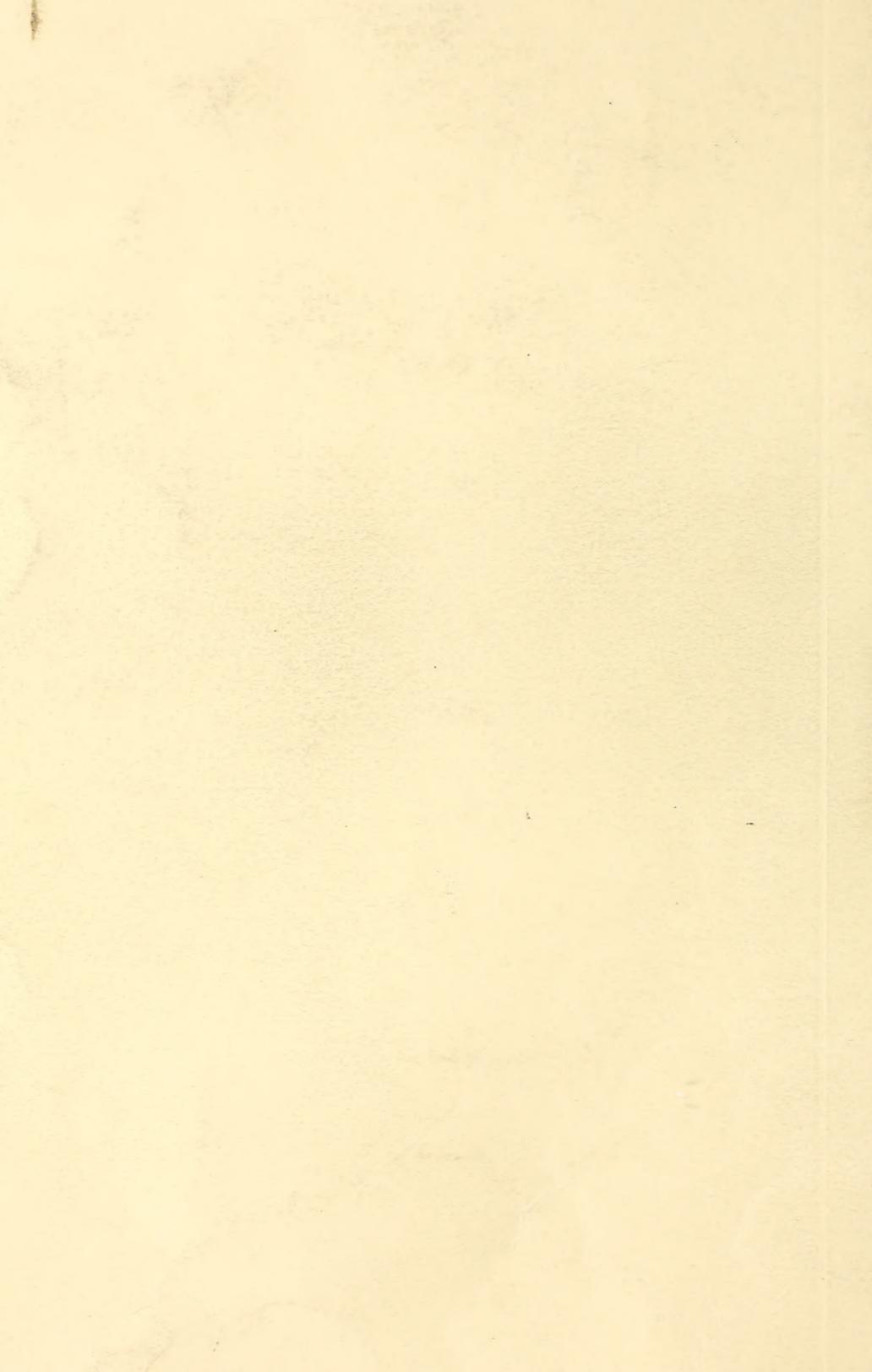


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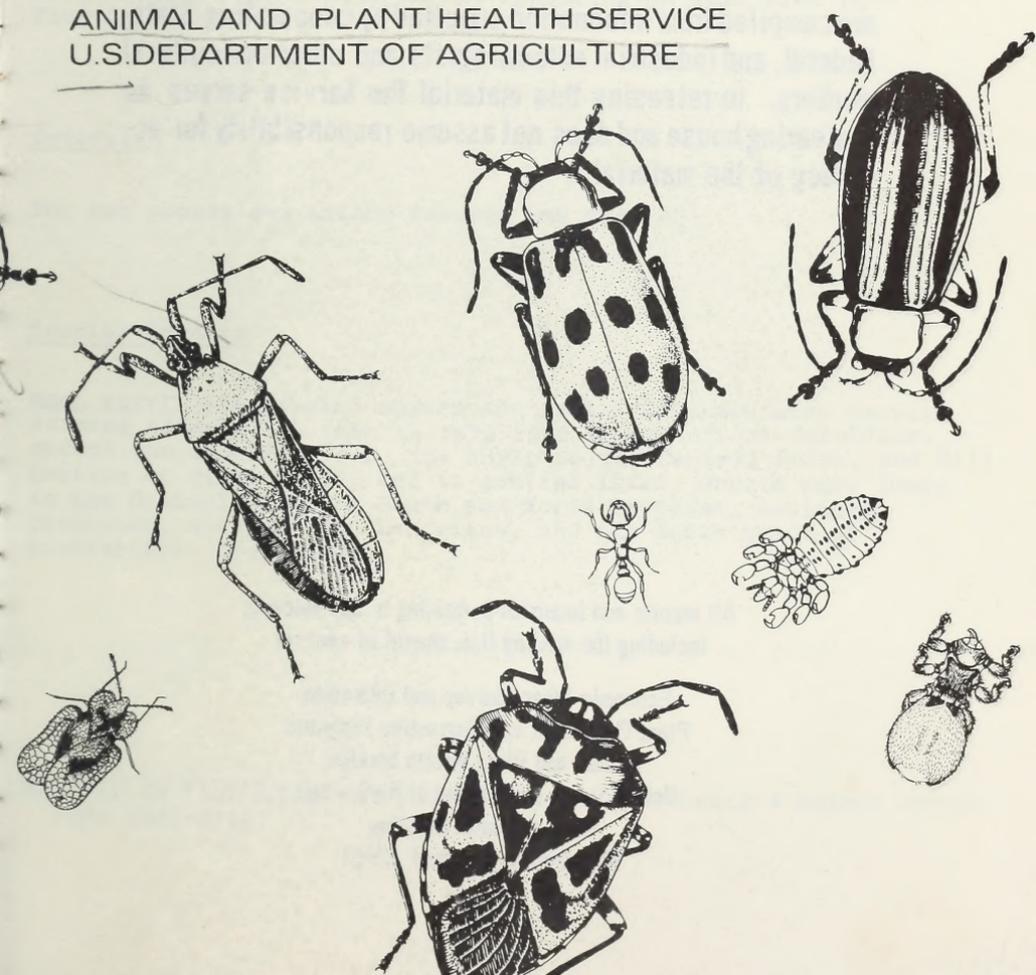
Cooperative Economic Insect Report

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ANIMAL AND PLANT HEALTH SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
ECONOMIC INSECT SURVEY AND DETECTION 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.

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Plant Protection and Quarantine Programs
Animal and Plant Health Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

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COOPERATIVE ECONOMIC INSECT REPORT 1

HIGHLIGHTS

Current Conditions

BEET ARMYWORM troublesome on spinach in limited area of Florida. (p. 32).

PEACH BORERS damaged peach trees in Alabama. (p. 32).

EASTERN TENT CATERPILLAR larvae appearing on wild plum in Florida. (p. 32).

Detection

For new county and island records see page 33.

Special Reports

BOLL WEEVIL hibernation survey for fall 1971 shows more weevils entered hibernation than in fall 1970 in all of the Carolinas, except the Coastal Plain, the North Delta, Central Delta, and Hill Section of Mississippi, and in central Texas. Counts were lower in the Coastal Plain of South and North Carolina, southern Tennessee, northeastern Louisiana, and the South Delta of Mississippi. (pp. 35-38).

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

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NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

FEBRUARY 1972

The National Weather Service's 30-day outlook for February is for temperatures to average below seasonal normal east of the Divide except for near normal in the south Atlantic Coast States and coastal portions of New England. Above normal temperatures are indicated for the Great Basin while near normal values are anticipated in unspecified areas. Precipitation is expected to exceed normal over the east Gulf and Atlantic Coast States as well as the lower Great Lakes. Subnormal totals indicated west of the Divide and also for portions of the central Plains and the upper Mississippi Valley. Elsewhere a near normal precipitation is in prospect.

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

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Little change in overwintering populations. Weather too cold for winter annuals to germinate or grow. No noticeable migration in Kings and Fresno Counties. Populations remain scattered in San Joaquin Valley. Frost damaged host plants in many areas. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - TENNESSEE - Control cost and yield and quality losses to corn during 1971; estimated at \$455,000. (Gordon).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Moderate in Cotton County wheat. (Okla. Coop. Sur.).

HORNWORMS (Manduca spp.) - NORTH CAROLINA - Populations increased to heaviest level in past 5 years on flue-cured tobacco. Control cost increased from \$50,000 in 1970 to \$500,000 in 1971 and losses increased from \$18,750 in 1970 to \$87,500 in 1971. This increase probably due to poor stalk destruction for previous 3 years. (Robertson). TENNESSEE - M. sexta (tobacco hornworm) control cost and yield and quality losses to tobacco during 1971; estimated at \$269,500. (Gordon).

CORN, SORGHUM, SUGARCANE

SORGHUM MIDGE (Contarinia sorghicola) - TENNESSEE - Control cost and yield and quality losses to sorghum during 1971; estimated at \$64,480. (Gordon).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - TEXAS - Larvae ranged 50-250 per square foot; egg counts decreased. Adults feeding first of February less active after freezing weather. (Latham). TENNESSEE - Control cost and yield and quality losses to alfalfa during 1971; estimated at \$515,200. (Gordon).

PEA APHID (Acyrtosiphon pisum) - CALIFORNIA - Adults averaged 3 per sweep in alfalfa at Salinas, Monterey County. (Cal. Coop. Rpt.).

PEANUTS

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - NORTH CAROLINA - Control cost for larvae ranged \$75,000 to \$100,000 in State during 1971. (Hunt).

COTTON

BOLLWORM (Heliothis zea) - TENNESSEE - Control cost and yield and quality losses to cotton during 1971; estimated at \$3,568,400. (Gordon).

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Control cost and yield and quality losses to cotton during 1971; estimated at \$2,054,600. (Gordon).

POTATOES, TOMATOES, PEPPERS

BEET ARMYWORM (Spodoptera exigua) - FLORIDA - Serious on 200 acres of spinach at Zellwood, Orange County. (Fla. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

PEACH BORERS - ALABAMA - Mixed larval populations of Sanninoidea exitiosa (peachtree borer) and Synanthedon pictipes (lesser peachtree borer) heavily damaged 2,000 peach trees. Weakened trees being removed. (Crocker, McCall).

FOREST AND SHADE TREES

EASTERN TENT CATERPILLAR (Malacosoma americanum) - FLORIDA - Larvae appearing at Gainesville, Alachua County, on wild plum. (Fla. Coop. Sur.).

MOUNTAIN PINE BEETLE (Dendroctonus ponderosae) - CALIFORNIA - Causing damage to lodgepole pine in Silver Lake, El Dorado National Forest. Many old trees dead. Silvicultural control encouraged. (Cal. Coop. Rpt.).

MAN AND ANIMALS

SCREWORM (Cochliomyia hominivorax) - Total of 2 cases reported in U.S. January 30 to February 5 in TEXAS: Jim Hogg and Zapata. Total of 101 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico as follows: Sonora 32, Chihuahua 2, Coahuila 3, Nuevo Leon 2, and Tamaulipas 62. Total of 9 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 12,198,000 and Mexico 97,290,000. (Anim. Health).

COMMON CATTLE GRUB (Hypoderma lineatum) - KENTUCKY - Larvae averaged 1.5 per animal on backs of Holstein in Fayette County. (Barnett). VIRGINIA - Six untreated cattle in herd of 118 averaged 6.5 grubs per cow (range 1-15) in Buckingham County; 7 untreated cattle in herd of 78 averaged 14.6 grubs per cow (range 5-20) and 11 untreated cattle in herd of 58 averaged 2.9 grubs per cow (range 0-12) in Montgomery County. (Allen). ARKANSAS - Grubs ranged 0-51 (averaged 14.1) in 31 head of cattle in Benton County, heavier than previous years. (Lancaster, Simco).

HOG LOUSE (Haematopinus suis) - VIRGINIA - Ranged 1-15 per animal on 2 herds of cross-bred pigs, in Appomattox County. (Allen).

SHORTNOSED CATTLE LOUSE (Haematopinus eurysternus) - TEXAS - Heavy in Erath and Hill Counties, control needed. (Hoelshcer). VIRGINIA - Infested herd of 48 cattle in Appomattox County. (Allen).

HOUSEHOLDS AND STRUCTURES

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - TENNESSEE - Control cost and losses to structures during 1971; estimated at \$8,184,594. (Gordon).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - SOUTH CAROLINA - Small extensions of known infestations found in Hampton, Jasper, Georgetown, Clarendon, and Sumter Counties. (Nettles). GEORGIA - Specimens collected at Tallapoosa, Haralson County, January 29 by W.C. Stewart. TEXAS - Specimens collected at Corpus Christi, Nueces County, January 10 by E.F. Sublett. Determinations by V.H. Owens, confirmed by D.R. Smith. These are new county records. (PP).

PINK BOLLWORM (Pectinophora gossypiella) - OKLAHOMA - Lint cleaner and lint cleaner screen inspections made in most cotton-producing counties during January indicated heaviest in central areas. Counts ranged 120-250 per bale in Bryan, Garvin, Marshall, Jefferson, Love, and Stephens Counties. Ranged 18-45 per bale in Cotton, Tillman, Logan, Grady, McClain, Payne, and Pawnee Counties. Counts in eastern and western areas averaged less than 1 per bale. All larvae dead in dry bolls exposed to cold weather in Oklahoma County field. (Okla. Coop. Sur.).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Yield and quality losses to soybeans during 1971; estimated at \$4,147,000. (Gordon).

WHITEFRINGED BEETLES (Graphognathus spp.) - ALABAMA - Larvae damaged roots of greenhouse tomatoes in Houston County. (Stephenson, Mathews).

HAWAII INSECT REPORT

General Vegetables - BEAN FLY (Melanagromyza phaseoli) trace on petioles in small planting of yardlongbeans at Waikapu, Maui. LEAF MINER FLIES (Liriomyza spp.) moderate in seequa (Luffa acutangula) at Pupukea, Oahu, and tomato at Hauula, Oahu, and Moloaa, Kauai; larval mines confined mostly to older leaves. ONION THRIPS (Thrips tabaci) present on green onion at Waikapu, Maui. All stages of LEEK MOTH (Acrolepia assectella) on green onion at Waikapu, Maui. (Miyahira). SEEDCORN MAGGOT (Hylemya platura) heavy on 50 percent of 0.75 acre of bulb onions at Naalae-Waiakoa, Maui. (Hori).

Miscellaneous Insects - Adult of AN ICHNEUMON (Pachysomoides stupidus) taken at large in koa haole thickets at Poipu, Kauai for a new island record. P. stupidus develops as a parasite on larvae of Polistes wasps. (Sugawa).

DETECTION

New County and Island Records - AN ICHNEUMON (Pachysomoides stupidus) HAWAII - Kauai (p. 33). IMPORTED FIRE ANT (Solenopsis saevissima richteri) TEXAS - Nueces (p. 33).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 1/28-2/3, BL - Granulate cutworm (Feltia subterranea) 5, armyworm (Pseudaletia unipuncta) 1, yellowstriped armyworm (Spodoptera ornithogalli) 1. MISSISSIPPI - Stoneville, 1/28-2/3, Temp. 25-74°F., precip. 1.17, 2BL - Black cutworm (Agrotis ipsilon) 1, granulate cutworm 3, armyworm 5, fall armyworm (Spodoptera frugiperda) 1.

WEATHER OF THE WEEK ENDING FEBRUARY 7

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

PRECIPITATION: Snow flurries occurred early Monday morning, January 31 from the Pacific Northwest to New England. Westerly winds blowing across Lake Ontario picked up moisture and dumped up to 2 feet of new snow at some localities in Oswego County, New York. Travel became almost impossible. A storm centered over northern Mexico caused scattered snow in southern New Mexico and western Texas. Three inches accumulated at San Angelo, Texas in 6 hours, Monday afternoon. Mixtures of snow and sleet made travel difficult in western Texas and western Oklahoma. Cold rain fell in east Texas. The storm centered in the central Rocky Mountains Tuesday, intensified and spread snow over the northern and central Rocky Mountains and northern and central Great Plains. Another low centered over the west central Gulf of Mexico caused cold rain along the gulf coast and snow northward to the Boston Mountains in northwestern Arkansas, and nearby portions of Oklahoma and Missouri. Snow and freezing drizzle caused slippery roads, slowed travel in parts of the central Great Plains early Wednesday. At midweek two major storms were in progress. The first centered over the Great Plains and moving toward the Great Lakes caused snow over an 8-State area from Colorado and New Mexico to the middle Mississippi River Valley, while an Atlantic storm soaked the eastern seaboard with heavy rain, accompanied by gales. Snow fell in the higher elevations of the central Appalachians and north of the Rain Belt. Washington, D.C., received 3 inches of snow early Wednesday. As the weekend approached, a second storm moved out over the Atlantic, skies cleared in the Southeast, but a northern storm continued to batter the Northeast. It dumped 26 inches of snow on Boonville, New York, Friday. The weekend brought rain to the Pacific coast with snow in the interior sections and froze on contact with the cold ground and caused slippery conditions. Light snow fell from the northern Rocky Mountains to the Great Lakes. Snow squalls occurred in lee of the Great Lakes, freezing rain fell south of the Snow Belt, and rain or drizzle occurred Saturday from the lower Rio Grande Valley to the Ohio River Valley.

TEMPERATURE: Cold weather gripped the entire Nation except southern Florida early in the week. Temperature at Jackson, Mississippi, dropped to 31° Monday morning, January 31. At 2 p.m. the temperature at Fort Lauderdale, Florida, had climbed to 86°. Arctic outbreak in the North dropped the temperature far below zero. Big Piney, Wyoming, registered zero degrees early Wednesday, and maximums in North Dakota in the afternoon ranged 0° to 7° Thursday morning. Subzero weather was common from eastern Washington to Minnesota in the Great Plains as far south as northern Kansas. Severe cold penetrated the Deep South over the weekend. Subfreezing temperatures occurred over northern Florida. Tampa registered 44° Saturday morning. Subzero weather held sway from eastern Montana to upper Michigan. Moline, Illinois, recorded -10° Saturday morning. Almost the entire Nation averaged colder than normal. The southern Appalachians and much of the area from eastern Washington and eastern Oregon to the Great Lakes averaged more than 10° colder than normal.

BOLL WEEVIL HIBERNATION SURVEY - FALL 1971

The fall collections of surface ground (woods) trash samples (two square yards per sample) have been completed in six Southern States by State and Federal agencies to determine the number of boll weevil (Anthonomus grandis) adults that went into hibernation. Three samples were taken at each location in the Carolinas, Mississippi, Louisiana, and Texas. A total of 12 samples was taken in Tennessee. Thirty locations were sampled in each area in North and South Carolina; the number of counties per area from which samples were taken varied from 3 to 6. In North Carolina, Halifax County has replaced Wilson County. In Mississippi, a total of 45 samples was taken from 15 locations in each of 4 areas; each area was composed of 2 counties. Tate County has replaced Monroe County in the Hill Section of Mississippi. Samples were collected at 45 locations in northeastern Louisiana: 20 locations in Madison Parish, 10 in Tensas Parish, and 5 each in East Carroll, West Carroll, and Richland Parishes. This is the third year trash samples have been collected in Richland Parish. In Texas, 75 samples were taken from 25 locations in 4 counties, with either 6 or 7 locations sampled in each county.

The average number of boll weevils entering hibernation in the fall of 1971 was higher than in the fall of 1970 in all of the Carolinas except the Coastal Plain, the North Delta, Central Delta, and Hill Section of Mississippi, and in central Texas. Counts were lower in the Coastal Plain of South and North Carolina, southern Tennessee, northeastern Louisiana, and the South Delta of Mississippi.

In Florence County, South Carolina, where fall examinations have been made since 1942 (except for the fall of 1946), the number of weevils per acre (4,304) is 2.3 times less than in 1970 and 1.7 times less than the 28-year average.

The survey in Tennessee was conducted in Fayette, Hardeman, McNairy, and Hardin Counties. Live weevils averaged 407 per acre in this four-county area. This compares with 1,008 in 1970, 1,815 in 1969, 1,213 in 1968, 7,580 in 1967, and 7,120 in 1966.

Live boll weevils averaged 4,901 per acre of ground trash in Mississippi. This State average compares with 2,902 weevils per acre in 1970, 3,105 in 1969, 2,768 in 1968, 6,304 in 1967, and 2,956 in 1966.

In the five-parish area surveyed in northeast Louisiana, live boll weevils averaged 6,131 per acre. Average counts per acre by parish were: Madison, 6,090; Tensas, 4,762; East Carroll, 6,453; West Carroll, 8,506; and Richland, 6,292. In Madison Parish where these records have been maintained for the past 36 years and the average number of weevils per acre entering hibernation is 3,835, there have been only six years when the number of weevils per acre was higher than in the fall of 1971. The 6,090 weevils per acre in the fall of 1971 compares with 7,418 per acre recovered in the fall of 1970. In Tensas Parish, where these collections have been made for the past 16 years and the average number of weevils per acre is 5,494, the 4,762 weevils per acre recovered in 1971 compares with 5,563 weevils per acre recovered in the fall of 1970. Twelve of the 30 samples collected in Tensas Parish were from areas that received post-season diapause treatments with only 2 weevils being recovered.

There were 57 weevils recovered from 18 samples that were collected near fields that did not receive postseason treatments. There were 403 weevils per acre recovered in the areas that received post-season treatments as compared to 11,495 weevils per acre collected in the non-treated areas. This is a reduction of 96.5 percent.

In East Carroll Parish, where collections have been made for the past 15 years, the 6,453 weevils per acre in the fall of 1971 compares with the average of 6,530 weevils per acre and 4,678 weevils per acre recovered in the fall of 1970. Collections have been made for the past 4 years in West Carroll Parish and the average number of weevils per acre is 6,897. The 8,551 weevils per acre recovered in the fall of 1971 compares with 9,034 weevils per acre recovered in the fall of 1970.

Collections have been made in Richland Parish for the past 3 years, and the average number of weevils per acre is 8,443. The 6,292 weevils per acre recovered in the fall of 1971 compares with 21,619 weevils per acre recovered in the fall of 1970.

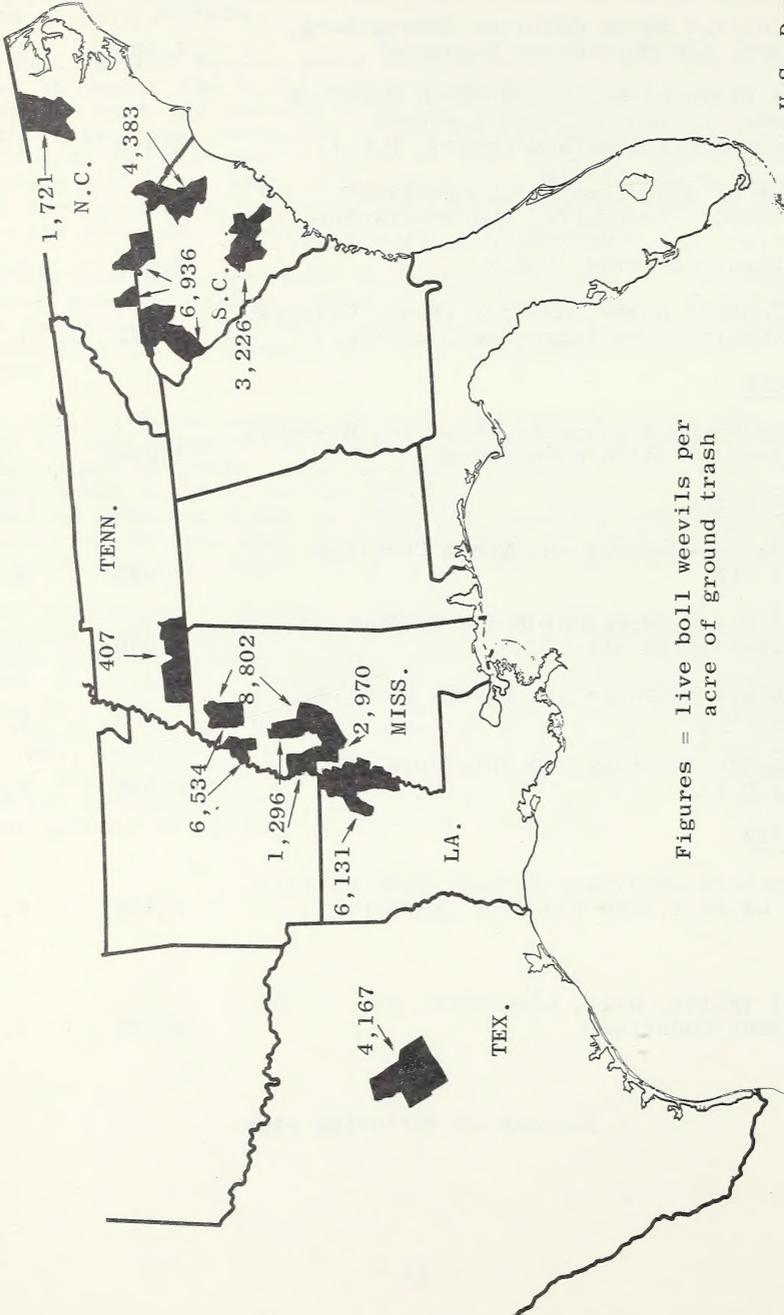
The Central Texas average of 4,167 boll weevils per acre in the fall of 1971 compares with averages of 3,392 in 1970; 1,647 in 1969; 4,070 in 1968; 4,942 in 1967; 4,877 in 1966; 4,425 in 1965; 4,406 in 1964; 517 in 1963; 1,781 in 1962; 4,114 in 1961; 4,501 in 1960 and 6,631 in 1959. The survival percentage in the spring of each year from 1971--1960 was 59.8, 15.7, 70.0, 14.4, 26.5, 24.8, 100.0, 18.8, 25.4, 33.1, 33.7 and 31.1.

More boll weevils entered hibernation in the fall of 1971 in McLennan County than in any year except 1959. Fewer weevils were found in Falls County in 1971 than in any year except 1963 and 1969. In Limestone and Hill Counties more weevils were found than in 7 of the previous 12 years. The area average was higher in the fall of 1971 than in the past 3 years and the dry years of 1961, 1962, and 1963, but lower than all other years. Heavy rains during October, November and December prevented early harvest and stalk destruction in many fields, and there was a late buildup of weevils to enter hibernation.

Area (State and County)	Number of Weevils Per Acre	
	1970	1971
<u>NORTH AND SOUTH CAROLINA</u>		
South Central South Carolina (Orangeburg, Bamberg, and Dorchester Counties).	1,909	3,226
Coastal Plain of South and North Carolina (Florence, Darlington, and Marlboro Counties, S.C.; Scotland County, N.C.).	6,398	4,383
Piedmont of South and North Carolina (Anderson, Greenville, and Spartanburg Counties, S.C.; Mecklenburg, Cleveland, and Union Counties, N.C.).	2,312	6,936
North Central North Carolina (Nash, Halifax, Northampton, and Edgecombe Counties).	673	1,721
<u>TENNESSEE</u>		
Southern Tier of Counties (Fayette, Hardeman, McNairy, and Hardin Counties).	1,008	407
<u>MISSISSIPPI</u>		
South Delta (Sharkey and Yazoo Counties (area 1)).	3,042	2,970
Central Delta (Washington and Leflore Counties (area 2)).	1,242	1,296
North Delta (Coahoma and Panola Counties (area 3)).	756	6,534
Hill Section (Holmes and Tate Counties (area 4)).	6,588	8,802
<u>LOUISIANA</u>		
Northeastern (Madison, Tensas, East Carroll, West Carroll, and Richland Parishes).	8,458	6,131
<u>TEXAS</u>		
Central (Falls, Hill, Limestone, and McLennan Counties).	3,392	4,167

See map on following page.

BOLL WEEVIL HIBERNATION SURVEYS - FALL 1971



Figures = live boll weevils per acre of ground trash

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