incidence in previous weeks of 1973 provides indication that confirmed cases are still at low ebb. Total of 52 confirmed cases reported in Mexico. Number of sterile flies released in U.S. this period totaled 70,956,000, all in Texas. Total of 192,372,000 sterile flies released in Mexico. (Anim. Health).

CATTLE GRUBS (Hypoderma spp.) - KENTUCKY - Larvae averaged 2.1 on backs of untreated Holstein dairy cows of various ages, 11 on calves (300-600 lbs), 8.4 on bred heifers, and 46 on five Holstein heifers in Fayette County. Of those observed, 41 percent were H. lineatum and 59 percent were H. bovis. (Barnett, Knapp).

HORN FLY (Haematobia irritans) - MISSISSIPPI - First emergence in State noted March 4-10 in southern counties. Infestation in Forrest County ranged 15-20 per head on 25 beef cattle. First emergence noted in Oktibbeha and Monroe Counties March 12. Counts in 4 beef herds ranged up to 15 per animal. (Robinson).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Overwintering adults located in late February currently observed on nearby beef cattle; herd of 50 head with up to 5 (average 2) flies per animal. (Robinson).

CATTLE LICE - OKLAHOMA - Lice, mainly Haematopinus eurysternus (shortnosed cattle louse), still heavy on several cattle herds in Payne County; moderate in Coal County. (Okla. Coop. Sur.).

AN ITCH MITE (Cheyletiella yasguri) - CALIFORNIA - Taken on dog at Stockton, San Joaquin County, during March 1973. Collected and determined by D.C. Olin, confirmed by Ben Keh. This ectoparasite of dogs has been known to cause dermatitis of man in Europe and the Midwest and Northeast United States, as was the case with this dog owner. This is a new State record. (Cal. Coop. Rpt.).

HOUSEHOLDS AND STRUCTURES

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - DELAWARE - First adult swarms of season noted in New Castle County. (Burbutis).

MISCELLANEOUS WILD PLANTS

A NYMPHALID BUTTERFLY (Vanessa carye) - ARIZONA - Adults heavy from Yuma, Yuma County, to Tucson, Pima County. Food source, Malva parviflora (cheeseweed), abundant throughout area. (Ariz. Coop. Sur.).

STORED PRODUCTS

RICE WEEVIL (Sitophilus oryzae) - NORTH CAROLINA - Checks at 10 feed mills (30 bins sampled) in Sampson, Lenoir, Pitt, Franklin, and Person Counties indicate this pest is of primary concern in stored corn. Weevils ranged 5-100 per cup of corn near bottoms of bins in 8 of 10 feed mills. Bins swept and treated prior to filling. (Hunt, March 2).

BENEFICIAL INSECTS

A EULOPHID WASP (Diglyphus intermedius) - IDAHO - This parasite of Liriomyza spp. (leafminer flies), collected from bluegrass at Rathdrum, Kootenai County, June 1, 1970, by R. Portman. Determined by B.D. Burks. This is a new State record. (Portman).

HONEY BEE (Apis mellifera) - SOUTH DAKOTA - Overwintering mortality light in eastern area. Honey stocks expected to be lower than normal, due in part to mild winter. Supplemental feeding probably will be necessary earlier than usual to keep bee losses at minimum. (Walstrom, Mar. 9). OKLAHOMA - Active about wild plum blossoms in Atoka County. (Okla. Coop. Sur.).

A LADY BEETLE (Coleomegilla maculata) - MISSISSIPPI - Heavy overwintered adult populations in Delta counties dispersing; vacuum samples in Bolivar County indicated 58,000 per acre in alfalfa. (Schuster).

DAMSEL BUGS (Nabis spp.) - OKLAHOMA - Ranged light to moderate in wheat and alfalfa in Washita County. Some adults seen in alfalfa in south-central counties. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

BLACK IMPORTED FIRE ANT (Solenopsis richteri) - ALABAMA - Winged mating forms reported from 25-30 percent of mounds in Randolph and Chambers Counties for first flights of season. Flights also observed in Crenshaw County. (Barwood et al.).

CEREAL LEAF BEETLE (Oulema melanopus) - MICHIGAN - Activity due to unseasonably warm weather observed in southwest area week ending March 11. Feeding signs on wild grasses at these sites also observed. This is about 30 days earlier than normal. (Berger).

TULIPTREE SCALE (Toumeyella liriodendri) - CALIFORNIA - Two properties found infested in survey in San Leandro area, Alameda County. All other inspections negative. (Cal. Coop. Rpt.).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 3/9-15, BL, ARMYWORM (Pseudaletia unipuncta) 1, BLACK CUTWORM (Agrotis ipsilon) 1, GRANULATE CUTWORM (Feltia subterranea) 42, YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) 2. KENTUCKY - Lexington, 3/13-15, BL, VARIEGATED CUTWORM (Peridroma saucia) 1, YELLOWSTRIPED ARMYWORM 1.

HAWAII INSECT REPORT

Corn - CORN EARWORM (Heliothis zea) moderate on mature sweet corn at Omaopio, Maui; one or more young larvae in 30 percent of ears. Eggs heavy on silks; one or more eggs on about 100 percent of ears. (Miyahira).

General Vegetables - CHINESE ROSE BEETLE (Adoretus sinicus) caused light damage to nearly mature and seedling bush beans at Hoolehua, Molokai. BEAN FLY (Melanagromyza phaseoli) light in bush bean planting at Hoolehua; infested 7 percent of petioles. Negligible in adjacent nearly mature and seedling bush beans. ONION THRIPS (Thrips tabaci) nymphs and adults ranged 3-11 (light) per plant in planting of bulb onions at Pulehu, Maui. Also light in 10 acres at Kaunakakai, Molokai; ranged 0-14 per plant. Older leaves show effect of previous heavy infestation. BEAN POD BORER (Maruca testulalis) larval activity heavy in snap beans at Kurtistown, Hawaii Island; about 75 percent of pods affected. Trace in bush beans at Hoolehua, Molokai; adults light. (Matayoshi, Kawamura). GREENHOUSE WHITEFLY (Trialeurodes vaporariorum), LEAFMINER FLIES (Liriomyza spp.), and CARMINE SPIDER MITE (Tetranychus cinnabarinus) trace in snap beans at Haleiwa, Oahu; greenhouse whitefly and larval mines of Liriomyza spp. light in adjacent plantings of seequa and bittermelon. Larval mines of Liriomyza spp. heavy in greenhouse tomatoes at Pupukea, Oahu. (Kawamura).

DETECTION

New State Records - APHIDS - Chaitophorus populifolii - IDAHO - Custer County (p. 168). Nasonovia pallida - IDAHO - Bear Lake County (p. 167). A EULOPHID WASP (Diglyphus intermedius) - IDAHO - Kootenai County (p. 169). AN ITCH MITE (Cheyletiella yasguri) - CALIFORNIA - San Joaquin County (p. 169). STRIPED MEALYBUG (Ferrisia virgata) - ARIZONA - Maricopa County (p. 165).

New County Records - AN ANTHOCORID BUG (Orius tristicolor) IDAHO - Kootenai (p. 165). AN APHID (Capitophorus elaeagni) IDAHO - Bean Lake County (p. 167). GRASS THRIPS (Anaphothrips obscurus) IDAHO - Lincoln (p. 165). ONION THRIPS (Thrips tabaci) IDAHO - Lincoln (p. 165). WESTERN CORN ROOTWORM (Diabrotica virgifera) WISCONSIN - Juneau, Washington (p. 165).

CORRECTIONS

CEIR 22(49-52):781 - AN ENCYRTID WASP (Aphycus fumipennis) - ARIZONA - Line 3: "Determined by D.R. Miller," should read "Determined by B.D. Burks."

CEIR 23(7):72 - SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Line 5: "... million board feet ..." should read "... thousand board feet ..."

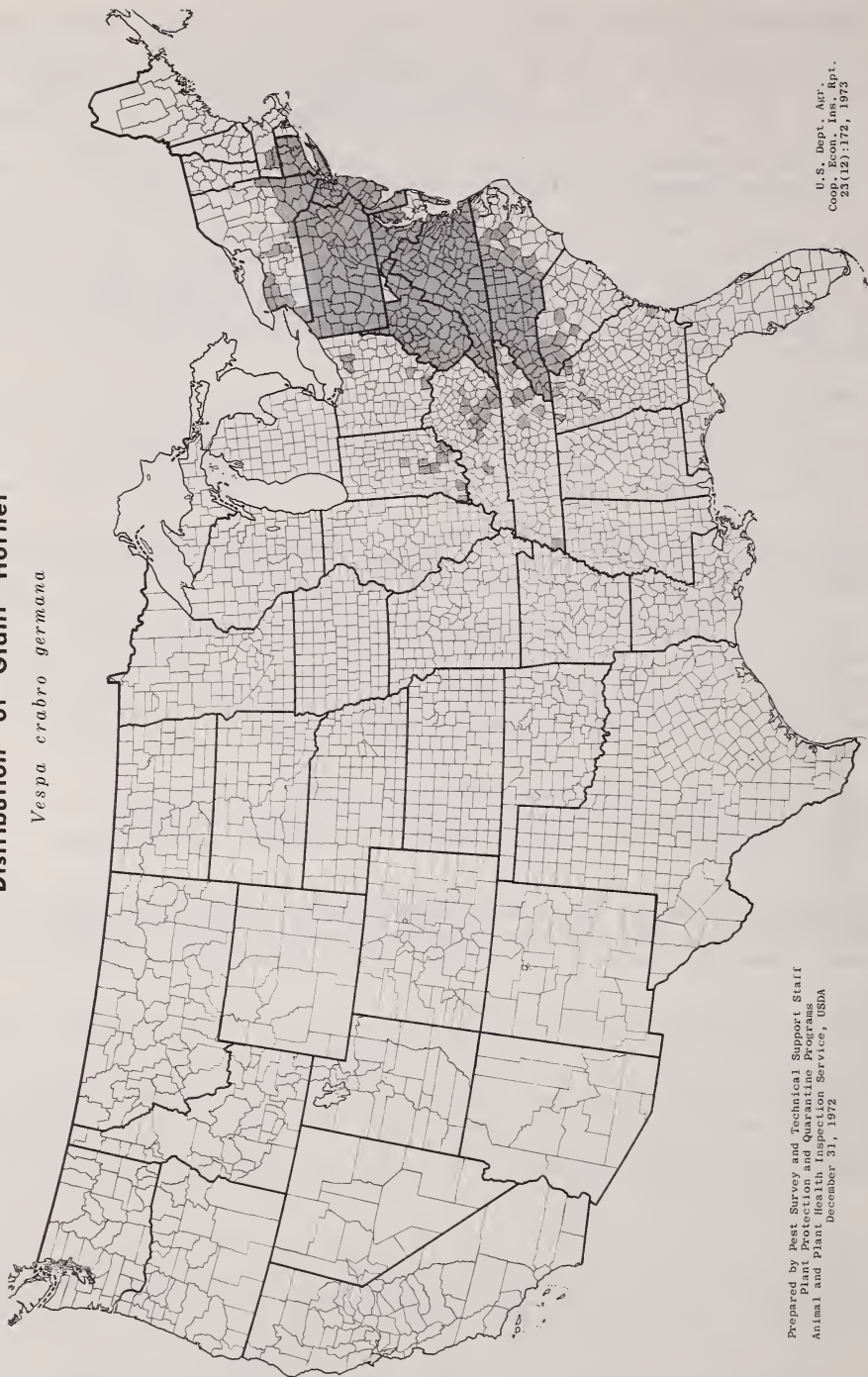
CEIR 23(7): CENTERFOLD - JAPANESE BEETLE QUARANTINES (map) - ILLINOIS - Delete red dot in Kane County; not a regulated area. Red dots in Rock Island, Madison, and St. Clair Counties should be changed to green dots; these counties are not regulated, but are suppressive areas. INDIANA - Delete red dot in Blackford County; this is not a regulated area. (PPQ).

CEIR 23(10):129 - MISCELLANEOUS WILD PLANTS - A BILLBUG (Sphenophorus minimus) - VIRGINIA - "... Carduus mutans (bristlethistle) ..." should read "... Carduus acanthoides (bristlethistle) ..." (Allen).

CEIR 23(11):148 and 149 - NEW UNITED STATES RECORDS and NEW STATE RECORDS, respectively - Callosobruchus albocallosus Pic should read Callosobruchus pulcher Pic. (Kawamura).

Distribution of Giant Hornet

Vespa crabro germana



Prepared by Pest Survey and Technical Support Staff
Plant Protection and Quarantine
Animal and Plant Health Inspection Service, USDA
December 31, 1972

U. S. Dept., Agr.
Coop. Econ. Ins. Rpt.
23(12):172, 1973

FOREST INSECT HIGHLIGHTS 1/

Situation in the West

BARK BEETLES were probably the most damaging forest insects in the Western States in 1972. Major epidemics were reported for mountain pine beetle, Douglas-fir beetle, and spruce beetle.

MOUNTAIN PINE BEETLE (Dendroctonus ponderosae) activity was reported in WASHINGTON, OREGON, CALIFORNIA, IDAHO, MONTANA, WYOMING, UTAH, SOUTH DAKOTA, and COLORADO. Greatest losses occurred on the Targhee National Forest of IDAHO and WYOMING where more than 200 million board feet of prime timber is dying. This infestation already has destroyed several hundred million board feet of timber over the past decade. It has now spread deep into Yellowstone National Park and is progressing into the Gallatin and Beaverhead National Forests of MONTANA. A mountain pine beetle outbreak has killed nearly 25 million board feet of timber on the Wallowa-Whitman National Forest in OREGON. Also in Oregon significant lodgepole pine killing occurred on the Deschutes, Fremont, Umatilla, and Winema National Forests and Crater Lake National Park. Heavy losses to western white pine occurred on the Clearwater, St. Joe, Coeur d'Alene, and Kaniksu National Forests of northern IDAHO. Here mountain pine beetle activity seems to be enhanced by white pine blister rust weakened trees. Dense, second growth ponderosa pine stands near Missoula, MONTANA, sustained epidemic beetle populations for the third consecutive year. Some control is being realized by silvicultural thinning, a practice that reduces stand susceptibility to attack. Overstocked second-growth ponderosa pine also is being attacked in the Black Hills of SOUTH DAKOTA. Over 400,000 trees were reported as killed in 1972 in this area. Smaller centers of mountain pine beetle activity occurred throughout the western host type.

DOUGLAS FIR BEETLE (Dendroctonus pseudotsugae) activity was at a high level in 1972. The massive outbreak in the North Fork Clearwater River area of IDAHO continued at an epidemic level killing an additional 24 million board feet of prime sawtimber. An estimated 22 million board feet was killed in OREGON and WASHINGTON. A spotty but extensive infestation occurred on the Targhee National Forest in IDAHO and WYOMING. This outbreak probably resulted from storm damaged trees. Scattered patches of Douglas fir beetle activity were common in most western regions. A pheromone, methylcyclohexanone, was field tested in WASHINGTON, OREGON, and IDAHO to repel Douglas fir beetle from selected trees and areas. Though test results have not been completely evaluated, it appears this may be a usable tool in manipulating beetle populations.

1/ The following summary is the highlights section of the "Forest Insect Conditions in the United States - 1972" which was compiled and published by the Forest Service, U.S. Department of Agriculture. Copies of the complete annual summary are available upon request from the Regional Forester or Area Director in your area. Addresses of the regional offices may be found on page 177 in this issue of the CEIR.

SPRUCE BEETLE (Dendroctonus rufipennis) damage was at a lower level in most western forests than the level reported in 1971. An exception was ALASKA where heavy mortality on approximately 70,000 acres, near Grading Bay, was detected. Smaller outbreaks (5,000-6,000 acres) occurred near Cook Inlet. An estimated gross volume of 1.7 billion board feet was killed in 1972 in the Cook Inlet basin. Most of this was on State and private land and the Kenai National Moose Range. An infestation on the Kenai Peninsula has increased tenfold since 1970 and now encompasses 60,000 acres. An estimated one million board feet of timber was killed in high elevation spruce stands in OREGON and WASHINGTON. A high percentage of the merchantable spruce volume in the Manti-LaSal National Forest, UTAH, has been destroyed by an outbreak that has persisted since 1969. It is expected to continue until most of the larger trees are killed. Outbreaks in WYOMING, COLORADO, and NEW MEXICO decreased dramatically in 1972 from natural factors. However, recent windstorms have created conditions that may enhance new outbreak centers next year in these States.

WESTERN PINE BEETLE (Dendroctonus brevicomis) was very active in parts of CALIFORNIA; specifically on the Shasta-Trinity, Sequoia, Mendocino, and Lassen National Forests. Some increased activity was also reported on the Ochoco, Fremont, and Malheur National Forests of OREGON.

Major defoliation problems in the West were caused by the WESTERN SPRUCE BUDWORM, DOUGLAS FIR TUSSOCK MOTH, PINE BUTTERFLY, LARCH CASEBEARER, and HEMLOCK SAWFLY.

WESTERN SPRUCE BUDWORM (Choristoneura occidentalis) infested areas increased significantly in size throughout most of its range. In MONTANA and northern IDAHO over 4.5 million acres are infested. A survey on the Nezperce National Forest showed 138,000 acres have been permanently damaged (top kill and/or tree mortality). Regeneration is being seriously impaired by budworm injury that prevents cone production or causes cone destruction. In eastern WASHINGTON, defoliation spread from 18,000 acres in 1971 to over 200,000 acres in 1972. Outbreaks are continuing in OREGON, southern IDAHO, western WYOMING, COLORADO, and northern NEW MEXICO.

The most acute defoliation problem in the West is the DOUGLAS FIR TUSSOCK MOTH (Hemerocampa pseudotsugata). This insect is capable of killing trees in one or two years. The situation in OREGON and WASHINGTON is critical. Visible defoliation was observed on 196,000 acres. Surveys made during fall 1972 indicate the infestation may approach 500,000 acres in 1973. It's estimated that up to one billion board feet of timber may be killed as a result of this outbreak. Increased activity is also reported in IDAHO, NEVADA; and parts of CALIFORNIA. Isolated reports of Douglas fir tussock moth also came from COLORADO, MONTANA, NEW MEXICO, and ARIZONA.

PINE BUTTERFLY (Neophasia menapia) severely defoliated ponderosa pine in MONTANA and IDAHO. About 40,000 acres of defoliation occurred in the Bitterroot National Forest, Montana. Another 36,000 acres were defoliated on the Nezperce and Payette National Forests in IDAHO.

LARCH CASEBEARER (*Coleophora laricella*) continued to inflict heavy damage, primarily growth reduction, throughout northern IDAHO. It is continuing to spread in OREGON and WASHINGTON and is expected to eventually infest all larch stands in these States. Attempts at biological control were accelerated in 1972 by the release of two new species of parasites in OREGON, WASHINGTON, IDAHO, and MONTANA.

An outbreak of HEMLOCK SAWFLY (*Neodiprion tsugae*) has spread to 23,000 acres in southeast ALASKA. One season of defoliation has caused hemlock and spruce mortality on some acres. Evaluations indicate the outbreak will persist through 1973.

Some mortality of true firs occurred on 82,000 acres in OREGON and WASHINGTON from BALSAM WOOLLY APHID (*Adelges piceae*) injury.

WESTERN HEMLOCK LOOPER (*Lambdina fiscellaria lugubrosa*) caused noticeable defoliation on 10,000 acres of grand fir in IDAHO. This is the first documented report of this insect building up in Idaho since a devastating outbreak in the late 1930's.

An ADELGID (*Pineus pini*), introduced into HAWAII in 1970, is threatening pine plantations throughout the State. Attempts at control are underway using chemicals and biological agents.

Situation in the East

SOUTHERN PINE BEETLE in the South, and GYPSY MOTH and SPRUCE BUDWORM in the North are the most damaging insects in the Eastern United States. Other major insects include ENGRAVER BEETLES, BLACK TURPENTINE BEETLE, BALSAM WOOLLY APHID, SAWFLIES, OAKWORMS, TENT CATERPILLARS, VARIABLE OAKLEAF CATERPILLAR, LARGE ASPEN TORTRIX, and a PINE LOOPER.

SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) increased in intensity and area throughout most of the South. Control efforts largely were directed at removal and salvage of infested trees. Evaluations indicate the infestation will continue in 1973. The table on the following page shows the reported acreages infested and volumes salvaged.

Additional tree mortality due to the southern pine beetle was reported occurring in TENNESSEE, MARYLAND, and DELAWARE.

ENGRAVER BEETLES (*Ips* spp.) caused an estimated loss of 2 million trees in northern FLORIDA. Increased activity was also noted in NORTH CAROLINA, TEXAS, AND ARKANSAS.

The range of established GYPSY MOTH (*Porthetria dispar*) infestations increased somewhat to the west and south of the 1971 boundary of infestation. However, total acreages defoliated by the gypsy moth in 1972 were slightly less than in 1971. Male moths were trapped as far west as MICHIGAN, IOWA, and MISSOURI and south into NORTH CAROLINA, SOUTH CAROLINA, and TENNESSEE. Small spot infestations have been located in southern MICHIGAN and northern OHIO. Chemical control, primarily with carbaryl, was applied to 174,180 acres in cooperative projects with the States of NEW YORK, NEW JERSEY, and PENNSYLVANIA. This was about half the area treated in 1971.

State	Acres infested	Volume salvaged in 1972 through September
Alabama	15,000,000	17,000,000 bd. ft.
Arkansas	400,000	600,000 bd. ft.
Georgia	9,000,000	3,000,000 bd. ft.
Louisiana	8,000,000	31,800,000 bd. ft. and 32,000 cords
Mississippi	1,600,000	4,005,000 bd. ft.
North Carolina	6,700,000	3,600,000 bd. ft.
South Carolina	4,300,000	3,000,000 bd. ft.*
Texas	8,685,000	18,200,000 bd. ft.
Virginia	4,600,000	1,600 cords

*From Federal lands only.

SPRUCE BUDWORM (*Choristoneura fumiferana*) outbreaks intensified in 1972. About 2.5 million acres of spruce-fir type were defoliated in MAINE, and another 1.5 million acres in MINNESOTA. Sizable areas in MICHIGAN also were damaged. Mexacarbate was aerially sprayed on 500,000 acres of spruce budworm infested forests in Maine with satisfactory control. Additional acreage will require treatment in 1973 to prevent significant losses. Balsam fir saplings and reproduction have been killed over a 10,000-acre area on the Superior National Forest, MINNESOTA, due to 3 to 5 years of defoliation.

A BALSAM WOOLLY APHID (*Adelges piceae*) infestation continued in the 60,000 acres of Fraser fir type in the southern Appalachian Mountains. Suppression measures were carried out in high-use, high-value acreages on the Pisgah National Forest and Mount Mitchell State Park in NORTH CAROLINA.

SAWFLIES defoliated several species of conifers in both the North and South. JACK PINE SAWFLY (*Neodiprion pratti banksianae*) defoliated about 30,000 acres of jack pine in upper MICHIGAN. EUROPEAN PINE SAWFLY (*Neodiprion sertifer*) was found for the first time in WISCONSIN. It was responsible for defoliation in MICHIGAN, ILLINOIS, OHIO, and MISSOURI in 1972. A LOBLOLLY PINE SAWFLY (*Neodiprion taedae linearis*) caused damage in portions of MISSOURI and ILLINOIS. REDHEADED PINE SAWFLY (*Neodiprion lecontei*) defoliated over 3,000 acres of red pine in NEW YORK as well as some in VERMONT, MICHIGAN, and WISCONSIN.

FOREST TENT CATERPILLAR (*Malacosoma disstria*) was epidemic throughout much of the East. The most extensive outbreaks occurred in the Southern States. About 415,000 acres were defoliated in LOUISIANA and another 30,000-50,000 acres of heavy defoliation occurred in the Tensaw and Mobile River Basins of ALABAMA. Smaller outbreaks occurred in FLORIDA, KENTUCKY, NORTH CAROLINA, and TEXAS. Forest tent caterpillar activity declined greatly in the Northeastern States in 1972. The largest outbreak reported was in PENNSYLVANIA where 22,000 acres were moderately defoliated.

A REDHUMPED OAKWORM (Symmerista canicosta) caused defoliation on 600,000 acres of oak in MICHIGAN. This is the third consecutive year for this outbreak in some areas. A smaller outbreak in IOWA increased from 1,000 acres in 1971 to 5,000 acres in 1972.

LARGE ASPEN TORTIX (Choristoneura conflictana) caused moderate to severe defoliation of aspen in the northern part of the Lake States and MAINE. The gross area affected in the Lake States is about 2 million acres. Although the outbreak is in its fourth year in some areas, no tree mortality has occurred.

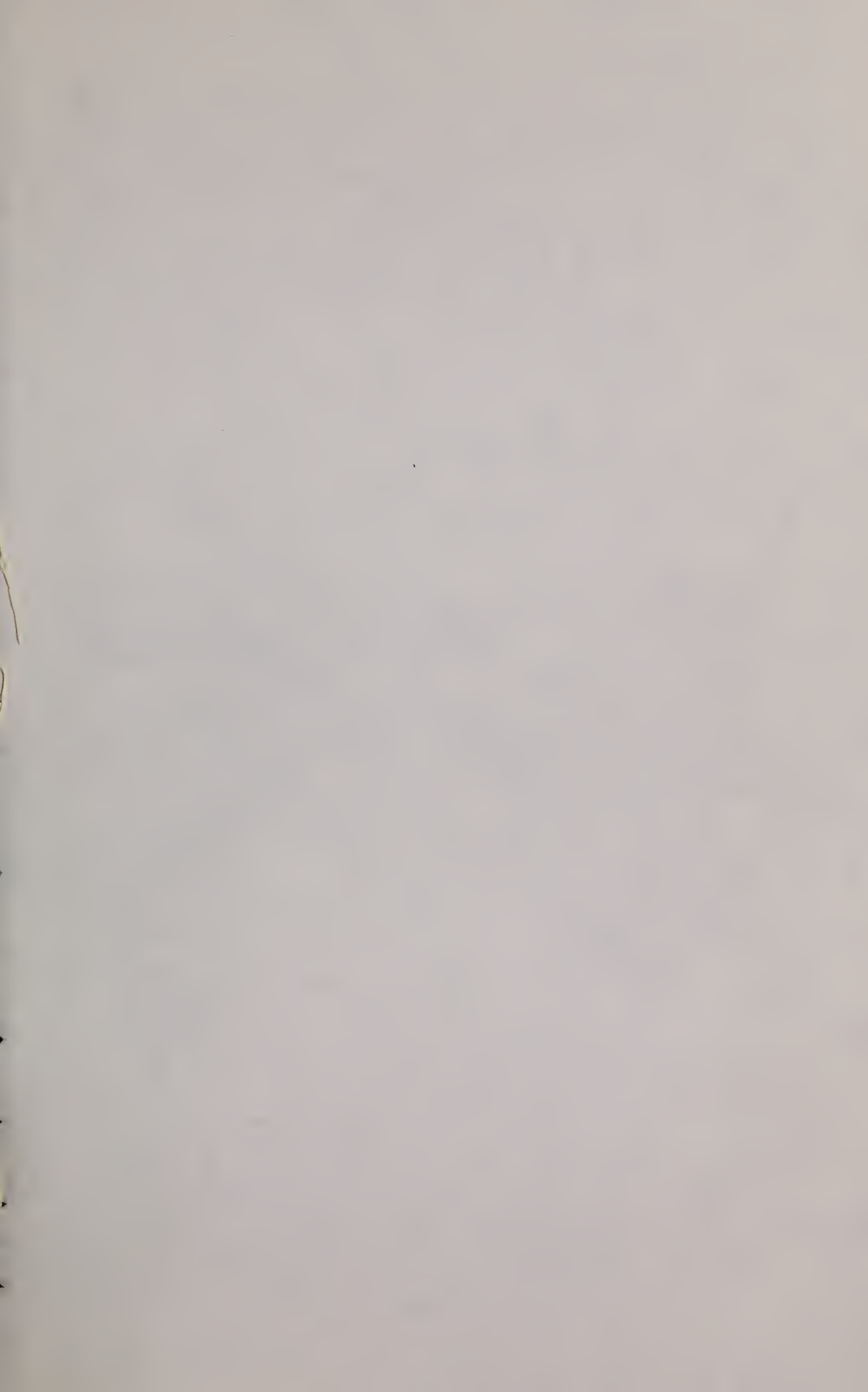
REGIONAL AND AREA OFFICE ADDRESSES

U.S. FOREST SERVICE

<u>Region</u>	<u>Region</u>
1 U.S. Forest Service Federal Building Missoula, Montana 59801	6 U.S. Forest Service P.O. Box 3623 Portland, Oregon 97208
2 U.S. Forest Service Federal Center, Building 85 Denver, Colorado 80225	10 U.S. Forest Service Federal Office Bldg. P.O. Box 1628 Juneau, Alaska 99801
3 U.S. Forest Service Federal Building 517 Gold Avenue, S.W. Albuquerque, New Mexico 87101	<u>Area</u>
4 U.S. Forest Service Federal Office Building 324 - 25th Street Ogden, Utah 84401	NA Northeastern Area U.S. Forest Service 6816 Market Street Upper Darby, Pennsylvania 19082
5 U.S. Forest Service 630 Sansome Street San Francisco, California 94111	SA Southeastern Area U.S. Forest Service Suite 800 1720 Peachtree Road, N.W. Atlanta, Georgia 30309

The blizzard raged across the Dakotas leaving 4 feet of new snow in the Black Hills. Rapid City, South Dakota, and Lander, Wyoming, had 14 inches of snow. Later Wednesday, the storm subsided but not before it picked up a large quantity of dust in western Texas and carried it to the shores of Lake Michigan. Wednesday visibility at Milwaukee, Wisconsin, was 5 miles due to Texas dust that the storm brought. While fair skies graced much of the Nation Thursday, a cold front strung along the southern Appalachians generated heavy rains and thunderstorms throughout the lower Mississippi Valley eastward into the northern and central Atlantic States. Local heavy rains resulted in the lower Mississippi Valley of Tennessee. Early Friday, several tornadoes ripped through Alabama and Mississippi downing trees and power lines. The storm dumped torrential rains throughout northern Mississippi and Alabama and northward through Tennessee and Virginia. Significant rainfalls on Friday included: Greenwood, Mississippi, 6.46 inches; Muscle Shoals, Alabama, and Chattanooga, Tennessee, 4.49 inches. Flash floods occurred from Mississippi to Virginia. The storm's main fury moved over the Atlantic but rainfall continued along portions of the Atlantic coast to New York and New England. Another Low intensified early Saturday, moving northeast across southern Ohio toward Pennsylvania. Early Saturday, snow fell over southern Michigan and Indiana. By late Saturday, 15 inches had accumulated at Jackson, Michigan, and paralyzed much of Lower Michigan. The Low moved into Upstate New York causing high waves on Lakes Erie and Ontario. Sunday brought flooding to Tennessee at Chattanooga. The Low in New York brought snow there and to Pennsylvania, West Virginia, and western Maryland. Snow also fell in the West. Sunday evening, the Low moved northeast but left 4 inches of snow at Binghamton, New York, .3 inches at Wilmington, Vermont.

TEMPERATURE: Temperatures averaged up to 15 degrees above normal in eastern and central parts of the Nation. West of the Rockies went from slightly below normal along the west coast to 9 degrees below average around Flagstaff, Arizona. Monday brought fair weather to much of the lower Mississippi Valley and was like spring over most of the east-central area. Temperatures were in the 80's as far north as Oklahoma, Arkansas, and Virginia. To the west, winter maintained its grip. Temperatures remained low in the West on Tuesday. In Colorado another cold front stretched through New Mexico south into Mexico. To the east, warmer weather prevailed. The east coast continued springlike as did the Midwest Tuesday and Wednesday. Wednesday, temperatures hit 87 degrees in Richmond, Virginia, and 71 degrees in Nebraska, Missouri, and southeast Texas. Thursday it reached Wisconsin and extended across Lake Huron. Meanwhile, record high temperatures occurred in New York and Ohio. As the Low moved into Canada Thursday and Friday, the cold front extended along the Appalachians and the middle Gulf States into Texas. Cold took over the east coast Friday and Saturday. Freeze warnings were issued in Georgia, northern Alabama, and western Pennsylvania. Cold continued in the West, with freezing temperatures over most of the Midwest. Saturday an intense Low pressure system encompassing the eastern third of the Nation ended early spring for the east coast. Temperatures registered in the high 30's and low 40's east of the Appalachians Sunday, but fell below freezing to the west. Further west, winter prevailed all week with a nationwide low of 10 degrees.



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