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Cooperative
**ECONOMIC INSECT
REPORT**

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PLANT PROTECTION DIVISION

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UNITED STATES DEPARTMENT OF AGRICULTURE

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

An APHID continues to damage wheat in Washington. (p. 797).

Damage to pecans by BLACK PECAN APHID and other pests appearing at harvest in Alabama. (p. 798).

Prediction

PALE WESTERN CUTWORM poses potential threat for outbreak in southwestern and panhandle areas of Nebraska in 1971. (p. 797).

Detection

New State records include NORTHERN CORN ROOTWORM from Utah (p. 797), an ERIOCOCCID SCALE from Maryland (p. 797), and a TINGID from California (p. 798).

Special Reports

Distribution of Pine False Webworm. Map. (p. 820).

Estimated Losses and Production Cost Attributed to Insects and Related Arthropods - 1969. (pp. 801-819).

Reports in this issue are for week ending November 27 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING NOVEMBER 30

HIGHLIGHT: Warming trends occurred over most of the South. Temperatures were quite erratic over the northern border States and averaged below normal. Heavy rains fell along the Pacific coast. Light to moderate precipitation occurred over the Northern States. Little or none over the South.

PRECIPITATION: Only sparse precipitation occurred over much of Nation last week. The area with little or no precipitation extended from Arizona to the Atlantic coast. Cold air blowing across the relatively warm waters of the Great Lakes became loaded with moisture and dumped heavy snow on the south and east shores of the Lakes especially in western portions of Pennsylvania and New York where snow depths ranged up to about 12 inches. Some roads became completely blocked. A new surge of arctic air swept down into the northern and central Great Plains at midweek. Winds at Minot, North Dakota, gusted to 58 m.p.h. Wednesday. Heavy snow fell at some localities in the northern border States. As the weekend approached, a Pacific storm centered off the Washington coast was bringing rain along the coast as far south as northern California and snow in the coastal ranges and Cascades and eastward to the western edge of the northern Great Plains. At elevations of 3,000 to 5,000 feet in the Cascades snow depths now range from 30 to 50 inches. Another low brought heavy weekend rains to southern California and heavy snow at Mount Shasta where 35 inches fell in 36 hours Friday and Saturday.

TEMPERATURE: The week began with a cold wave pushing southward over central and eastern portions of the United States. On Monday morning temperatures in Iowa had tumbled close to the zero mark and by Wednesday morning many Floridians shivered in subfreezing weather with Tallahassee recording 13°. A warming trend occurred over the West. The mercury at Chardon, Nebraska, climbed from 7° Monday morning to 69° Tuesday afternoon and the minimum temperature at Salt Lake City, Utah, Wednesday morning was 57°. Denver, Colorado, registered 76° Wednesday afternoon, the warmest in that city so late in autumn. Temperatures were erratic over the northern Great Plains, climbing from much below zero in northern Montana Monday morning to 40° and 50° Tuesday afternoon, and tumbling back to near zero Wednesday morning as a new cold wave moved in from Canada. Imperial, Nebraska, registered 77° Wednesday afternoon before falling back to 27° Thursday and remaining below freezing all day Thursday. A warming trend pushed afternoon temperatures to 60° over Nebraska and Kansas on Saturday. Oklahoma and Texas warmed to 70° and 80°. North Dakota remained below freezing. Weekly mean temperatures were 6° to 12° below normal along the Canadian border from northeastern Washington to the Great Lakes and 6° to 12° above normal from the Great Basin to the Nebraska Panhandle. (Summary supplied by Environmental Data Service, ESSA.)

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

GREENBUG (Schizaphis graminum) - OKLAHOMA - Ranged 2-3 per linear foot in wheat-fields in Caddo, Washita, and Kiowa Counties. (Okla. Coop. Sur.). SOUTH DAKOTA - Trace on winter wheat in western Meade County November 20. Ranged 8-10 (averaged 1 infested leaf) per row foot in winter wheat variety trial west of Spearfish, Lawrence County. Infestation probably from adjoining volunteer wheat. (Jones, Rezek). NEW MEXICO - Averaged one per linear foot of wheat in Lovington and Hobbs area, Lea County. Up to 4 per linear foot of barley in Roswell area, Chaves County. (Mathews). ARKANSAS - Survey negative in northwest area. (Boyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Several fields of young alfalfa treated at Yuma, Yuma County. (Ariz. Coop. Sur.). FLORIDA - Nymphs and adults 2,400 in 100 sweeps of 12 to 14-inch high alfalfa at Gainesville, Alachua County, November 19. Noticeable increase compared to sample taken 21 days previously. (Mead).

CORN, SORGHUM, SUGARCANE

NORTHERN CORN ROOTWORM (Diabrotica virgifera) - UTAH - Collected on corn at Ogden, Weber County, by L. Rogers July 25, 1970. Determined by R.E. White. This is a new State record. (Knowlton).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - KANSAS - Up to 90 percent infested plants found in wheat planted just prior to fly-free date in Pawnee County. Such fields when located near old fields with volunteer wheat often show 60-70 percent infested plants. Fields planted after fly-free date or isolated from old fields with volunteer wheat found free from infestations. (Somsen).

PALE WESTERN CUTWORM (Agrotis orthogonia) - NEBRASKA - Analysis of light trap catches and precipitation data indicate high potential for outbreak in southwestern and panhandle areas in 1971. (Keith, Nov. 20).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - MISSISSIPPI - Adults averaged 8 per 200 sweeps in Oktibbeha County oats. (Sartor).

AN APHID (Rhopalosiphum padi) - WASHINGTON - This species and probably other species caused moderate to heavy damage on 5,000-10,000 acres of early planted winter wheat in Benton County. Previously reported from Franklin County, and also noted as problem in Yakima County. Some treatments applied. Present colder temperatures should reduce feeding activity and make control more difficult. (Klostermeyer, Gerlitz).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Adults averaged 4 per 200 sweeps in Oktibbeha County oats. (Sartor).

TURF, PASTURES, RANGELAND

AN ERIOCOCCID SCALE (Eriococcus carolinae) - MARYLAND - Light infestation on beachgrass near Ocean City, Worcester County. Collected by L.R. Krusberg during October 1970. Determined by D.R. Miller. This is a new State record. (U. Md., Ent. Dept.).

A MARCH FLY (Dilophus orbatus) - CALIFORNIA - Larvae 1,000 per square yard in one-eighth acre of Lippia sp. and grass sod in nursery at Oakland, Alameda County. Larvae 15 per square foot in some lawns and up to thousands along walks and driveways at Sacramento, Sacramento County; 50 per square yard at Fresno, Fresno County. Adults heavy in some lawns at Madera, Madera County. (Cal. Coop. Rpt.).

FORAGE LEGUMES

FALL ARMYWORM (Spodoptera frugiperda) - ARIZONA - Larvae of this species and S. exigua (beet armyworm) 20 each per 100 sweeps of alfalfa at Yuma, Yuma County. (Ariz. Coop. Sur.).

PEA APHID (Acyrtosiphon pisum) - ARIZONA - Counts of 200 per 100 sweeps of alfalfa in Gila Valley, Yuma County. (Ariz. Coop. Sur.). NEW MEXICO - Up to 4 per square foot in Chaves County alfalfa fields. (Mathews).

PLANT BUGS - FLORIDA - Lygus lineolaris (tarnished plant bug) adults 15 and Taylorilygus pallidulus adults 106 in 100 sweeps of alfalfa at Gainesville, Alachua County, November 19. (Mead).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - FLORIDA - Adults 17 in 100 sweeps of alfalfa at Gainesville, Alachua County, November 19. (Mead).

A LEAFHOPPER (Graminella nigrifrons) - FLORIDA - Adults 27 in 100 sweeps of alfalfa at Gainesville, Alachua County, November 19. (Mead).

COLE CROPS

AN ACARID MITE (Caloglyphus mycophagus) - CALIFORNIA - Heavy in and on brussels sprouts roots at Castroville, Monterey County. (Cal. Coop. Rpt.).

DECIDUOUS FRUITS AND NUTS

APPLE RUST MITE (Aculus schlechtendali) - CALIFORNIA - Heavy in 14-acre apple orchard at Boonville, Mendocino County. (Cal. Coop. Rpt.).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - CALIFORNIA - Heavy on Prunus spp. at Gridley, Butte County. (Cal. Coop. Rpt.).

BLACK PECAN APHID (Myzocallis caryaefoliae) - ALABAMA - Damage by this species, Monellia spp., and other pests now showing in overall crop loss. Nut crop estimated at 15,000,000 pounds compared to 35,500,000 pounds in 1969. Quality of nuts harvested reduced. Expect 1971 crop to be affected. (McQueen, Nov. 20).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - OREGON - Damaged English walnut orchard in mid-November. Infestation spotty and not extensive, but heavily encrusted branches and twigs killed at Garden Valley, Douglas County. (Passon).

CITRUS

CITRUS RUST MITE (Phyllocoptruta oleivora) - FLORIDA - Adults moderate on 60 percent of 2,000 mixed citrus plants in nursery at Turkey Creek, Hillsborough County, November 4. (Vaughan).

CITRUS RED MITE (Panonychus citri) - ARIZONA - One lemon grove required treatment on Yuma Mesa, Yuma County. (Ariz. Coop. Sur.).

COWPEA APHID (Aphis craccivora) - ARIZONA - Appearing on some citrus with new terminal growth at Yuma, Yuma County. (Ariz. Coop. Sur.).

ORNAMENTALS

A TINGID (Gargaphia arizonica) - CALIFORNIA - Larvae and adults 4 per stem of scattered hollyhock plants at Winterhaven, Imperial County. Collected by R. Flock, on September 3, 1970. Determined by G. Buxton, verified by R.C. Froeschner. This is a new State record. (Cal. Coop. Rpt.).

HEMISPHERICAL SCALE (Saissetia coffeae) - CALIFORNIA - Counts of 100 per orchid leaf in orchid house at Baywood Park, San Luis Obispo County. (Cal. Coop. Rpt.).

MAN AND ANIMALS

SCREW-WORM (Cochliomyia hominivorax) - No cases reported in U.S. November 22-28. Total of 199 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico as follows: Sonora 134, Chihuahua 48, Coahuila 10, Nuevo Leon 1, Tamaulipas 6. Total of 54 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 screw-worm flies released: Texas 18,198,000; Mexico 85,150,000. (Anim. Health Div.).

HARD-BACKED TICKS - OKLAHOMA - Dermacentor albipictus (winter tick) averaged about 1,000 per head (all stages present) on cattle at Lake Carl Blackwell area of Payne County. Heavy on horses and averaged 10 per head on 1 of 12 aged dairy cattle at slaughter house in Payne County. Ticks collected from deer in Comanche, Murray, and Payne Counties ranged 40-50 percent D. albipictus and 50-60 percent Ixodes scapularis (black-legged tick). Light numbers of I. scapularis also on cattle in Payne County. (Okla. Coop. Sur.). ALABAMA - Specimens of I. scapularis collected from cows in Tuscaloosa County November 6 by J.R. Pope and in Butler County November 7 by V.M. Thompson. Determined by V. Emrick. (McQueen).

HORSE SUCKING LOUSE (Haematopinus asini) - OKLAHOMA - Light (less than 1 per hair part) on horses in Payne County. (Okla. Coop. Sur.).

LONG-NOSED CATTLE LOUSE (Linognathus vituli) - OKLAHOMA - Light on cattle in Payne County. (Okla. Coop. Sur.).

STORED PRODUCTS

A DERMESTID BEETLE (Trogoderma variabile) - CALIFORNIA - Medium on stored beans and walks in warehouse at Chino, San Bernardino County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

Lady Beetle Survey in Kansas, May 1970 - Survey conducted on 1,100,000 acres of alfalfa (5 percent of total cropland in State) by State and Federal personnel to determine species present, population densities, and natural parasitism of native coccinellids in all counties of the 9 crop-reporting districts in State. Purpose--to gather preliminary data on benefits of releasing Hippodamia convergens (convergent lady beetle) in sorghum infested with Schizaphis graminum (greenbug). Three stops made per county; average of 15 beetles determined per stop. Misidentification believed to be insignificant. Species distribution, by percent, in all districts: H. convergens 90, H. tredecimpunctata 1, H. parenthesis 2, Coleomegilla maculata 5, and Adalia bipunctata (two-spotted lady beetle) 2. Adult parasitism about 3 percent. Coccinellid adults averaged 6,421 per acre of alfalfa in 8 crop districts; northeast district not estimated. (Bell, Somsen, Knutson).

A FLOWER BUG (Orius insidiosus) - FLORIDA - Adults 30 in 100 sweeps of 12 to 14-inch alfalfa at Gainesville, Alachua County, November 19. (Wyles).

DAMSEL BUGS (Nabis spp.) - FLORIDA - Adults 6 in 100 sweeps of alfalfa at Gainesville, Alachua County, November 19. (Mead).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CARIBBEAN FRUIT FLY (Anastrepha suspensa) - FLORIDA - Expect release of one million sterile flies per week at Key West, Monroe County, beginning December 3. (PPD).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - ALABAMA - Heavy mound building by established broods throughout State since fall and early winter rains raised soil water table. Many mounds in pastures, woods, fields, and along roadsides 10 to 18 inches in height. (McQueen).

MEXICAN FRUIT FLY (Anastrepha ludens) - Last sterile release of season in north-west MEXICO and San Ysidro, CALIFORNIA, November 18. About 23 million sterile flies released this calendar year, including 11,000 in California. During 1970, 12 native flies trapped in Tijuana area in northwest Mexico and 13 in southern California. (PPD).

PINK BOLLWORM (Pectinophora gossypiella) - Sterile moths released November 20-25. CALIFORNIA - Bakersfield, Kern County. 1,678,714; total to date 99,457,240. No native moths trapped. Releases terminated this period. ARIZONA - Redington, Pima County, 45,000; total to date 1,934,800. Boll infestation 6.8 percent. Releases terminated this period. (PPD). TENNESSEE - Surveys of 350 bushels of gin trash negative in western areas. Lint cleaner inspections negative. (State, PPD).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Adults emerging and female moths laying eggs on November 17. About 15 percent of pupae checked not yet emerged. Egg clusters abundant in many untreated areas. (Nielsen).

WEST INDIAN SUGARCANE ROOT BORER (Diaprepes abbreviatus) - FLORIDA - Damage appearing in 2 citrus groves at Apopka, Orange County; definite symptoms of decline showing on trees. Girdling of tap root noted on 2 trees pulled from 1 grove November 23; larvae recovered around 1 tree root. (PPD).

HAWAII INSECT REPORT

Pasture - Larvae of a GRASS WEBWORM (Herpetogramma licarsisalis) less than one per 5 square feet in 20 acres of Kikuyu grass at Puu-O-Hoku Ranch, Molokai; less than one per square foot in pastures at Waihee, Maui. Larval activity negligible in pastures on Oahu, Kauai, and Hawaii. (Ah Sam et al.).

General Vegetables - Larvae and adults of BEAN FLY (Melanagromyza phaseoli) heavy on yardlongbeans in community garden at Lanai City, Lanai. Larvae on 80 percent of older leaves; adults and oviposition scars heavy on young seedlings. Heavy in snap bean fields on Molokai. GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) medium to heavy in string bean and bittermelon (Momordica charantia) fields on north shore area of Oahu and on terminal foliage of watermelon, dasheen (Colocasia esculenta), and guava in commercial plantings at Waimanalo. BEAN BUTTERFLY (Lampides boeticus) larvae light in small planting of lima beans at Lanai City, Lanai. (Miyahira).

Fruits and Nuts - COCONUT SCALE (Aspidiotus destructor) trace to heavy on many coconut trees in Waikiki District of Honolulu, Oahu. Heaviest infestations on several hundred trees along Ala Wai Boulevard. Many of these trees uninfested in 1969. (Nakao).

Beneficial Insects - SOUSBUSH SEED FLY (Acinia picturata) larvae heavy, infested 96 percent of flower heads of sourbush (Pluchea odorata) at Puako, Molokai. (Miyahira). Nymphs (averaging 5 per leaf) and adults (1 per 2 leaves) of Azya luteipes (a lady beetle) preying on crawlers of Coccus viridis (green scale) on 10 plumeria trees at Kaneohe, Oahu. (Kawamura).

DETECTION

New State Records - AN ERIOCOCCID SCALE (Eriococcus carolinae) MARYLAND - Worcester County (p. 797). NORTHERN CORN ROOTWORM (Diabrotica virgifera) UTAH - Weber County (p. 797). A TINGID (Gargaphia arizonica) CALIFORNIA - Imperial County (p. 798).

CORRECTIONS

CEIR 20(18):303 - GROUNDNUT BRUCHID (Caryedon serratus) - Erroneously reported in New Zealand. Should have read New Caledonia. Error reported by K.G. Somerfield, New Zealand Department of Agriculture. (Kingsolver).

COOPERATIVE ECONOMIC INSECT REPORT
ESTIMATED LOSSES AND PRODUCTION COST ATTRIBUTED TO
INSECTS AND RELATED ARTHROPODS - 1969

Introduction

Prior to 1966, insect loss estimates were published in the Cooperative Economic Insect Report as individual reports. An attempt has been made for the fifth year to condense loss estimates from various States into a single report. This gives a more meaningful and better overall picture of the crop losses. The data have been compiled from the crop loss estimates submitted from 19 States. The entomologists submitting the 1969 estimates are listed below.

H.F. McQueen	Alabama
J.E. May	Arizona
W.P. Boyer	Arkansas
F.W. Mead	Florida
K.F. Kawamura	Hawaii
T.A. Cooley	Illinois
H. Gunderson	Iowa
J.L. Hellman	Maryland
R. Sauer	Michigan
R.G. Flaskerd	Minnesota
C.F. Sartor	Mississippi
D.L. Keith	Nebraska
D.C. Arnold	Oklahoma
R.L. Penrose	Oregon
P.A. Jones	South Dakota
C.D. Gordon	Tennessee
L.R. Green	Texas
W.A. Allen	Virginia
A.E. Parshall	Wyoming

Legend for pest abbreviations appears at end of loss tables.

Separates of this report are available from the Economic Insect Survey and Detection Staff.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
20(49):802-820, 1970

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Loss (\$1000)		
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Sub-total (\$1000)	Cost Per Acre (dollars)		Treated Acres (1000)	Sub-total (\$1000)
CORN (Grain)											
Alabama		SwCB, CLA, CEw, FA, ECB, Ww, SCR, Sub, LCB, MB, StB, SB, CB	619.00	2.80	3.81	584.00	2,225.04	1.50	35.00	52.50	2,277.54*
Arizona		A, BA, CEw, FB, LB, LCB, SwCB, StB, WCR	16.00	5.40	7.94	1.00	7.94	5.00	15.00	75.00	82.94**
Iowa		Aw SCB CR (larvae) CR (adults) SB CWS ECB WG	9,416.00 " " " " " "	98.00 - 2.83 - 20.83 - 5.80 10.00	104.00 5.00 3.00 - 21.82 - 6.15 10.60	10.00 2.65 5,568.60 - 156.93 - 9,257.16 12.60	1,040.00 13.25 16,705.80 - 3,424.21 - 56,931.53 20.16	3.13 0.25 3.00 3.13 - 2.75 4.00 -	293.55 984.80 3,847.40 20.40 - 138.30 158.84 -	91,734.00 246.20 11,542.20 61.20 - 380.33 476.52 -	92,774.00 259.45 28,248.00 61.20 3,424.21 380.33 57,408.05 20.16
Maryland		Aw, CEw, Cws, ECB, FA, SW, CR	479.00	8.10	10.13	140.00	952.22	5.00	6.00	30.00	982.22*
Michigan		CR, ECB, CLA	1,622.00	13.60	14.96	99.70	1,491.50	3.00	188.00	564.00	2,055.50
Minnesota		CR, Cws, WG, ECB, Aw, Gh, CEW	4,939.00	5.10	5.61	394.00	2,210.34	2.45 1.85	1,306.00 158.00	3,199.70 292.30	5,420.04* 8,304.29
Nebraska		CR, ECB, CEw, SCB, Cws, Gh, Ww, M, CLA, SCM, SB, Aw, FA, WBC, WG	4,663.00	-	-	-	-	3.00	3,225.00	9,675.00	9,675.00*
South Dakota		CR, ECB, Aw, Gh, Ww	3,262.00	8.60	8.60	636.09	5,470.37	5.00	1,908.27	9,541.35	15,011.72*
Virginia		Aw, Cws, S, ECB, CEw, Ww, SCR, SW	432.00	7.70	9.78	60.00	586.80	2.65	40.00	106.00	992.80**
Wyoming		WCR, BGM, Ww	18.00	3.64	4.55	2.75	12.51	3.00	1.55	4.65	17.16*
							Subtotal			<u>127,688.65</u>	<u>227,394.61</u>

* Quality loss not included in total.

** Quality loss included in total.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Loss (\$1000)		
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Sub-total (\$1000)	Cost Per Acre (dollars)		Treated Acres (1000)	Sub-total (\$1000)
CORN (Silage)											
North Dakota		ECB, Ww, Aw, CLA Cw	353.00	0.25	1.75	10.00	17.50	3.00	15.00	45.00	72.50**
Wyoming		WCR, BGM, Ww	42.00	0.49	3.99	3.35	13.37	3.00	3.05	9.15	22.52*
						Subtotal	30.87			54.15	95.02
SWEET CORN											
Alabama		CEw, StB, FA	3.00	-	-	-	-	30.00	3.00	90.00	90.00*
Minnesota		ECB, Aw, CEw, CR	113.30	-	-	-	-	7.35	113.30	832.76	832.76*
							Subtotal			922.76	922.76
POPCORN											
Nebraska		CR, ECB, CEw, SCB, Cw, M, Gh, Ww, CLA, SCM, Aw, FA, WBC, WG, SB	24.00	384.00	8.83	4.65	41.06	2.85	16.50	47.03	88.09*
				Lbs.			Subtotal			47.03	88.09
SORGHUM (Grain)											
Arizona		A, BA, CEw, FB, LCB, LB, SM, StB, SwCB	199.00	7.80	10.37	30.00	311.00	2.50	50.00	125.00	736.10**
Nebraska		CLA, Cw, Gh, Ww, PB, RA, CB, SCM, SCB, Gb	1,508.00	11.40	11.06	55.00	608.30	2.75	160.00	440.00	1,048.30*
Oklahoma		SM, SWw, CEw, FA, Gb, CLA	542.00	14.10	15.51	142.28	2,206.69	3.19	47.43	151.29	2,357.97*
South Dakota		Gb, Cw	392.00	11.00	10.12	90.00	910.80	2.50	55.00	137.50	1,048.30*
Texas		Gb, CEw, ScBo, SM, SWw, CB, SwCB, SCR	6,196.00	12.50	13.75	1,306.56	17,965.17	3.16	2,695.25	8,521.15	26,486.33*
						Subtotal	22,001.96			9,374.94	31,677.00

* Quality loss not included in total.

** Quality loss included in total.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)		Subtotal (\$1000)
SUGARCANE											
Hawaii		NGSW	113.20	0.36	56.00	11.00	616.00	-	-	-	616.00**@
						Subtotal	<u>616.00</u>				<u>616.00</u>
BARLEY											
Arizona		A, Aw, Cw, SpM, StB	144.00	3.55	4.33	20.00	86.60	2.00	100.00	200.00	326.00**
North Dakota		T, Aw, Cw, Ww	2,180.00	2.90	2.18	10.00	21.80	2.00	10.00	20.00	41.80*
South Dakota		Aw	324.00	17.50	13.65	40.00	546.00	2.50	40.00	100.00	646.00*
Wyoming		A, PWC, Aw	116.00	1.38	1.35	1.40	1.89	2.50	0.60	1.50	3.39*
						Subtotal	<u>656.29</u>			<u>321.50</u>	<u>1,017.19</u>
OATS											
Iowa		Aw	1,840.00	1.00	0.60	400.00	240.00	-	-	-	240.00
Michigan		CLB	458.00	17.10	9.92	99.00	982.10	1.50	130.00	195.00	1,177.10
Nebraska		Ww, EGA, WG, CB, L, Aws, Cws, Gh	548.00	2.17	1.37	28.50	39.05	2.70	7.50	39.05	59.30*
North Dakota		Ww, Aws, Cws, Gh	2,490.00	4.50	2.12	10.00	21.20	2.00	10.00	20.00	41.20*
South Dakota		Aws, Gh	2,357.00	30.20	16.91	200.00	3,382.00	2.50	325.00	812.50	4,194.50*
Wyoming		A, Aw, Cws, Gh	94.00	1.11	0.75	0.88	656.00	2.50	0.53	1.31	1.97*
						Subtotal	<u>5,320.35</u>			<u>1,067.76</u>	<u>5,714.07</u>

*@ Quality loss not included in total. Loss estimate based on crop harvested during year; does not reflect total sugarcane crop.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)		Subtotal (\$1000)
WHEAT											
Arizona		A, Cws, DB, M, SMC	81.00	3.65	5.44	30.00	163.20	2.75	10.00	27.50	310.70**
Michigan		CLB	628.00	4.80	5.71	108.00	616.70	1.50	19.00	28.50	645.20
Nebraska		BWM, WG, WSM, Cws, HF, Gb, Gh, Ww, EGA, CB, M, Aw	2,717.00	4.72	5.33	90.00	479.70	2.75	260.00	715.00	1,194.70*
North Dakota		WSM, BWM, Gh, WSSF, Ww, Aws, Cws	6,782.00	1.50	2.06	500.00	1,030.00	2.00	300.00	600.00	1,630.00*
Oklahoma		Gb, FA, BWM	4,150.00	6.27	7.52	821.70	6,179.18	2.78	423.30	1,176.77	7,355.96*
South Dakota		Cws, Gh, WSM, BWM, HF	1,963.00	5.50	7.81	35.00	273.35	2.50	30.00	75.00	348.35*
Texas		Gb, WGM, FA	2,869.00	3.60	4.46	183.19	817.05	2.49	1,166.91	2,904.72	3,721.76*
Wyoming		PWC, A, Gh, G	242.00	1.28	1.38	7.36	10.16	2.50	6.25	15.63	25.78*
						Subtotal	9,569.34			5,543.12	4,095.89
WHEAT, OATS, BARLEY											
Minnesota		Aw, A, Gh	5,002.00	-	-	-	-	1.50	53.65	80.47	80.47*
						Subtotal				80.47	80.47
RICE											
Arkansas		RWW, RSB	515.00	-	-	-	-	1.00	515.00	515.00	515.00*
						Subtotal				515.00	515.00

* Quality loss not included in total.

** Quality loss included in total.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)
				Loss Per Acre (Units)	Loss Per Acre (dollar)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)	
RANGE GRASS										
South Dakota	Gh		26,000.00	0.08	1.52	3.00	4.56	-	-	4.56*
						Subtotal	<u>4.56</u>			<u>4.56</u>
ALFALFA (Hay)										
Arkansas	AlW, VC		55.00	-	-	-	-	2.00	25.00	50.00*
Arizona	AC, BA, CL, EAW, LB, M, A, TCAH		188.00	0.54	14.69	80.00	1,175.20	4.00	20.00	2,775.20**
Maryland	PA, AlW, LB, MS, PB, PL, Aw		67.00	0.66	26.40	8.00	211.20	6.00	20.00	330.20*
Michigan	AlW, PL, PA		1,485.00	0.54	12.15	519.00	6,305.90	3.00	223.00	6,974.90
North Dakota	Gh, Cws, AlW		1,256.00	0.10	1.80	30.00	54.00	2.00	20.00	94.00*
Oklahoma	SAA, PA, FA, Gh		581.00	0.70	22.13	112.25	2,484.07	3.65	50.43	2,668.14*
South Dakota	Gh, AlW, PA, FB, Cr		2,174.00	0.50	11.50	501.12	5,762.88	2.50	325.00	6,575.38*
Tennessee	AlW		54.00	0.24	8.46	16.20	137.05	6.00	37.80	363.85*
Virginia	AlW, MS, PA, PL		90.00	0.75	30.00	2.00	60.00	7.00	16.00	232.00**
Wyoming	AlW, PA, LB		451.00	0.31	6.92	140.45	971.91	3.25	106.30	1,317.39*
						Subtotal	<u>17,162.21</u>		<u>2,669.85</u>	<u>21,381.06</u>
ALFALFA (Seed)										
Arizona	AC, A, BA, CL, C, Cws, EAW, LB, T, TCAH		10.00	0.05	1.92	1.00	1.92	6.00	9.00	71.92**
Nebraska	W, Ww, BB, Wbw, C, PB, L, Gh, A, Cws		30.00	6.30	1.89	6.00	11.34	2.75	9.00	36.09*
Wyoming	AlW, PA, LB		6.00	6.60	1.98	1.22	2.41	8.00	0.60	7.21*
						Subtotal	<u>15.67</u>		<u>83.55</u>	<u>115.22</u>

* Quality loss not included in total.

** Quality loss included in total.

Crop State	Pest Complex	Total Acres Produced (1000)	Yield Loss		Control Cost			Total Loss (\$1000)		
			Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)		Treated Acres (1000)	Subtotal (\$1000)
CLOVER-TIMOTHY										
Maryland	CoA, W, FB, LB, Gh, MS, PB	217.00	Tons	5.25	20.00	105.00	3.50	60.00	210.00	315.00*
					Subtotal	105.00			210.00	315.00
HAY										
Alabama	FA, AlW, Gh, Cr, W, A, CLW, WG, WFB, CEW, T, L	492.00	0.23	6.56	190.00	124.64	6.00	10.00	60.00	184.64*
Minnesota	Gh, Aw, Cws	3,185.00	0.25	0.49	144.00	70.50	2.09	4.00	8.36	78.92*
Nebraska	Gh, Wbw, Cws, SAA, PB, PA, CoA, CR, AWS, WG	4,354.00	0.11	2.31	370.00	854.70	2.75	60.00	165.00	1,019.70*
					Subtotal	1,049.84			233.36	1,283.26
SOYBEANS										
Alabama	Vbc, CL, StB, BLB, CEW, SB, MBB, SL, GCW	641.00	Bu.	5.29	121.00	640.09	2.10	200.00	420.00	634.80*
Arkansas	CEW, StB, BA, Vbc	4,228.00	3.07	7.52	250.00	1,880.00	2.50	1,691.00	4,227.50	6,107.50*
Iowa	WG	5,283.00	4.35	10.00	7.53	75.25	-	-	-	75.25
Maryland	BLB, CEW, MBB, T, Gh, GCW	205.00	1.65	3.80	10.00	37.50	3.00	10.00	30.00	67.50*
Minnesota	Aw, BLB, GCW, Gh	3,167.00	-	-	-	-	1.33	16.00	21.28	21.28*
Mississippi	Vbc, GCW, BA, Blw	2,523.00	-	-	-	-	3.50	300.00	1,050.00	1,050.00*
Nebraska	BLB, WG, MBB, Wbw, GCW, CR, Cws, Ww	813.00	0.99	2.18	32.50	70.85	3.00	9.50	28.50	99.35*

* Quality loss not included in total. In Alabama, includes 6 percent loss to treated soybean acres for inadequate controls on acres treated.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Cost Per Acre (dollars)	Treated Acres (1000)	Sub-total (\$1000)		
SOYBEANS (Cont.)											
North Dakota	Gh		185.00	Bu.	2.20	0.50	1.10	2.00	2.50	5.00	6.10*
South Dakota	Cws		258.00	14.70	33.37	3.00	100.11	2.50	1.00	25.00	125.11*
Tennessee	CEW		1,268.00	0.24	0.55	400.00	220.00	2.00	500.00	1,000.00	1,200.00*
Virginia	CEW, StB, GCW		361.00	7.25	17.04	175.00	2,982.00	3.00	175.00	525.00	4,207.00**
						Subtotal	6,006.90			7,332.28	13,593.89
PEANUTS											
Alabama		LCB, T, SCR, Cws, WFB, SpM, L, FA, Aw, BA, SI	187.00	457.50	53.98	22.00	1,187.56	3.25	165.00	536.25	3,209.21*
Virginia		SCR, CEW, T, M	102.00	230.00	29.67	1.00	29.67	5.00	79.00	395.00	444.67**
						Subtotal	1,217.23			931.25	3,653.88
COTTON											
Alabama		BW, Blw, TB, T, PB, F, SpM	545.00	121.50	25.52	5.00	127.60	22.50	540.00	12,150.00	16,888.80**
Arizona		F, Blw, CL, CA, CLP, Cws, DB, LB, PBW, SpM, StB, T, Wf	309.00	501.00	116.23	5.00	581.15	20.00	295.00	5,900.00	6,583.15**
Arkansas		Blw, BW, PB, M	1,055.00	41.40	8.90	100.00	890.00	12.00	740.00	8,880.00	9,770.00*
Mississippi		Blw, PB, T	1,190.00	287.00	58.74	95.00	5,580.30	15.91	1,805.00	28,717.55	34,944.80**
Oklahoma		BW, Blw, F, T, CA	465.00	77.70	14.37	170.19	2,445.63	11.99	113.46	1,360.39	3,806.02*
Tennessee		BW	405.00	50.40	11.00	43.40	481.25	15.00	101.26	1,518.83	2,001.28**
		Blw				105.00	1,115.00	15.00	300.00	4,500.00	5,615.00*
Texas		A, SpM, T, F, TB, Blw, BW, Cws, BA, CLP, Gh	4,675.00	73.50	13.60	1,459.13	19,844.15	6.61	1,813.37	1,198.38	33,289.67**
						Subtotal	31,065.08			64,215.15	112,898.72

* Quality loss not included in total. In Alabama, includes 5 percent loss to treated peanut acres for inadequate controls on acres treated.

** Quality loss included in total. In Alabama, includes 10 percent loss to treated cotton for inadequate controls on acres treated.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)		Subtotal (\$1000)
TOBACCO											
Florida		TB, CL, Cws, TFB, TH, GPA, Ww	12.20 3.90	220.00 115.00	152.00 311.00	- -	1,854.40 1,212.90	16.00 79.00	12.20 3.90	195.20 308.10	2,244.80** 1,521.00**
Maryland		GPA, TH, TFB, TB	30.00	120.00	90.00	5.00	450.00	15.00	25.00	375.00	825.00*
						Subtotal	<u>3,517.30</u>			<u>878.30</u>	<u>4,590.80</u>
SUGAR BEETS											
Arizona		BA, BL, CL, GPA, LB, StB	33.60	0.91	11.83	25.00	295.75	4.00	8.60	34.40	330.15*
Michigan		A, Cws, FB, SLM	92.60	2.03	21.72	10.00	217.20	2.20	20.00	44.00	261.20
Minnesota		BWw, BLM, Cws, Ww	164.30	-	-	-	-	400.00	0.25	1.00	1.00*
Nebraska		WDw, L, Gh, Ww, FB	88.00	1.75	26.95	5.00	134.75	3.50	5.00	17.50	152.25*
North Dakota		SBRM, Cws, BWw, Ww	93.30	0.30	5.40	24.00	129.60	4.25	26.00	110.50	240.10*
Wyoming		SBRM, Ww, BL, BWw	67.70	1.58	22.99	7.00	160.93	4.25	5.60	23.80	184.73*
						Subtotal	<u>938.23</u>			<u>231.20</u>	<u>1,169.43</u>
SAFFLOWER											
Arizona		A, BA, CL, LB, M, StB, VC, T	25.00	0.12	9.36	5.00	46.80	3.50	20.00	70.00	131.80**
						Subtotal	<u>46.80</u>			<u>70.00</u>	<u>131.80</u>
FLAX											
North Dakota		Gh, Cws, Ww	1,513.00	0.80	2.08	5.00	10.40	1.60	15.00	24.00	34.40*
South Dakota		Aw, Cws, Gh	652.00	2.20	5.83	24.00	139.92	2.50	31.00	77.50	217.42*
						Subtotal	<u>240.32</u>			<u>101.50</u>	<u>251.82</u>

* Quality loss not included in total.

** Quality loss included in total.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)		Subtotal (\$1000)
SUNFLOWERS											
North Dakota		Cws, Ww, Sfm, Sfb, Sum	108.00	72.00	31.97	1.00	31.97	3.00	4.00	12.00	43.97*
						Subtotal	<u>31.97</u>			<u>12.00</u>	<u>43.97</u>
POTATOES											
Alabama		Cws, Ww, A, PFB, PL, CPB	19.00	-	-	-	-	6.00	19.00	114.00	676.80*
Arizona		A, BA, CL, DB, FB, L, PP	12.80	11.50	33.35	4.00	133.40	6.00	6.00	36.00	169.40*
Minnesota		L, FB	97.90	15.80	27.65	2.90	80.19	10.00	95.00	950.00	1,030.19*
Nebraska		CPB, L, PB, BB, PP, FB, Ww, WG, Gh	9.10	23.60	32.57	1.00	32.57	6.20	5.00	31.00	63.57*
North Dakota		Ww, FB, CPB	110.00	5.60	7.28	5.00	36.40	6.20	70.00	434.00	470.40*
Wyoming		PP, Ww, FB	3.40	7.22	14.44	0.10	1.44	6.50	3.30	21.45	22.89*
						Subtotal	<u>284.00</u>			<u>1,586.45</u>	<u>2,433.25</u>
TOMATOES											
Alabama		TFw, FB, A, CL, LMF, SpM, TPw	8.50	-	-	-	-	46.00	8.50	391.00	928.17*
Maryland		A, CPB, L, TF, ECB, TH	4.60	2.08	77.17	-	-	10.00	4.60	46.00	46.00*
Hawaii		GHwf, LMF, CSPM, MA, M, Tb	0.20	1225.00	220.00	-	44.00	206.00	0.20	41.20	85.20*
						Subtotal	<u>44.00</u>			<u>478.20</u>	<u>1,059.37</u>

* Quality loss not included in total. In Alabama, includes 9 percent loss to treated potato acres and 12 percent loss to treated tomato acres for inadequate controls on acres treated.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss		Sub-total (\$1000)	Control Cost	Total Loss (\$1000)
				Loss Per Acre (Units)	Loss Per Acre (dollars)			
BEANS (Field)								
Nebraska		WBC, MBB, Gh, BLE, L, A	92.00	2.22	15.10	20.00	3.50	414.00*
Wyoming		MBB, FB	28.00	0.33	2.38	1.74	3.50	9.95*
					Subtotal	306.14		117.81
BEANS (Snap)								
Alabama		MBB, BLB, CEw, SpM, LCB, T, SCR	1.40	-	-	-	13.00	18.20
Hawaii		GHwf, LMF, CSpM, BF, M, CRB	0.11	294.00	94.00	-	162.00	28.16*
					Subtotal	10.34		36.02
PEAS								
Minnesota		PA, GCw, Aw	63.20	-	-	-	4.00	50.34
					Subtotal	10.34		50.34
CABBAGE								
Arizona		A, CL, GW (winter)	1.50	11.00	45.10	-	15.00	22.50
Hawaii		CL, DM, A, IC, BC, S, CWw, Sn	0.42	1885.00	113.00	-	45.00	66.36*
					Subtotal	47.46		41.40
CAULIFLOWER								
Arizona		A, CL (winter)	0.90	8.25	116.33	-	22.00	19.80*
					Subtotal	-		22.00

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Crop	State	Pest Complex	Total Acres Produced (1000)		Yield Loss			Control Cost			Total Loss (\$1000)
			Acres Produced (1000)	Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal	Cost Per Acre (dollars)	Treated Acres (1000)	Subtotal (\$1000)	
BROCCOLI											
Arizona	A, CL		0.65	6.50	84.50	-	-	25.00	0.65	16.25	16.25*
						Subtotal				<u>16.25</u>	<u>16.25</u>
CANTALOUPS											
Arizona	StCB, FB, L, M, T (spring)		12.80	26.00	163.80	-	-	20.00	12.80	256.00	256.00*
	(summer)		2.10	11.00	63.80	-	-	25.00	2.10	52.50	52.50*
	(fall)		1.00	6.00	36.00	-	-	15.00	1.00	15.00	15.00*
						Subtotal				<u>773.50</u>	<u>773.50</u>
MELONS (Honeydew)											
Arizona	StCB, FB, L, M, T (summer)		1.20	6.50	29.25	-	-	20.00	1.20	24.00	24.00*
						Subtotal				<u>24.00</u>	<u>24.00</u>
WATERMELONS											
Arizona	StCB, FB, L, M, T (summer)		5.10	7.50	13.50	0.60	8.10	6.00	4.50	27.00	38.10**
						Subtotal	<u>8.10</u>			<u>27.00</u>	<u>38.10</u>
CARROTS											
Arizona	A, T (spring)		2.80	9.00	42.30	0.50	21.15	8.00	2.30	18.40	54.55**
						Subtotal	<u>21.15</u>			<u>18.40</u>	<u>54.55</u>
LETTUCE											
Arizona	A, BA, CL, CEW, Cr, LB, SMC (winter)		16.10	19.00	129.20	-	-	25.00	16.10	402.50	402.50*
	(spring)		20.00	27.00	183.60	-	-	35.00	20.00	700.00	700.00*
	(fall)		13.10	17.00	166.60	-	-	30.00	13.10	393.00	393.00*
						Subtotal				<u>1,495.50</u>	<u>1,495.50</u>

* Quality loss not included in total.

** Quality loss included in total.

Crop	State	Pest Complex	Yield Loss			Control Cost			Total Loss (\$1000)	
			Total Acres Produced (1000)	Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal	Cost Per Acre (dollars)		Treated Acres (1000)
ONIONS (Dry)										
Arizona		BA, CL, T	2.00	18.75	59.06	-	-	8.00	2.00	16.00*
						Subtotal				<u>16.00</u>
SWEETPOTATOES										
Alabama		Ww, FB, SPW, WG, WFB	5.30	7.65	41.30	2.00	82.60	8.00	3.30	125.00**
						Subtotal	<u>82.60</u>			<u>125.00</u>
APPLES										
Arkansas		CdM, RAA, LR	1.50	-	-	-	-	55.00	1.50	82.50
Maryland		A, AM, CdM, LR, M, SpM	70.00	-	-	-	-	0.01	-	595.00*
Michigan		Cws, M, PB, LR, PC, AM, CdM, A, L, Sc	57.00	1200.00	48.00	-	2,736.00	70.00	57.00	3,990.00
Minnesota		AM, CdM, C, M	3.00	-	-	-	-	150.00	3.00	450.00*
Virginia		CdM, A, M, LR	470.00	-	-	-	-	0.01	-	2,209.00*
						Subtotal	<u>2,736.00</u>			<u>7,326.50</u>
TART CHERRIES										
Michigan		PC, LR, PTB, CFF, LPTB, A	40.10	264.00	20.00	-	802.00	20.00	40.10	1,604.00
						Subtotal	<u>802.00</u>			<u>1,604.00</u>
SWEET CHERRIES										
Michigan		PC, LR, PTB, CFF, LPTB, A	10.90	200.00	22.00	-	239.80	20.00	10.90	447.80
						Subtotal	<u>239.80</u>			<u>447.80</u>

* Quality loss not included in total.

** Quality loss included in total.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)		Subtotal (\$1000)
PEACHES											
Alabama		PC, PTB, LPTB, Sc, TSM, OFM	Trees 650.00 Acres	-	-	-	-	0.30	650.00 Acres	195.00	395.20*
Michigan		Cws, PB, M, OFM, PC, PTB, LPTB	13.50	720.00	36.00	-	486.00	40.00	13.50	540.00	1,315.00
						Subtotal	486.00			735.00	1,710.20
PEARS											
Michigan		Sc, M, PB, LR, PC, A, CdM	9.20	250.00	10.00	-	92.00	60.00	9.20	552.00	644.00
						Subtotal	92.00			552.00	644.00
PLUMS											
Michigan		Sc, M, LR, PC, AM, L	6.10	240.00	9.50	-	57.95	35.00	6.10	213.50	271.45
						Subtotal	57.95			213.50	271.45
PECANS											
Alabama		HS, A, W, PnC, StB, SpM, Sc, P	Lbs. 36,000.00	7.98	2.38	600.00	1,428.00	9.00	150.00	1,350.00	3,978.00**
						Subtotal	1,428.00			1,350.00	3,978.00
LEMONS											
Arizona		A, Cic, Gh, K, M, LFB, L, OD, LR, T, Sc	13.36#	63.00	157.50	3.36	529.20	25.00	10.00	250.00	846.40**
						Subtotal	529.20			250.00	846.40
GRAPEFRUIT											
Arizona		A, Cic, Gh, K, LFB, LR, M, OD, T, Sc	6.68	25.00	37.50	2.68	100.50	10.00	4.00	40.00	193.10**
						Subtotal	100.50			40.00	193.10

* Quality loss not included in total. In Alabama, includes 8 percent loss to treated peach trees for inadequate controls on trees treated.

** Quality loss included in total.

Includes 60 acres of limes.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)		Subtotal (\$1000)
ORANGES											
Arizona		A, Cic, Gh, K, LFB, L, M, LR, OD, T, Sc	23.40	Boxes 65.25	114.19	1.40	159.87	30.00	22.00	660.00	889.87**
Hawaii		OFF, CRM, CBM, MFF, M	0.04	Lbs. 1.61	128.00	0.04	5.38	50.00	0.04	2.10	7.48*
						Subtotal	165.25			662.10	897.35
TANGERINES											
Arizona		A, Cic, Gh, K, M, LFB, L, LR, OD, T	6.36	Boxes 40.00	90.00	0.36	32.40	15.00	6.00	90.00	135.00**
						Subtotal	32.40			90.00	135.00
MACADAMIA NUTS (in shell)											
Hawaii		StB, M, T	4.03	Lbs. 78.00	17.00	0.01	0.17	-	-	-	0.17*
						Subtotal	0.17			-	0.17
PASSION FRUIT (processed)											
Hawaii		BSc, CSPM, M, Mb MF, OFF	0.27	1074.00	43.00	-	11.61	43.00	0.27	11.61	23.22*
						Subtotal	11.61			11.61	23.22
PAPAYAS											
Hawaii		GPA, CSPM, TCM, BFM, RFM	0.83	461.00	60.00	-	49.80	34.00	0.83	28.22	70.02*
						Subtotal	49.80			28.22	70.02
CRANBERRIES											
Oregon		BHF, CG, CF, RW	0.70	-	-	-	-	-	-	-	80.00*
						Subtotal	-			-	80.00

* Quality loss not included in total.

** Quality loss included in total.

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal	Subtotal (\$1000)	Cost Per Acre (dollars)		Treated Acres (1000)
STRAWBERRIES											
Michigan	MS, LR, PB, SI		6.30	530.00	106.00	-	667.80	50.00	6.30	315.00	982.80
						Subtotal	667.80			315.00	982.80
GRAPES											
Michigan	Cws, GBM, L, RC		16.70	456.00	36.00	-	601.20	20.00	16.70	334.00	935.20
						Subtotal	601.20			334.00	935.20
HOGS											
Alabama	Hf, HL, M		1,628.00	18.00	3.74	200.00	748.00	1.25	1,428.00	1,785.00	2,533.00*
						Subtotal	748.00			1,785.00	2,533.00
BROILERS											
Alabama	Hf, DB, M, Li		352,700.00	-	-	-	-	0.03	352,700.00	10,581.00	10,581.00*
						Subtotal	-			10,581.00	10,581.00
						Total	200,300.12			252,607.02	485,446.11

For loss data from Illinois see addendum on page

* Quality loss not included in total.

Addendum

Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)	
CORN										
Illinois	SI		9,763.00	Bu. 7.84	8.94	-	-	-	-	21,151.22
	AW		"	4.90	5.59	49.20	275.05	3.00	492.04	1,476.11
	CFB		"	6.86	7.82	0.97	7.57	2.50	9.68	24.20
	CR (adults)		"	6.86	7.82	2.60	20.34	3.00	52.03	156.08
	CLA		"	7.84	8.94	1.00	8.92	2.75	19.96	54.88
	CWS		"	7.84	8.94	1.03	9.24	2.50	12.93	32.32
	ECB		"	5.88	6.70	904.49	6,060.05	3.00	195.52	586.55
	Gh		"	3.92	4.47	9.96	4.45	2.50	66.39	165.97
	FA		"	4.90	5.59	40.42	225.96	3.00	202.11	606.33
						Subtotal	<u>6,611.58</u>			<u>3,102.44</u>
SWEET CORN										
Illinois	CE, ECB		55.60	Tons 0.22	6.40	0.10	0.64	12.00	55.00	660.00
						Subtotal	<u>0.64</u>			<u>660.00</u>
WHEAT										
Illinois	Aws		1,301.00	Bu. 2.59	3.06	1.67	5.10	2.75	33.35	91.72
						Subtotal	<u>5.10</u>			<u>91.72</u>
SOYBEANS										
Illinois	Gh		6,596.00	2.35	5.52	3.05	16.85	3.00	61.07	183.20
						Subtotal	<u>16.85</u>			<u>183.20</u>
CLOVER-TIMOTHY HAY										
Illinois	CLW		440.00	Tons 0.08	1.79	0.06	0.11	3.25	1.19	3.88
						Subtotal	<u>0.11</u>			<u>3.88</u>

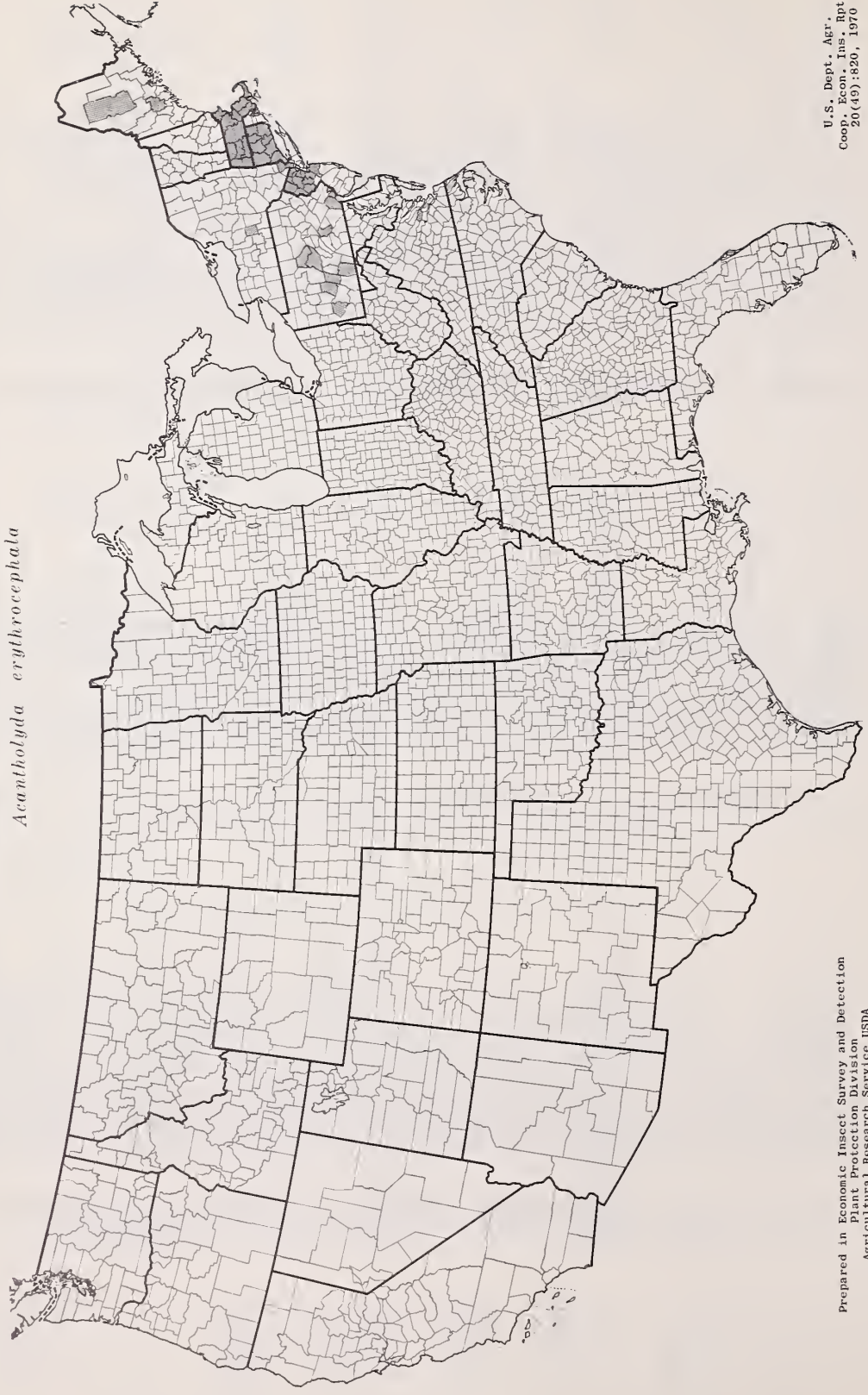
Crop	State	Pest Complex	Total Acres Produced (1000)	Yield Loss			Control Cost			Total Loss (\$1000)	
				Loss Per Acre (Units)	Loss Per Acre (dollars)	Non-treated Acres (1000)	Subtotal (\$1000)	Cost Per Acre (dollars)	Treated Acres (1000)		Subtotal (\$1000)
ALFALFA HAY											
Illinois		Wbw	766.00	0.29	6.77	0.09	0.59	3.25	1.73	5.63	6.22
		Alw	"	0.22	5.26	6.92	36.39	3.25	46.13	149.92	186.31
		Gh	"	0.13	3.01	7.16	21.56	3.25	71.61	232.74	254.29
		MS	"	0.13	3.01	0.10	0.30	3.25	1.95	6.35	6.65
		PA	"	0.16	3.76	0.17	0.63	3.25	3.33	10.83	11.45
		PL	"	0.16	3.76	0.93	3.51	3.25	9.33	30.31	33.82
		VC	"	0.16	3.76	0.18	0.67	3.25	3.54	11.51	12.17
						Subtotal	<u>63.65</u>			<u>447.29</u>	<u>510.91</u>
TOMATOES											
Illinois		Tomato pest complex	6.40	0.64	29.90	0.56	16.74	15.00	5.84	87.60	104.34
						Subtotal	<u>16.74</u>			<u>87.60</u>	<u>104.34</u>
CABBAGE											
Illinois		CL, CM	2.00	60.00	213.00	0.40	85.20	8.00	1.60	12.80	98.00
				Cwt.		Subtotal	<u>85.20</u>			<u>12.80</u>	<u>98.00</u>
CUCUMBERS											
Illinois		StCB	0.85	3.24	17.50	0.43	7.44	6.00	0.43	2.55	9.99
						Subtotal	<u>7.44</u>			<u>2.55</u>	<u>9.99</u>
WATERMELONS											
Illinois		Watermelon pest complex	1.70	6.18	17.30	0.50	8.65	6.00	1.20	7.20	15.85
						Subtotal	<u>8.65</u>			<u>7.20</u>	<u>15.85</u>
ONIONS											
Illinois		OM, T	0.70	3.63	11.43	0.08	0.91	12.00	0.62	7.44	8.35
						Subtotal	<u>0.91</u>			<u>7.44</u>	<u>8.35</u>
				State Total			<u>6,816.87</u>			<u>4,606.12</u>	<u>32,574.15</u>
				Amended Total			207,116.99			257,213.14	518,020.26

LEGEND

A	- Aphids	FA	- Fall Armyworm	RWW	- Rice Water Weevil
AC	- Alfalfa Caterpillar	FB	- Flea Beetles	S	- Slugs
ACw	- Army Cutworm	G	- Grassbugs	SAA	- Spotted Alfalfa Aphid
AL	- Aster Leafhopper	Gb	- Greenbug	SB	- Stalk Borer
ALw	- Alfalfa Weevil	GCw	- Green Cloverworm	SBRM	- Sugar-beet Root Maggot
AM	- Apple Maggot	Gh	- Grasshoppers	Sc	- Scales
Aw	- Armyworm	GHwf	- Greenhouse Whitefly	SCB	- Seed-corn Beetle
Aws	- Armyworms	GM	- Ginger Maggots	ScBo	- Sugarcane Borer
BA	- Beet Armyworm	GPA	- Green Peach Aphid	SCM	- Seed-corn Maggot
BB	- Blister Beetles	GW	- Garden Webworm	SCR	- Southern Corn Rootworm
BF	- Bean Fly	Hf	- House Fly	SfB	- Sunflower Beetle
BGM	- Banks Grass Mite	HF	- Hessian Fly	SfM	- Sunflower Maggots
BC	- Black Cutworm	HL	- Hog Louse	SHW	- Sweetpotato Hornworm
BHF	- Black-headed Fireworm	HS	- Hickory Shuckworm	SI	- Soil Insects
BL	- Beet Leafhopper	IC	- Imported Cabbageworm	SLM	- Spinach Leaf Miner
BLB	- Bean Leaf Beetle	K	- Katydids	SM	- Sorghum Midge
BLM	- Beet Leaf Miner	L	- Leafhoppers	SMC	- Salt-marsh Caterpillar
Blw	- Bollworm	LB	- Lygus Bugs	SN	- Snail
BSC	- Barnacle Scale	LCB	- Lesser Cornstalk Borer	SpM	- Spider Mites
BW	- Boll Weevil	LFB	- Leaf-footed Bug	SpW	- Sweetpotato Weevil
BWM	- Brown Wheat Mite	LMF	- Leaf Miner Flies	StB	- Stink Bugs
BWw	- Beet Webworm	LPTB	- Lesser Peach Tree Borer	StCB	- Striped Cucumber Beetle
C	- Chalcids	LR	- Leaf Rollers	Sub	- Sugarcane Beetle
CB	- Chinch Bugs	Li	- Lice	SuM	- Sunflower Moth
CEw	- Citrus Bud Mite	M	- Mites	SVB	- Squash Vine Borer
CdM	- Codling Moth	MA	- Melon Aphid	SW	- Sod Webworms
CEW	- Corn Earworm	Mb	- Mealybug	SwCB	- Southwestern Corn Borer
CF	- Cranberry Fruitworm	MBB	- Maize Billbug	SWW	- Sorghum Webworm
CFB	- Corn Flea Beetle	MF	- Melon Fly	T	- Thrips
CFf	- Caribbean Fruit Fly	MS	- Meadow Spittlebug	Tb	- Tomato Bug
CG	- Cranberry Girdler	MS	- Meadow Spittlebug	TB	- Tobacco Budworm
CRM	- Citrus Rust Mite	OD	- Orange-dog	TC	- Thistle Caterpillar
Cic	- Cicadas	OFF	- Oriental Fruit Fly	TCAH	- Three-cornered Alfalfa Hopper
CL	- Cabbage Looper	OFM	- Oriental Fruit Moth	TCM	- Texas Citrus Mite
CLA	- Corn Leaf Aphid	OM	- Onion Maggot	TFB	- Tobacco Flea Beetle
CLP	- Cotton Leaf Perforator	OT	- Onion Thrips	TFw	- Tomato Fruitworm
CLW	- Clover Leaf Weevil	P	- Phylloxera	TH	- Tomato Hornworm
CoA	- Clover Aphid	PA	- Pea Aphid	TPw	- Tomato Pinworm
CP	- Corn Planthopper	PB	- Plant Bugs	Tsm	- Tumid Spider Mite
CPB	- Colorado Potato Beetle	PFb	- Potato Flea Beetle	TSM	- Two-spotted Spider Mite
Cr	- Crickets	PL	- Potato Leafhopper	VbC	- Velvetbean Caterpillar
CR	- Corn Rootworms	PP	- Potato Psyllid	VC	- Variegated Cutworm
CRB	- Chinese Rose Beetle	PNC	- Pecan Nut Casebearer	W	- Weevils
CSpM	- Carmine Spider Mite	PT	- Potato Tuberworm	WCR	- Western Corn Rootworm
Cws	- Cutworms	PTB	- Pepper Weevil	WCB	- Western Bean Cutworm
CWw	- Cabbage Webworm	PW	- Pepper Weevil	Wbw	- Webworms
DB	- Darkling Beetles	PWC	- Pale Western Cutworm	Wf	- Whitefly
DM	- Diamondback Moth	RA	- Root Aphids	WFB	- White-fringed Beetles
EAW	- Egyptian Alfalfa Weevil	RAA	- Rosy Apple Aphid	WG	- White Grubs
ECB	- European Corn Borer	RFM	- Red Flat Mite	WSM	- Wheat Stem Sawfly
EGA	- English Grain Aphid	RSB	- Rice Stink Bug	WSSF	- Wheat Stem Sawfly
F	- Fleahoppers	RW	- Root Weevils	Ww	- Wireworms

Distribution of Pine False Webworm

Acantholyda erythrocephala



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Plant Protection Division
Agricultural Research Service USDA
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