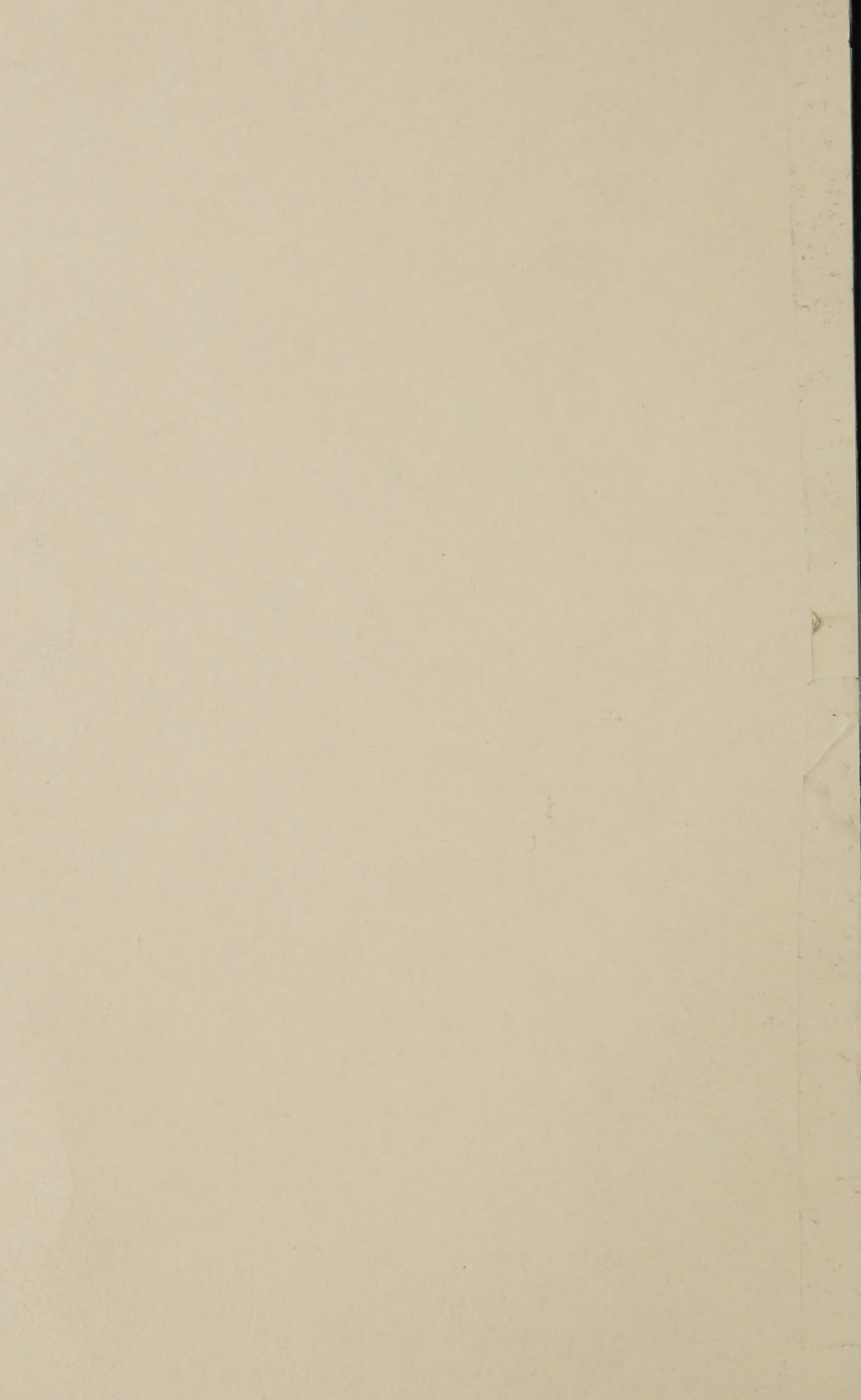


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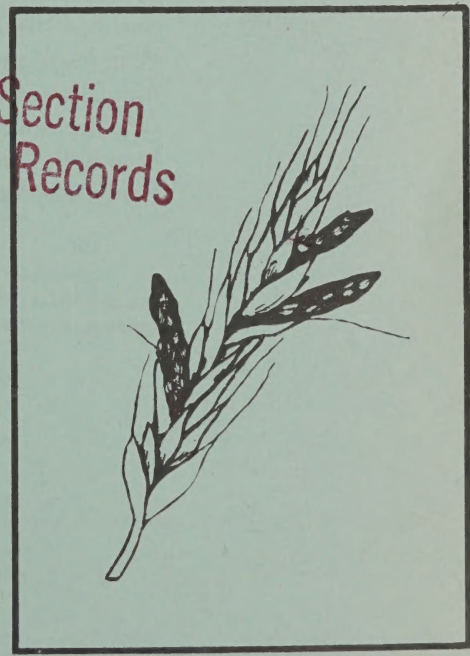
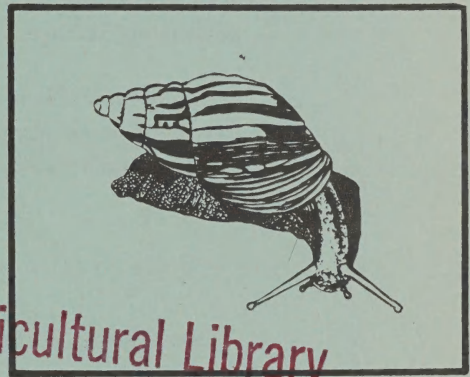
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER increased on corn in eastern Nebraska, treated in parts of Missouri and Illinois, and infested 60% of corn in parts of North Carolina. (p. 323-324).

POTATO LEAFHOPPER damaged forage legumes in parts of Illinois and Ohio. (p. 328).

Detection

- SUGARCANE SMUT in Florida is new for the continental United States. (p. 323).

For new county records see page 336.

Reports in this issue are for the week ending June 30 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Tobacco	
Diseases.....	323	Insects.....	330
Insects.....	323		
		Miscellaneous Field Crops	
Small Grains		Insects.....	331
Diseases.....	325		
Insects.....	327	Beans and Peas	
		Diseases.....	331
Forage Legumes		Insects.....	331
Diseases.....	327		
Insects.....	327	General Vegetables	
		Diseases.....	332
Soybeans			
Diseases.....	328	Deciduous Fruits and Nuts	
Insects.....	329	Insects.....	332
Peanuts		Ornamentals	
Insects.....	329	Insects.....	332
Cotton		Forest and Shade Trees	
Insects.....	330	Insects.....	333
		Man and Animals	
		Insects.....	333
Beneficial Organisms and Their Enemies			
Insects.....	333		
Federal and State Programs			
Diseases.....	333		
Insects.....	334		
Hawaii Pest Report.....	335		
Detection.....	336		
Light Trap Collections.....	337		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	339		

CORN, SORGHUM, SUGARCANE

DISEASES

SUGARCANE SMUT (Ustilago scitaminea Sydow) - FLORIDA - New continental United States record. Hendry County--infected 2 sugarcane plants in field at Clewiston. Collected by A. Frazer, June 28, 1978. Determined by E.H. Todd; confirmed by F. Pollack. Infected plants burnt. Preliminary survey found 30-40 infected plants in 8.1-ha (20-acre) experimental block; survey continuing. (Mead). Known to occur in Hawaii, Argentina, Bolivia, Brazil, Dominican Republic, Guyana, Jamaica, Martinique, and in other sugarcane growing countries of Africa and Asia. (Alfieri). Known hosts are Saccharum officinarum, S. barberi, S. spontaneum, and interspecific hybrids of Saccharum (sugarcane). Economic on susceptible varieties of sugarcane. (Martin et al.).

HOLCUS SPOT (Pseudomonas syringae) - KANSAS - First report of season on sorghum and corn week of June 23. Dickinson County--trace in 1 field of sorghum [51 cm (20 in) tall]. Rice County--prevalence 30% in 1 corn field. Woodson County--currently trace in 1 corn field. (Sim). NORTH DAKOTA - Ransom County--prevalence trace on field corn [8 leaf]. (Walla). MINNESOTA - Clay County--found in 1 corn field [6-7 leaf], prevalence 90%/severity trace week ending June 23. Field in corn past 3 years. Much stubble remained. (Stromberg).

SORGHUM BACTERIAL STREAK (Xanthomonas holcicola) - KANSAS - Coffey and Neosho Counties--traces in single sorghum fields. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - KANSAS - First of season week of June 23. Norton County--prevalence about 5% in 1 corn field. Clay and Riley Counties--reported. Current prevalence [and plant height] by county: Osage--trace to 25% [36-51 cm (14-20 in)], Woodson--60% [38 cm (15 in)], Allen--40% [30 cm (12 in)], Neosho--trace [46 cm (18 in)], Wilson--trace [38 cm], Labette--trace [56 cm (22 in)], Cherokee--1-60% [38-64 cm (15-25 in)], and Crawford--15% [38 cm]. Red leaf in all fields surveyed except in Neosho and Wilson Counties. (Sim).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Eastern one-third area--adults decreased on corn; moderate to severe larval infestations increased. Northeast district--heaviest in Madison, Pierce, Antelope, and Cedar Counties. Egg masses, larvae, and/or feeding damage on 0-70% (averaged 20%) of plants. Nemaha County--larvae averaged 1, 2.5, and 5 per plant in 3 fields with 46, 91, and 122-cm (18, 36, and 48-in) extended leaf height corn, respectively. (Shires).

SOUTH DAKOTA - Statewide--European corn borer egg laying continued and will be heavy next 14 days. Southern area--treatment begun. (Walgenbach). NORTH DAKOTA - Richland County--egg masses 1 per 15 corn plants. (Pinkham).

MISSOURI - European corn borer status on corn by area: Southwestern, west-central, and northwestern--larvae 2-14 per infested plant in 93 of 100 fields, leaf damage on 50+% of plants in 71 fields, corn 99 cm (39 in) or taller, controls applied; southern and central--larvae entered stalks. (Munson).

ILLINOIS - Statewide--Damaging European corn borer infestations caused unusual amount of chemical treatments. Stalk entry occurred in corn 127 cm (50 in) tall in all areas except northern one-third area. Shorter corn in northern two-thirds area with whorl feeding mainly by 1st through 3rd instars. Corn under 76 cm (30 in) tall generally uninfested. (Black).

MINNESOTA - Number of corn plants per 100 infested by European corn borer, average height in cm (in), and predominant instar by district: Southwest--4.0. 65 (26), 1st; south-central--6.4, 127 (50), 1st; and southeast--3.7, 115 (45), and 1st. (Sreenivasam). WISCONSIN - Most locations--decreased in blacklight traps. Southwestern, south-central, and Central Sands areas--1st and 2nd instar larvae still feeding on leaves. Sauk County--heaviest on irrigated corn in Spring Green area where 36% of plants had leaf feeding. (Lovett).

OHIO - Wayne, Champaign, Ross, and Highland Counties--European corn borer eggs in black head stage, larvae up to 5 mm (0.2 in) long on corn, damaged fewer than 20% of plants in these counties but up to 80% in spots of 1 field [8 leaf] in Ross County. With adults still active and eggs unhatched, populations and damage should increase in coming weeks. (Drees).

NORTH CAROLINA - Piedmont and northern Coastal Plains counties--European corn borer damage continued, infestations of 60% of fields 4+ ha (10+ acres) in size common in Piedmont. Infestations concentrated on tassels. (Biddix et al.). TENNESSEE - Lincoln County--infested 50% of corn. Damage heavy in some fields. (Cagle).

ARMYWORM (Pseudaletia unipuncta) - ILLINOIS - Carroll County--damaged 80% of a no-till field, corn 127-152 cm (50-60 in) tall. (Black). WISCONSIN - Iowa County--larvae light, 1 per 200 plants, on corn in 1 field, mainly in headlands with much volunteer corn, larvae almost full grown; Dodge County--larvae similar but only half grown. (Lovett).

CORN EARWORM (Heliothis zea) - NORTH CAROLINA - Coastal Plains--pupation almost completed in 45 pretassel corn fields in 8 counties. Sampson and Johnston Counties--spot checks in 15 silking fields indicated egg laying not yet underway in majority of central Coastal Plains fields. (Jackson). NEBRASKA - Nemaha County--infested 5% of corn [122-cm (48-in) extended leaf height] in 1 field. (Shires).

BLACK CUTWORM (Agrotis ipsilon) - OHIO - Wayne County--first pupae in corn field June 25. Mostly last instars and generally no threat to corn past 4 or 5 leaf. Second generation adults appeared in blacklight traps. (Levine, Dix).

SOUTHERN CORN BILLBUG (Sphenophorus callosus) - NORTH CAROLINA - Damage to corn by county: Southern Coastal Plains and Tidewater area--larval damage areawide, Bladen--damage in 4.0-ha (10-acre) field, and Wilson--damage in 2-ha (6-acre) field. (Morris, Hunt).

MAIZE BILLBUG (Sphenophorus maidis) - OHIO - Stark County--adults damaged almost all corn plants [6-9 leaf] in weedy field, severely infested plants stunted and whorls began to tangle and wrinkle. (Drees, Frost). Damage much more severe in 1978 than in 1977. (Drees, Szatmari-Goodman).

CHINCH BUG (Blissus leucopterus leucopterus) - MISSOURI - Western one-half area--infested corn and sorghum in all sections, sorghum replanted in few fields in southwestern and west-central areas. (Thomas). NEBRASKA - Southeast district--migration into corn and sorghum continued. Recent thunderstorms favored development of fungal diseases infecting chinch bugs. Fungus killed almost all adults in wheat field in Gage County; nymphs still heavy and apparently unaffected to date. (Miller).

SMALL GRAINS

DISEASES

Winter wheat harvest during June 14-27 lagged behind 1977's early pace, 4-5 days behind average. Because of weather delays to harvest in southern Kansas and northern Oklahoma, harvest could occur simultaneously in those areas and northern areas. In some wheat fields heads looked ripe due to hot, dry winds of previous week but kernels still in dough stage. Spring-sown small grains mostly good, 2-3 days behind average maturity. (Roelfs, Long).

WHEAT LEAF RUST (*Puccinia recondita* f.sp. *tritici*) traces on wheat June 19 at Fargo, NORTH DAKOTA, winter wheat nursery. Primary pustules sporulated 7 days ago; secondary infections began to appear. (Miller, Statler). Severities in northern KANSAS reached 60% on remaining green leaves, too late to cause significant crop damage. Severity reached 60% in southern NEBRASKA plots. Severities trace to 5% in spring wheat trap plots. Light in commercial fields in MINNESOTA, SOUTH DAKOTA, IOWA, and MISSOURI. (Roelfs, Long).

NORTH DAKOTA - McKenzie County--wheat leaf rust prevalence 100%/severity trace to 10% on winter wheat [flowering] June 19-23. (Jons). MINNESOTA - Prevalence/severity on lower leaves of Bart wheat by county (1 field each) week ending June 23: Redwood--100%/trace to 11% [jointing] at Lamberton, and Wadena--100%/5% [flowering] at Staples. (Stromberg).

WISCONSIN - Wheat leaf rust prevalence/severity on winter wheat surveyed in 70 fields by county: Racine--1%/1%, Kenosha--trace/trace, Dane--4%/1%, Rock--27%/1%, and Walworth--14%/1%; averaged 6%/1%. (Lovett et al.).

OHIO - Prevalence/severity on wheat [late milk unless stated otherwise] by county (1 field each): Delaware--50%/1% [kernels half filled], Knox--trace/trace, and Perry--70%/1-2%. (Hite).

RYE LEAF RUST (*Puccinia recondita* f.sp. *secalis*) - MINNESOTA - Wadena County--prevalence 90%/trace to 3% on Prolific rye [flowering] at Staples June 23. (Stromberg). NORTH DAKOTA - Wells, Ward, Burleigh, and Emmons Counties--severity trace to 10% on flag leaf on rye [milk to early dough] June 19-23. (Jons).

OAT CROWN RUST (*Puccinia coronata* var. *avenae*) traces in commercial oat fields in IOWA, MISSOURI, NEBRASKA, SOUTH DAKOTA, MINNESOTA, and WISCONSIN, June 14-27. Severities trace to 10% on oat varietal trials in South Dakota. Heavy spreads from aecia on buckthorns in Iowa, Minnesota, and Wisconsin. (Roelfs, Long).

LOOSE SMUT (*Ustilago nuda*) - WISCONSIN - Prevalence/severity on wheat in 70 surveyed fields by county: Racine--2%/9%, Kenosha--2%/8%, Dane--1%/4%, Rock--1%/2%, Walworth--2%/9%, Washington--1%/7%, Dodge--3%/12%; averaged 1%/6%. (Lovett). NORTH DAKOTA - McKenzie County--prevalence trace on winter wheat [flowering] June 19. (Jons). Severity trace to 3% on barley in MINNESOTA and SOUTH DAKOTA. (Roelfs, Long).

WHEAT POWDERY MILDEW (*Erysiphe graminis* f.sp. *tritici*) - OHIO - Prevalence/severity on wheat [late milk unless stated otherwise] by county (1 field each): Crawford--99%/trace to 20% on lower leaves [flowering on top], Delaware--99%/trace to 10% on lower leaves [kernels half filled], Knox--99%/10-15% on flag leaf with 99% on glumes, and Perry--99%/trace to 20% on lower leaves. (Hite). WISCONSIN - Wheat powdery mildew most common disease in

winter wheat survey, occurred in 70% of 70 fields. Prevalence/severity by county: Racine--7%/1%, Kenosha--1%/1%, Dane--24%/1%, Rock--37%/2%, Walworth--38%/4%, Washington--4%/1%, and Dodge--9%/1%, averaged 15%/1%. (Lovett). NORTH DAKOTA - McKenzie County--prevalence 100%/severity 50% on winter wheat [flowering] in low areas of field June 20. (Jons).

TAKE-ALL (Gaeumannomyces graminis var. tritici) - KANSAS - Central area--still evident in many fields as wheat matured. Fields most affected in McPherson, Marion, and Harvey Counties. (Sim). WISCONSIN - Found in only half as many winter wheat fields as in 1977. Prevalence/severity in 70 surveyed fields by county: Racine--1%/1%, Kenosha--1%/2%, Dane--2%/4%, and Rock, Walworth, and Dodge--1%/1%; averaged 1%/1%. (Lovett). MICHIGAN - Baraga County--trace in wheat [boot] week ending June 16. (Singh).

CEPHALOSPORIUM STRIPE (Cephalosporium gramineum) - OHIO - Prevalence on wheat [late milk unless stated otherwise] by county (1 field each): Delaware--1% [kernels half filled], Knox--trace to 10% in low areas, and Perry--trace to 1%. (Hite). MICHIGAN - Chippewa County--prevalence trace on wheat [boot] week ending June 16. (Singh).

SCAB (Fusarium spp.) - MISSOURI - Cole County--prevalence 3-100%/severity involved full head on wheat [ripe to middough] in northern commercial fields June 23. (Foudin). OHIO - Prevalence on wheat [late milk unless stated otherwise] by county (1 field each): Knox--10%, Ross--10-15% [early dough], and Perry--5-10%. (Hite).

EYESPOT (Pyrenophora trichostoma) - MICHIGAN - Chippewa County--prevalence 60-70%/severity 10-15% on wheat [boot] week ending June 16. (Singh). NORTH DAKOTA - Prevalence/severity on spring wheat [jointing] June 19-23 by county: Grant--100%/trace, Morton--100%/trace, and Billings--100%/trace; on winter wheat [flowering]: Billings--100%/20%, McKenzie--100%/10-20%, and Ramsey--100%/15-25%. (Jons).

HELMINTHOSPORIUM ROTS and LEAF SPOTS (Helminthosporium spp.) - WISCONSIN - Prevalence/severity on winter wheat surveyed in 70 fields by county: Dane and Dodge--2%/1%, and Washington--5%/1%, averaged 3%/1%. (Lovett).

LEAF AND GLUME BLOTCHES (Septoria spp.) - OHIO - Prevalence/severity on wheat [late milk unless stated otherwise] by county (1 field each): Crawford--99%/99% on lower, 10-20% on upper leaves [flowering on top]; Delaware--99%/99% on lower 3-4 leaves, trace on flagleaves [kernels half filled]; Knox--99%/99% on lower leaves, 20% on glumes; Ross--99%/99% on lower leaves, 10% on glumes [early dough]; and Perry--99%/99% on lower 2-3 leaves, 10% on glumes. (Hite). WISCONSIN - Septoria prevalence/severity on winter wheat surveyed in 70 fields by county: Racine--2%/1%, Kenosha--9%/1%, Dane--12%/1%, Rock--13%/1%, Walworth--24%/1%, Washington--2%/1%; and Dodge--11%/1%; averaged 9%/1%. (Lovett).

SPECKLED BLOTCH (Leptosphaeria (Septoria) avenaria) - MINNESOTA - Otter Tail County--prevalence 30%/severity trace to 5% on lower leaves of oats [jointing] June 23. (Stromberg).

BARLEY YELLOW DWARF LUTEOVIRUS - KANSAS - Most prevalent oat disease week of June 23. Lodi oats most affected. Wabaunsee County--some blasting in 1 field. (Sim). MINNESOTA - Prevalence of red leaf on oats by county (1 field each) week ending June 23: Otter Tail--10% [jointing] and Wadena--

trace to 5% in variety test fields at Staples. (Stromberg). MICHIGAN - Barley yellow dwarf luteovirus prevalence by county week ending June 16: Chippewa--5% on wheat [boot], Delta--1% on oats [tillering], and Dickinson--trace on oats [tillering]. (Singh).

WHEAT STREAK MOSAIC VIRUS - KANSAS - South-central area--significantly affected wheat yields where infections severe earlier in season. Yields per 0.4 ha (acre) by county: Comanche--0.2-0.88 cu m (5-25 bu), averaged about 0.6 cu m (17 bu); Kiowa--averaged 0.70 cu m (20 bu) in severely infested fields, 1.1 cu m (31 bu) in noninfected or lightly infected dryland fields, and averaged 1.4 cu m (41 bu) in irrigated fields. (Sim). NORTH DAKOTA - Prevalence in winter wheat [heading] by county June 12-16: Golden Valley--trace/50%, Bowman--trace/20%, Slope--trace/20%, and Stark--trace/20%. (Jons).

INSECTS

ARMYWORM (*Pseudaletia unipuncta*) - WISCONSIN - Iowa County--larvae very light, 1 per 30 sweeps in oat field. Adults heavy in several blacklight traps. (Lovett).

ENGLISH GRAIN APHID (*Macrosiphum avenae*) - NORTH DAKOTA - Counts of this species and an APHID (*Rhopalosiphum padi*) per 0.3 row m (row ft) of wheat by county: Traill--fewer than 50 up to 300 in 23 fields, 223-1,395 (averaged 739) in 1 field [mid to late boot] with controls applied, 200-300 in another field; Nelson--trace; and Steele--trace to threatening. (Scholl).

FORAGE LEGUMES

DISEASES

SUMMER BLACK STEM (*Cercospora zebrina*) - KANSAS - Prevalence on alfalfa [and plant height] by county week ending June 23: Wabaunsee--trace to 100% [25-61 cm (10-24 in)], Geary--40% [30 cm (12 in)], Morris--trace to 5% [25-30 cm], Dickinson--trace [30 cm], Ellsworth--none [20 cm (8 in)], Rice--5% [46 cm (18 in)], and McPherson--30% [38 cm (15 in)]. Southeast and east-central districts--currently trace in all alfalfa fields surveyed. (Sim).

LEPTOSPHAERULINA LEAF SPOT (*Leptosphaerulina briosiana*) - KANSAS - Prevalence on alfalfa [and plant height] by county week ending June 23: Wabaunsee--trace to 100% [25-61 cm (10-24 in)], Geary--100% [30 cm (12 in)], Morris--10-80% [25-30 cm], Dickinson--5% [30 cm (12 in)], Ellsworth--trace [20 cm (8 in)], Rice--100% [46 cm (18 in)], and McPherson--80% [38 cm (15 in)]. Southeast and east-central districts--currently trace in all alfalfa fields surveyed. (Sim).

COMMON LEAF SPOT (*Pseudopeziza medicaginis*) - KANSAS - Prevalence/severity on second growth alfalfa [and plant height] by county (1 field each) week ending June 23: Morris--trace/very light [30 cm (12 in)] and Reno--trace/very light [51 cm (20 in)]. (Sim).

YELLOW LEAF BLOTCH (*Pseudopeziza jonesii*) - KANSAS - Osborne County--severe on first growth alfalfa [full bloom] in 1 field week ending June 9. (Sim).

INSECTS

ALFALFA WEEVIL (*Hypera postica*) - IDAHO - Twin Falls County--larvae damaged second growth alfalfa at Twin Falls. (Stoltz). WISCONSIN - South-central and southwestern areas--larvae 0.1-7 per sweep of alfalfa, many recently hatched. New adults 1-4 per sweep, much heavier on regrowth than in previous years. Adults and larvae will continue to occur, counts on uncut alfalfa decreased sharply and new adults heavier than larvae in many cases. (Lovett).

WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praeifica) - CALIFORNIA - San Joaquin County--1st instar larvae 10-15 per sweep of alfalfa in 70.8-ha (175-acre) field at Farmington. (Johnson).

GREEN CLOVERWORM (Plathypena scabra) - OHIO - First larvae of season. Highland County--larvae 6-11 mm (0.2-0.43 in) long on alfalfa 28 cm (11 in) tall, larvae light. (Drees).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Status of this species and BLUE ALFALFA APHID (A. kondoi) on alfalfa by county: Pershing--pea aphid mostly increased rapidly on hay and seed alfalfa in Lovelock area, averaged 1,000+ per sweep in some fields (Munk et al.); and Lander--averaged 14 and 21 per sweep in 2 areas at Jungo and 135 per sweep at Reese River (Stitt).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Pershing County--averaged 2-15 per sweep of seed alfalfa in 1 field at Lovelock, honeydew present. (Munk).

POTATO LEAFHOPPER (Empoasca fabae) - ILLINOIS - Statewide--nymphs and adults 2+ per sweep in many alfalfa fields. Lawrence County--up to 5 per sweep in alfalfa field; damage visible. (Black). OHIO - Wayne County--1+ per sweep of forage legumes in all fields checked, fields began to discolor; nymphs expected week ending July 7. (Flessel). Economic in following counties: Pickaway--1 per sweep, Highland--2.1 per sweep, and Stark--1.3 per sweep. (Drees).

ALFALFA SEED CHALCID (Bruchophagus roddi) - NEVADA - First adults of season. Humboldt County--adults on forage legumes at Jungo. (Stitt).

GRASSHOPPERS (Melanoplus spp.) - MISSOURI - Northwestern area--nymphs 20-80 per 0.9 sqm (sqyd) of roadside sweetclover and 20-60 per 0.9 sq m of alfalfa. Adult M. bivittatus and M. sanguinipes in most areas. (Munson).

SOYBEANS

DISEASES

PHYTOPHTHORA ROOT AND STEM ROT (Phytophthora megasperma var. sojae) - KANSAS - Most widespread soybean disease. Riley, Neosho, and Labette Counties--trace. Montgomery County--killed 50-60% of plants in 1 field. (Sim).

RHIZOCTONIA ROOT ROT (Rhizoctonia solani) - MINNESOTA - Prevalence/severity on soybeans by county (1 field each) week ending June 23: Brown--60%/trace [3 trifoliolate leaves], Murray--40%/trace [3 trifoliolate leaves], Steele--70%/trace [4 trifoliolate leaves], and Swift--20%/trace [2 trifoliolate leaves]. (Stromberg).

SOYBEAN BROWN SPOT (Septoria glycines) - KANSAS - Morris County--affected 1% of soybean plants [15 cm (6 in) tall] in 1 field. (Sim). OHIO - Scioto County--prevalence 50%/severity 90-99% on soybeans [1 flower any node] in 1 field. (Hite).

CHARCOAL ROT (Macrophomina phaseolina) - KANSAS - Johnson County--trace in 1 soybean field. (Sim).

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - MINNESOTA - Steele County---prevalence 30%/severity trace to 5% on lower leaves of soybeans [4 trifoliolate leaves] June 23. (Stromberg).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - New county record. Rutherford County--collected from soybean field near Donnellys by P.D. Foster, June 28, 1978. Determined by R.E. Harrison. (Foster et al.).

INSECTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - Alachua, Levy, and Columbia Counties--stand loss heavy in young soybeans in localized areas. (Baker).

BLACK CUTWORM (Agrotis ipsilon) - MISSISSIPPI - Madison County--larvae, 2.5 per 0.3 row m (row ft) on 121 ha (300 acres), caused stand reduction on seedling soybeans. (Anderson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - FLORIDA - Gadsden County--first 4 adults in blacklight trap at Quincy. (Herzog).

SOYBEAN LOOPER (Pseudoplusia includens) - FLORIDA - Levy County--larvae 1 per 0.9 row m (3 row ft) of soybeans on 404.7 ha (1,000 acres) near Morriston. (Baker).

GRAPE COLASPIS (Colaspis brunnea) - ARKANSAS - Phillips and Clay Counties--larval damage to soybean roots unusually heavy. (Mayse).

MEXICAN BEAN BEETLE (Epilachna varivestis) - OHIO - First larvae of season. Ross County--larvae 2.5 mm (0.098 in) long on soybeans 18 cm (7 in) tall, adult damage noticeable. (Drees).

SEEDCORN MAGGOT (Hylemya platura) - OHIO - Central area from Greene County north to Union, Franklin, and Pickaway Counties--area of most heavily damaged soybeans, more fields replanted due to damage to early planted soybeans. (Blair).

SOYBEAN THRIPS (Sericothrips variabilis) - NORTH CAROLINA - Sampson, Johnston, and Wilson Counties--spot checks in about 25 soybean fields show damage decreased in most fields in central and southern Coastal Plains. Most infested fields outgrew damage of past 14 days. (Hunt).

PEANUTS

INSECTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - Alachua, Levy, Columbia, and Gilchrist Counties--still infested 1,214 ha (3,000 acres) of peanuts, about 100 ha (300 acres) needed treatment last period. (Baker).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Alachua County--first sighting of large numbers of Spodoptera eggs of probably this species on about 100 ha (300 acres) in northwestern area. (Baker).

TOBACCO THRIPS (Frankliniella fusca) - FLORIDA - Jackson County--still heavy on peanuts in Marianna area, worst than most years. Thrips 3.3 per bud (damaged 93% of plants) in untreated April planting, and 3.5 per bud (damaged 100% of plants) in May planting; heavier on flowers, 5-8 per flower. Mostly adults in flowers, and nymphs in leaf buds. (Tappan).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis grandis) - MISSISSIPPI - Damaged cotton squares by county: Alcorn--1.5% on 60.7 ha (150 acres), Chickasaw--10% on 80.9 ha (200 acres), De Soto--1% on 60.7 ha, Jones--5% on 40.5 ha (100 acres), Lincoln--20% on 202 ha (500 acres), and Madison--1% on 1,012 ha (2,500 acres). (Anderson). ARKANSAS - Mississippi County--no adults in glandure pheromone traps. (Mayse). TENNESSEE - Southwestern area--punctured the few squares present. (Locke).

BOLLWORMS (Heliothis spp.) - ARIZONA - BOLLWORM (H. zea) status on cotton by county: Yuma--adults 1 per 100 sweeps, Pinal--eggs 3-5 and larvae 1 per 100 terminals, and Maricopa--larvae 1 per 100 sweeps. (Kirkpatrick et al.).

ARKANSAS - Jefferson County--H. zea larvae 1 per 0.3 row m (row ft) in 1 cotton field; field treated. Larvae lighter than egg counts last period indicated. (Wall). MISSISSIPPI - Statewide--first generation Heliothis spp. eggs and larvae in cotton decreased in most areas; beneficial insects heavy in untreated fields. (Anderson). SOUTH CAROLINA - Abbeville County--Heliothis spp. eggs light, 15-20 per 100 cotton terminals, in several fields; beneficial insects heavy. (Douglass, Jones).

TARNISHED PLANT BUG (Lygus lineolaris) - ARKANSAS - Chicot County--active in few cotton fields, 1 field treated for third time. Generally increased, fields close to treatment levels. (Wall).

TOBACCO

INSECTS

TOBACCO BUDWORM (Heliothis virescens) - FLORIDA - Suwannee County--decreased from 37% of untreated plants infested and damaged to 15% June 14-28 at Live Oak. Levels about half that at same time in 1977. (Tappan). NORTH CAROLINA - Bladen County--surveys in 105 tobacco fields showed 25 fields at or above threshold. Combination thresholds of this species and TOBACCO HORNWORM (Manduca sexta) reported in 3 fields. Lenoir (376 fields) and Martin and Washington (162 ha (400 acres)) Counties--no fields at threshold. (Harper et al.).

A NOCTUID MOTH (Heliothis sp.) - TENNESSEE - Trousdale, Smith, Sumner, Wilson, and Macon Counties--16 of 25 fields at or above control levels. Larvae 0-778 per 0.4 ha (acre). (Gregory).

TOBACCO HORNWORM (Manduca sexta) - FLORIDA - Suwannee County--increased sharply on untreated tobacco in Live Oak area. Damaged 69% of untreated plants as of June 28, increase of 37% since June 14. Buildup slower than usual this year. Most larvae 1st to 3rd instars. (Tappan). NORTH CAROLINA - Bladen County--large larvae on 1 of 105 tobacco plants, average infestation of 2% of plants. Martin and Washington Counties--10 of 162 ha (25 of 400 acres) at threshold. (Harper et al.).

A SPHINGID MOTH (Manduca sp.) - TENNESSEE - Trousdale, Smith, Sumner, Wilson, and Macon Counties--17 of 25 tobacco fields above control levels. Larvae 0-1,833 per 0.4 ha (acre). (Gregory).

GREEN PEACH APHID (Myzus persicae) - FLORIDA - Suwannee County--increased slightly from 85 to 95 per plant June 14-28 at Live Oak. Lighter this year than same time in 1977. (Tappan). NORTH CAROLINA - Coastal Plains--infestations still very serious on tobacco in northern half. Status by county: Martin and Washington--8.1 of 162 ha (20 of 400 acres) at threshold; Lenoir--63 of 376 fields above threshold, heaviest infestation 75% of plants; and Bladen--1 of 105 fields at threshold, scattered infestations in several other fields. (Pleasants et al.).

MISCELLANEOUS FIELD CROPS

INSECTS

DARKSIDED CUTWORM (Euxoa messoria) - NORTH DAKOTA - Barnes, Foster, Stutsman, and Wells Counties--heaviest damage by this species and REDBACKED CUTWORM (Euxoa ochrogaster) in southwestern Barnes County where about 80 ha (200 acres) of sunflowers destroyed; Grand Forks County--severely damaged 10-15% of 1 sunflower field. (Kaatz, Scholl).

SALTMARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Yolo County--larvae 60 per sunflower leaf on 8.1 ha (20 acres) at Knights Landing. (Lippencott, Wentzel).

POTATOES, TOMATOES, PEPPERS

INSECTS

WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praefica) - CALIFORNIA - San Joaquin County--4th instar larvae, 1-2 per plant, on 15-20% of 36-ha (90-acre) field of canning tomatoes 8 km (5 miles) southeast of Farmington. Buildup general in tomato fields east of Stockton. (Johnson).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - OHIO - Statewide--adults and larvae heavy on potatoes and tomatoes. (Kelly). Miami County--larvae 5-50 per plant in 1 potato garden plot, damaged about 95% of flowering plants. (Heidelberg).

BEANS AND PEAS

DISEASES

PHASEOLICOLA HALO BLIGHT (Pseudomonas phaseolicola) - WISCONSIN - Waushara County--prevalence of angular type lesions without distinct halo 15-20% in field of snap beans grown from apparently infected seed. (Lovett).

INSECTS

ALFALFA LOOPER (Autographa californica) - IDAHO - Clearwater, Latah, and Nez Perce Counties--seriously damaged peas in many fields. Idaho County--damage limited to lower leaves in fields. (Homan, Mink).

PEA APHID (Acyrtosiphon pisum) - IDAHO - Latah and Nez Perce Counties--averaged 25 per sweep of spring peas in many fields. (Kambitsch, Homan).

GENERAL VEGETABLES

DISEASES

ONION DOWNY MILDEW (Peronospora destructor) - CALIFORNIA - Colusa County--prevalence 90% on 6.9 ha (17 acres) of onions at College City. (Rich, Forrey).

DECIDUOUS FRUITS AND NUTS

INSECTS

CRIBRATE WEEVIL (Otiorhynchus cribricollis) - CALIFORNIA - San Joaquin County--heavy, about 1,000 per tree in 10-ha (25-acre) apricot orchard at Tracy; defoliation 20% on 20% of trees. (Brown).

SHOTHOLE BORER (Scolytus rugulosus) - CALIFORNIA - Solano County--infested 100% of 10 ha (25 acres) of cherry trees at Suisun. (Okpisz).

BLACK CHERRY APHID (Myzus cerasi) - UTAH - Tooele County--severely curled leaves common, especially on older sweet cherry trees in Tooele area. (Roberts, Jacobson). Cache and Utah Counties--worst than normal. (Davis).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - MISSOURI - Central area--averaged 110 and 31.2 per leaf in 2 apple orchards, controls applied. (Enns).

EUROPEAN RED MITE (Panonychus ulmi) - MISSOURI - Central area--averaged 4.9 and 9.4 per leaf in 2 apple orchards. (Enns).

FILBERTWORM (Melissopus latiferreanus) - OREGON - First adults of season. Benton County--3 in blacklight trap 3 km (2 miles) east of Corvallis, June 27. (Alinazee).

ORNAMENTALS

INSECTS

A PSYCHID MOTH (Apteronia crenulella) - NEVADA - New county record. Storey County--collected on various ornamentals at Virginia City by W. Reid, June 15, 1978. Determined by R.C. Bechtel. (Bechtel).

A DIASPIDID SCALE (Fiorinia fioriniae) - FLORIDA - New county record. St. Lucie County--adults severely infested leaves of Persea borbonia (redbay) near Port St. Lucie by E.W. Campbell, May 17, 1978. Determined by A.B. Hamon. (Mead).

A DIASPIDID SCALE (Pseudoparlatoria parlatorioides) - FLORIDA - New county record. Dixie County--adults infested leaves of Sabal palmetto (cabbage palmetto) near Horse Shoe Beach. Collected by A.E. Graham and F.J. McHenry, May 24, 1978. Determined by A.B. Hamon. (Mead).

A PIT SCALE (Asterolecanium puteanum) - FLORIDA - New county record. Dixie County--adults moderately infested stems of 20% of 10 Ilex vomitoria (yaupon) near Shired Island Swamp. Collected by F.J. McHenry, May 24, 1978. Determined by A.B. Hamon. (Mead).

FOREST AND SHADE TREES

INSECTS

FALSE CHINCH BUG (Nysius raphanus) - CALIFORNIA - Riverside County--nymphs 100 per stem on Pinus radiata (Monterey pine) on 100% of 3 ha (7 acres) of Christmas trees fallen at Sunnymead, about 50% of young trees lost. (Reeves, Merchant).

YELLOWHEADED SPRUCE SAWFLY (Pikonema alaskensis) - MINNESOTA - Aitkin, Itasca, and St. Louis Counties--defoliated white spruce past 3 years, treatments underway in 12 plantations on 52.6 ha (130 acres). (Hecht).

FOREST TENT CATERPILLAR (Malacosoma disstria) - MINNESOTA - Heavy defoliation evident. Roseau, Lake of the Woods, Itasca, Hubbard, Cass, St. Louis, Lake, Morrison, and Wadena Counties--completely stripped aspens and some oaks. (Hecht). Defoliation started early June, now ended as larvae began to pupate. New leaves appeared on bare trees. (Sreenivasam).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - MISSISSIPPI - Lowndes County--adults 150-300 per cow. (Jarratt). NEBRASKA - Dawson and Lincoln Counties--averaged 500+ per head on untreated cattle in river pastures. (Campbell et al.). NORTH DAKOTA - Ransom County--adults up to 500 per side on beef cattle. (Meyer).

FACE FLY (Musca autumnalis) - MISSOURI - Counts per head of livestock by area: Northwestern--12-35 (averaged 20) on 2 herds (Munson), north-central--1-10, and central--2-6. (Hall). NEBRASKA - Dawson and Lincoln Counties--averaged 2-3 per face on untreated cattle in river pastures. (Boxler et al.). NORTH DAKOTA - Ransom County--averaged 25 per face on beef cattle. (Meyer). WISCONSIN - First of season on cows. Door County--10 per head on some cattle. (Lovett).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Averages per leg on untreated cattle in feedlots by county: Lancaster--averaged 10, and Dawson and Lincoln--3-5. (McNeal et al.).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (Tetrastichus julis) - VIRGINIA - New county record. King and Queen County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 1% in oat field near Griggs Store, May 30, 1978. Collected by J. Tate. Determined by V.E. Montgomery. (T.L. Burger).

A LADY BEETLE (Azya luteipes) - FLORIDA - New county record. Indian River County--adults in Jackson trap in Citrus aurantium (sour orange) tree at Vero Beach by R.W. Carter, June 20, 1978. Determined by R.E. Woodruff. (Mead).

FEDERAL AND STATE PROGRAMS

DISEASES

BLACK STEM RUST (Puccinia graminis) aecial collections received June 14-27 from Greenbrier and Monroe Counties, WEST VIRGINIA (Bostic); Dane (Line,

Leggett) and Brown Counties, WISCONSIN (Kruger); and Fillmore County, MINNESOTA (Schlick, Schultz). Black stem rust covered all leaves of 2 barberry bushes in Dane County. (Roelfs, Long).

BARLEY TRITICI STEM RUST (Puccinia graminis f.sp. tritici) collection made in May in ARIZONA identified as race TNM. (Roelfs, Long).

OAT STEM RUST (Puccinia graminis f.sp. avenae) trace on oats in southern NEBRASKA and northern KANSAS, June 14-27. Not as widespread in 1978 as in 1977, when it was found in southern MINNESOTA, eastern SOUTH DAKOTA, and IOWA. Following races identified from collections received before June 27. (Roelfs, Long).

Area	No. of Collections	No. of Isolates of Oat Stem Rust Races				
		1	2	7	31	61
LA	1				3	
N. TX	11	3	13		4	9
S. TX	90	1		5	206	56

RYE STEM RUST (Puccinia graminis f.sp. secalis) collection from few rye plants scattered in field in Reno County, KANSAS. (Porterfield).

WHEAT STEM RUST (Puccinia graminis f.sp. tritici) traces on susceptible wheat varieties in plots throughout northern KANSAS and in central MISSOURI plot June 14-27. (Foudin). Traces common in commercial fields throughout central Kansas but no losses will occur since crop is mature. Stem rust found in uninoculated nurseries at Rosemount, MINNESOTA, June 21, probably related to uredospores trapped in rainwater in southern Minnesota on June 2. Pustule age and weather conditions indicated this infection mostly likely occurred then. With ideal weather for spore germination last 6 days, infections expected to increase rapidly in this nursery. Severity in inoculated winter wheat nursery at St. Paul as heavy as 40%. Following races identified from collections received before June 27. (Roelfs, Long).

Area	No. of Collections	No. of Isolates of Wheat Stem Rust Races																				
		11	15	17	29	56	113	151	RCR	TNM	TLM	TDM	HDL	HDB	HJC	MBC	RTQ	RPQ	QCB	QFB	QSH	
AZ	3		7	2																		
LA	2	1							2										3			
N. TX	5																			3	9	
S. TX	10		5	1		3	1	2							3	5	10					

INSECTS

GRASSHOPPERS - OREGON - Umatilla County--Melanoplus sanguinipes 8 or more per 0.8 sq m (sq yd) on 5,463.3 ha (13,500 acres) of rangeland in Little McKay Creek drainage, east of Pilot Rock, no controls planned; Lake County--Camnula pellucida heavy locally in Silver Lake Basin, 4,249.2 ha (10,500 acres) aerially treated June 27-28, adults 5-10% of population. (Goeden). UTAH - Tooele County--grasshoppers 20-30 per 0.8 sq m in 1 turf field east of Tooele. (Roberts, Jacobson). NEW MEXICO - Northern Eddy County--nymphs of several species heavily damaged corn and alfalfa. (Gholson).

NEBRASKA - Northwest, central, north, and southwest districts--various grasshopper species moderately to severely damaged range and cropland. Keith County--nymphs 15 per 0.8 sq m (sq yd) on rangeland, up to 50 per 0.8 sq m on rangeland bordering cropland. Predominant species Melanoplus sanguinipes, Phoetaliotes nebrascensis, and M. bivittatus. Some M. bivittatus adults present. (Campbell). Northwest district--nymphs averaged 20-30 per 0.8 sq m of rangeland. Predominant species Ageneotettix deorum, Amphitornus coloradus, Aulocara ellioti, and Trachyrhachys kiowa kiowa. Nymphs averaged 40-50 per 0.8 sq m on cropland. Predominant species M. differentialis and M. bivittatus. Sheridan, Dawes, Sioux, Deuel, and Garden Counties--held back alfalfa regrowth. (Hagen).

JAPANESE BEETLE (Popillia japonica) - OHIO - Wayne County--adults emerged in vineyards June 26 with damage to tender leaf varieties of grape. (Williams). Fairfield, Hamilton, Licking, and Tuscarawas Counties--adults emerged June 27-29. (Weaver et al.). SOUTH CAROLINA - Dillon County--damage light on about 1 ha (3 acres) of muscadine grapes. (Squires).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Status on cotton by county: Pinal and Maricopa--up to 3 in 100 blooms, and Yuma--1% in blooms. (Davis et al.).

SCREWORM (Cochliomyia hominivorax) - Total of 270 cases reported from continental United States June 4-10 as follows: Arkansas 1, Texas 22, New Mexico 50, Arizona 191, California 6. (Meadows). Total of 335 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 557 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 127,805,800 as follows: Texas 79,076,000, New Mexico 8,646,700, Arizona 39,453,100, California 630,000. (Meadows). Total of 142,049,200 sterile flies released within Barrier of Mexico. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - Infestations and damage by LEAFMINER FLIES (Liriomyza spp.) heavy on 2 ha (4 acres) of watermelons at Kahuku and on 0.10 ha (0.25 acre) of yardlong beans at Waimanalo, Oahu. Damage by aphid-transmitted WATERMELON MOSAIC POTYVIRUS heavy in watermelon planting; loss of about 8.1 net ha (20 net acres) in Kahuku area to date. CARMINE SPIDER MITE (Tetranychus cinnabarinus) heavy on 0.10 ha of yardlong beans at Waimanalo. SWEETPOTATO LEAFMINER (Bedellia orchilella) severe on 0.2 ha (0.5 acre) of sweetpotatoes in Waiahole Valley, Oahu; defoliation 50+%. Parasitism by Apanteles bedelliae (a braconid wasp) very heavy (all leaves, 2-6 parasite cocoons, 0-4 leafminer pupae) in same planting. WESTERN FLOWER THRIPS (Frankliniella occidentalis) heavy on 1 ha (3 acres) of manoa lettuce at Hawaii Kai, Oahu; 50+% of leaves discarded per head in 0.10-ha field. MELON FLY (Dacus cucurbitae) counts and damage moderate on 464.5 sq m (5,000 sq ft) of plum tomato in Waiahole Valley. (L. Nakahara).

DETECTION

NEW CONTINENTAL UNITED STATES RECORD

DISEASES

SUGARCANE SMUT (Ustilago scitaminea Sydow) - FLORIDA - Hendry County. (p. 323).

NEW COUNTY RECORDS

INSECTS

A DIASPIDID SCALE (Fiorinia fioriniae) - FLORIDA - St. Lucie. (p. 332).

A DIASPIDID SCALE (Pseudoparlatoria parlatorioides) - FLORIDA - Dixie. (p. 332).

A EULOPHID WASP (Tetrastichus julis) - VIRGINIA - King and Queen. (p. 333).

A LADY BEETLE (Azya luteipes) - FLORIDA - Indian River. (p. 333).

A PIT SCALE (Asterolecanium puteanum) - FLORIDA - Dixie. (p. 332).

A PSYCHID MOTH (Apterona crenulella) - NEVADA - Storey. (p. 332).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Rutherford. (p. 329).

LIGHT TRAP COLLECTIONS

Precipitation	Station	Type of trap	Temperature & Humidity	Spiders		Insects		Other		Total	
				BL	3BL	1	2	3	4	5	6
	NORTH DAKOTA			BL		2					
	Fargo 6/23, 27			BL		42					
	Williston 6/23, 28										
	OHIO (Counties)			BL		0					
	Huron 6/23-30			3BL		28					
	Wayne 6/23-30					8					
	TEXAS			BL		0					
	College Station 6/20-27										
	WEST VIRGINIA (Counties)			BL		25					
	Kanawha 6/27			BL		1					
	Putnam 6/23, 26										
	WISCONSIN			BL		0					
	Evansville 6/20-26			BL							
	Lancaster 6/21-27										

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Acutaspis decorosa Ferris</u> an armored scale Det. S. Nakahara	adult	on Tillandsia plants from cargo	Mexico	Brownsville	TX
<u>Adoretus sinicus Burmeister</u> Chinese rose beetle Det. R. Kunitshi	adult	with roses from baggage	Hawaii	Honolulu	CA
<u>Dacus cucurbitae Coquillett</u> melon fly Det. R. Kunitshi	larval	in bitter melon from baggage	Hawaii	Honolulu	CA
<u>Orchamoplatus mammaeiferus (Quaintance & Baker)</u> a whitefly Det. R. Kunitshi	pupal	on Codiaeum plants from baggage	Hawaii	Honolulu	CA
<u>Pissodes notatus Fabricius</u> banded pine weevil Det. D.R. Whitehead	adult	in dunnage with cargo	Europe	San Francisco	CA
<u>Pyroderces sp.</u> a cosmopterigid moth Det. D.M. Weisman	larval	in sorghum from mail	Venezuela	Dallas	OK
<u>Rhagoletis cerasi (Linnaeus)</u> European cherry fruit fly Det. V.L. Blackburn	larval	in cherries from baggage	Italy	Boston	MA
<u>Pallifera costaricensis (Morch)</u> a phylomyxid slug Det. R. Munkittrick	adult	on Tillandsia plants from baggage	Guatemala	Los Angeles	CA

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Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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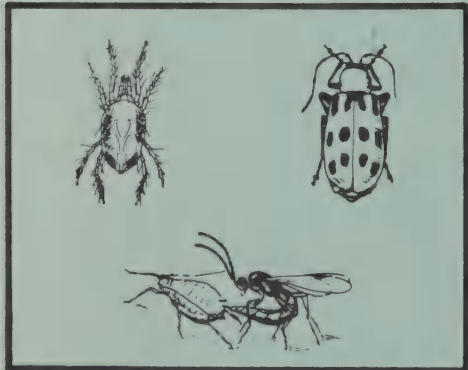


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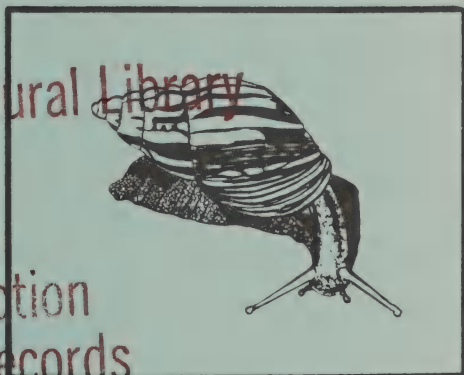
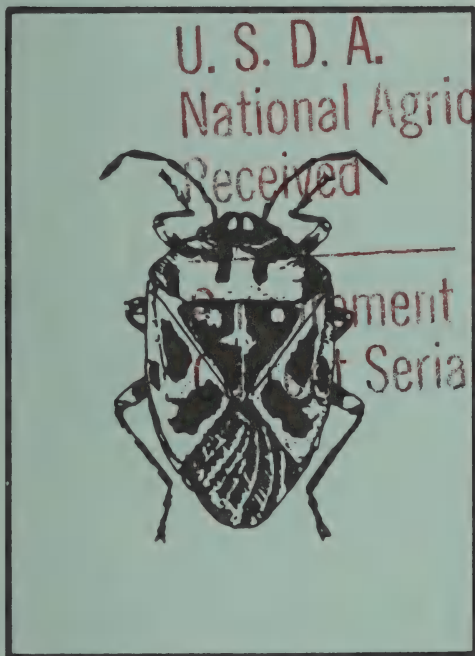
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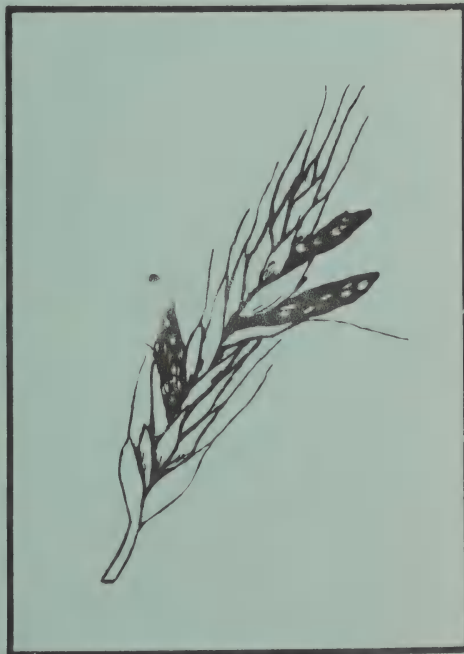
July 14, 1978

Cooperative PLANT PEST REPORT



Animal
and Plant
Health
Inspection
Service

U.S.
DEPARTMENT
OF AGRICULTURE



This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Second generation of EUROPEAN CORN BORER underway in southwestern Missouri. Damage heavy on corn in southwestern area of Indiana. (p. 343).

CORN EARWORM heavy on late-planted sweet corn in southwestern Missouri. Second brood expected to be heavy on Eastern Shore of Maryland. (p. 344).

CHINCH BUG damage severe to corn and sorghum in southwestern and west-central parts of Missouri. (p. 345).

Detection

A SCOLYTID BEETLE is new for Louisiana. (p. 350).

For new county records see page 353.

Reports in this issue are for the week ending July 7 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane	Potatoes, Tomatoes, Peppers
Diseases.....343	Diseases.....349
Insects.....343	Insects.....349
Small Grains	Beans and Peas
Diseases.....345	Insects.....349
Insects.....346	
Turf, Pasture, Rangeland	Cole Crops
Insects.....347	Insects.....349
Forage Legumes	Cucurbits
Insects.....347	Insects.....350
Soybeans	Deciduous Fruits and Nuts
Diseases.....347	Insects.....350
Insects.....348	Small Fruits
Cotton	Insects.....350
Insects.....348	Forest and Shade Trees
Tobacco	Insects.....350
Insects.....349	Man and Animals
	Insects.....350
Beneficial Organisms and Their Enemies	
Insects.....351	
Weeds.....351	
Federal and State Programs	
Diseases.....351	
Insects.....351	
Hawaii Pest Report.....352	
Detection.....353	
Corrections.....353	
Light Traps Collections.....354	
Pest Interceptions of Quarantine Significance at Ports of Entry.....356	

CORN, SORGHUM, SUGARCANE

DISEASES

SUGARCANE SMUT (Ustilago scitaminea) - FLORIDA - Change CPBR 3(27):323 and 336 as follows. New continental United States record. Palm Beach County--infected 2 sugarcane plants in field 7.2 km (4.5 miles) southeast of Clewiston, 0.8 km (0.5 mile) east of Hendry and Palm Beach County line into this county. Collected by A. Frazier, June 28, 1978. Determined by E.H. Todd; confirmed by F. Pollack. Preliminary survey found about 15 infected plants in 11 rows in 8.1-ha (20-acre) experimental block; survey continuing. Infected plant found about 3 km (2 miles) northwest of Lake Harbor in northwestern part of this county June 30. All infected plants burned. (Mead). Retain distribution and host data. (PPQ).

SORGHUM BACTERIAL STREAK (Xanthomonas holcicola) - KANSAS - Coffey and Neosho Counties--traces in single sorghum fields week of June 30. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - KANSAS - Southeastern area--most widespread disease in sorghum week of June 30. A vector, CORN LEAF APHID (Rhopalosiphum maidis), heavy in many fields. Prevalence [and plant height in cm (in)] by county: Osage--trace to 25% [36-51 cm (14-20 in)], Woodson--60% [38 cm (15 in)], Allen--40% [30 cm (12 in)], Neosho--trace [46 cm (18 in)], Wilson--trace [38 cm], Labette--trace [56 cm (22 in)], Cherokee--1-60% [38-64 cm (15-25 in)], and Crawford--15% [38 cm]. Red leaf in all fields surveyed except in Neosho and Wilson Counties. This virus not observed in corn. (Sim).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - MISSOURI - Southwestern area--pupation and adult emergence with second generation well underway. (Munson). IOWA - Status on corn by area: South of Interstate Highway 80--damage heaviest, north of Interstate Highway 80--some damage in west-central and central areas north to northern State boundary, southern area--larvae in last instars, treatment decreased. Percent infested corn by county: Van Buren--100%, Lucas--90%, Franklin--75% (3-4 larvae per plant), Greene--50%, and Dubuque--1-15%, and Carroll--averaged 85% in 8 corn fields with mostly 3rd instars. (Townsend, J.R. DeWitt).

INDIANA - Jackson County--European corn borer damage heavy in fields 100% infested 21 days ago and not treated. Early and late instars in fields indicated long egg laying period. Larvae heavier in treated fields than in untreated. Treated and untreated fields 100% infested. (Meyer).

NORTH DAKOTA - First European corn borer of season. Cass County--1st instar larvae up to 7 per corn plant with "shotholing", larvae 2-7 on 2 of 25 plants. (Scholl).

MINNESOTA - Number of infested corn plants per 100, number of European corn borers per 100 plants, average height in cm (in), and predominant instar by district: West-central--4, 16, 107 (42.1), and 1st; central--30, 64, 137, (53.9), and 1st; east-central--20, 39, 117 (46.1), and 1st; southwest--10, 18, 86 (34), and 1st; south-central--16, 28, 132, (52.0), and 1st; and southeast--33, 11, 170 (66.9), and 2nd. Occasional heavy infestations per 100 plants in single fields by county: Wright--442, Anoka--120, and Rice--132. (Sreenivasam).

WISCONSIN - Southwestern area--European corn borer still mostly 1st and 2nd instar larvae on field corn. More advanced areas--some 3rd instar larvae appeared. Some larvae in midrib but most in whorls. (Lovett).

TENNESSEE - Western area--European corn borer and CORN EARWORM (Heliothis zea) inside whorls of late corn. European corn borer in stalks of early corn. Second generation larvae will begin appearing about July 20. (Locke, Williams). KENTUCKY - Southern area--larvae began to pupate. Bluegrass region--mostly late instars and no pupae. (Sloderbeck).

MARYLAND - Statewide--European corn borer on corn still much heavier than normal June 24 to July 7, 50-80% of larvae on early planted corn moved deep into whorl or into stalk. Pupation begun in some areas. Calvert County--infested 80% of whorls and stalks in 80.9 ha (200 acres) of field corn. (Hellman, Pinto).

GARDEN WEBWORM (Achyra rantalis) - MISSOURI - Bates County--damage and larvae on 8% of corn plants [36-46 cm (14-18 in) tall] in 32-ha (80-acre) field. (Munson).

CORN EARWORM (Heliothis zea) - MISSOURI - Southwestern area--larvae (all sizes) heavily infested 3-40% of corn plants in late-planted fields, 4th and 5th instar larvae infested nearly 100% of ears in sweet corn plantings. (Munson). MARYLAND - Eastern Shore area--adults unusually heavy June 24 to July 7, particularly in Wicomico County, up to 30% larvae (5th instar) in whorls of some sweet corn. Heavy second brood predicted for most areas. (Hellman, Pinto).

ARMYWORM (Pseudaletia unipuncta) - MISSOURI - West-central area--infested average of 15% of corn [36-46 cm (14-18 in) tall] with 1-4 larvae, 2nd and 3rd instar, on leaves and in whorls. (Munson). KENTUCKY - Todd and Washington Counties--adults light at Lexington. Larvae damaged small isolated patches of late-planted corn. More problems expected. (Sloderbeck). INDIANA - Jackson County--larvae, maximum of 1 cm (0.4 in) long, 6 per 10 sweeps of grassy alfalfa. (Meyer).

FALL ARMYWORM (Spodoptera frugiperda) - MISSOURI - Southwestern and west-central areas--3rd and 4th instar larvae on 1-4% of late-planted corn and sorghum. (Munson). KENTUCKY - Todd County--first of season. Larvae 0.64-1.9 cm (0.25-0.75 in) long in about 80 ha (200 acres) of late-planted corn. Damage ranged 12-43% and treatment recommended on heaviest infestation. (Christensen, Roney).

BLACK CUTWORM (Agrotis ipsilon) - CALIFORNIA - Glenn County--larvae heavy and scattered, damaged 20-ha (50-acre) field of corn [15-25 cm (6-10 in) tall] at Orland, killed 10-20 percent of plants in spots. (Salisbury).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Rock County--larvae up to 11 per corn plant [knee-high]. (Lovett).

GREENBUG (Schizaphis graminum) - MISSOURI - Southwestern and west-central areas--this species and CORN LEAF APHID (Rhopalosiphum maidis) on less than 2% of sorghum plants. (Munson). INDIANA - Vigo County--trace on sorghum. Predators attracted and supported by R. maidis may be able to control greenbug. (Meyer).

CORN LEAF APHID (Rhopalosiphum maidis) - INDIANA - Vigo County--heavy on occasional sorghum plants. Predators (coccinellids, lacewings, and syrphids) probably destroyed smaller colonies. (Meyer). WISCONSIN - Iowa and Grant Counties--few winged aphids in whorls of field corn, no colonies yet. (Lovett). See corn leaf aphid under DISEASES.

CORN DELPHACID (Peregrinus maidis) - FLORIDA - First of season. Alachua County--2 adults in blacklight trap at Gainesville, July 2. (Mead).

CHINCH BUG (Blissus leucopterus leucopterus) - MISSOURI - Southwestern and west-central areas--counts moderate to heavy and damage severe to corn and wheat. Sorghum next to harvested wheat. Adults and nymphs 6-30 on small sorghum and up to 300 on corn [61-102 cm (24-40 in) tall]. Mating adults and very small nymphs in all infested fields. (Munson).

A GRASSHOPPER (Schistocera obscura) - FLORIDA - Palm Beach County--"ragged" 20-30 ha (50-75 acres) of sugarcane next to elderberry stands in Belle Glade area. Buildup on elderberry spilling into sugarcane. Maximum of 40-50 grasshoppers per stool on sugarcane. (Genung).

SMALL GRAINS

DISEASES

WHEAT LEAF RUST (Puccinia recondita f.sp. tritici) - ILLINOIS - Prevalence/severity on commercial wheat [dough] by county week of June 26: Vermilion--99%/5-15%, Iroquois--99%/5-20%, Kankakee--99%/trace to 5%, Will--99%/5-25%, Kane--99%/10-25%, Ogle--99%/20-50%, and McHenry--99%/5-25%. (Jordan).

INDIANA - Prevalence/severity on flag leaves of wheat [dough development unless stated otherwise] by county June 25 to July 1: Kosciusko--60%/8% [82], Elkhart--0/0, Noble--30%/trace [medium milky], Steuben--0/0 [medium milky], De Kalb--20%/trace [medium milky], Allen--20%/5%, Adams--5%/1% [medium milky], Blackford--60%/trace, and Grant--80%/2%. Averaged 31%/1% for 9 sites. (Schall).

OAT CROWN RUST (Puccinia coronata var. avenae) - MISSOURI - Central area--prevalence 50-80%/severity trace to 5% on 1 variety trial plot of late-planted oats [milky] week of June 30. (Foudin). ILLINOIS - Prevalence/severity on commercial oats by county week of June 26: Kendall--20%/trace, Kane--99%/trace to 1%, De Kalb--99%/5-15%, Lee--50%/trace to 1%, Ogle--75%/1%, Boone--99%/trace to 1%, and McHenry--90%/trace to 10%. (Jordan).

OAT LOOSE SMUT (Ustilago avenae) - ILLINOIS - Prevalence on commercial oat heads by county week of June 26: Kankakee, Will, De Kalb, and McHenry--trace; Kendall--2%; and Lee--1%. (Jordan).

HELMINTHOSPORIUM LEAF BLOTCH (Pyrenophora (Helminthosporium) avenae) - ILLINOIS - Prevalence/severity on commercial oats by county week of June 26: Vermilion--99%/5%, Iroquois--70%/10-15%, Will--75%/1-5%, Kendall--99%/15-30%, Kane--99%/5-10%, De Kalb--99%/10-20%, Lee--99%/5-15%, Ogle--99%/5-15%, and Boone--99%/1-5%. (Jordan).

SPECKLED LEAF BLOTCH (Septoria tritici) - ILLINOIS - Prevalence/severity on commercial wheat [dough] by county week of June 26: Vermilion--99%/5-10%, Kankakee--90%/5-15%, Kane--99%/10-25%, Ogle--99%/10-20%, and McHenry--99%/10-20%. (Jordan). INDIANA - Prevalence/severity on flag leaves of wheat [dough development unless stated otherwise] by county June 25 to July 1: Kosciusko--25%/trace, Elkhart--0/0, Noble--20%/trace [medium milky], Steuben--20%/trace [medium milky], De Kalb--60%/0 [medium milky], Allen--99%/2%, Adams--99%/2% [medium milky], Blackford--99%/2%, and Grant--80%/2%. Averaged 56%/1% for 9 sites. (Schall). MARYLAND - Many areas--prevalence of this species, SEPTORIA GLUME BLOTCH (Leptosphaerulina (Septoria) nodorum), and SCAB (Fusarium spp.) heavy on wheat June 24 to July 7; yield loss occurred. (Heilman, Pinto).

SCAB (Fusarium spp.) - ILLINOIS - Prevalence on commercial wheat [dough] by county week of June 26: Vermilion--1%, Kankakee--1%, Will--1%, Kane--1%, Ogle--5%, and McHenry--5%. (Jordan).

ROSEUM SCAB (Gibberella (Fusarium) roseum f.sp. cerealis) - INDIANA - Prevalence/severity on wheat heads [dough development unless stated otherwise] by county June 25 to July 1: Kosciusko--0/0, Elkhart--2%/1%, Noble--0/0 [medium milky], Steuben--0/0 [medium milky], De Kalb--trace/trace [medium milky], Allen--0/0, Adams--0/0 [medium milky], and Blackford--0/0. Averaged trace/trace for 9 sites. (Schall).

ROUGH SPORED BUNT (Tilletia caries) - ILLINOIS - Prevalence on commercial wheat by county (1 field each) week of June 26: Kankakee--few scattered plants, and Will--5%. (Jordan).

WHEAT POWDERY MILDEW (Erysiphe graminis f.sp. tritici) - ILLINOIS - Vermilion County--prevalence 25%/severity 5-10% in 1 commercial wheat field week of June 26. (Jordan). INDIANA - Prevalence/severity on flag leaves of wheat [dough development unless stated otherwise] by county June 25 to July 1: Kosciusko--0/0, Elkhart--99%/50%, Noble--75%/5% [medium milky], Steuben--60%/3% [medium milky], De Kalb--70%/5% [medium milky], Allen--35%/2%, Adams--20%/1% [medium milky], Blackford--20%/0, and Grant--90%/9%. Averaged 52%/8% for 9 sites. (Schall).

CEPHALOSPORIUM STRIPE (Cephalosporium gramineum) - INDIANA - Prevalence/severity on wheat [dough development unless stated otherwise] by county June 25 to July 1: Kosciusko--trace/trace, Elkhart--0/0, Noble--1%/trace [medium milky], Steuben--1%/trace [medium milky], De Kalb--0/0 [medium milky], Allen--0/0, Adams--0/0 [medium milky], Blackford--0/0, and Grant--0/0. Averaged trace/trace for 9 sites. (Schall).

TAKE-ALL (Gaeumannomyces graminis var. tritici) - INDIANA - Prevalence/severity on wheat [dough development unless stated otherwise] by county June 25 to July 1: Kosciusko--2%/1%, Elkhart--0/0, Noble--trace/trace [medium milky], Steuben--1%/0 [medium milky], De Kalb--0/0 [medium milky], Allen--trace/trace, Adams--0/0 [medium milky], Blackford--0/0, and Grant--0/0. Averaged trace/trace for 9 sites. (Schall).

BARLEY YELLOW DWARF LUTEOVIRUS - ILLINOIS - Prevalence on commercial oats by county week of June 26: Vermilion--10%, Iroquois--30%, Kankakee--5%, Will--1%, Kendall--5%, Kane--1%, De Kalb--3%, Lee--1%, Ogle--1%, Boone--10%, and McHenry--1%. Prevalence on commercial wheat [dough] by county week of June 26: Vermilion--10%, Iroquois--5%, Kankakee--1%, Will--1%, Kane--1%, Ogle--trace, and McHenry--15%. (Jordan).

INSECTS

ARMYWORM (Pseudaletia unipuncta) - IOWA - Damage to oats by county: Poweshiek--up to 50% of stand in 3 fields, and Delaware, Dubuque, and Howard--also reported (Townsend, J.R. DeWitt). NORTH DAKOTA - Cass and Traill Counties--larvae, 0.64-3 cm (0.25-1 in) long, trace on wheat and barley. (Scholl).

MINNESOTA - Armyworm infestations noted especially in small grain fields mixed with foxtail and other grassy weeds. Larvae, most less than 1 cm (0.5 in) long, by county: Dakota, Dodge, Goodhue, and Mower--infested small grains [most heading, some milky], larvae 1-3 per 0.09 sq m (sq ft) in 4 wheat fields and 2 oat fields in Dakota County; Freeborn, Le Sueur, Waseca, Lincoln, Lyon, and Pipestone--counts trace; and Polk--fewer than 1 per 0.09 sq m in lodged wheat and 1 per 0.09 sq m in lodged barley. Stripped leaves and clipped heads. (Sreenivasam). WISCONSIN - Rock County--small larvae light, 1 per 20 sweeps, on oats. (Lovett).

WHEAT STEM MAGGOT (Meromyza americana) - NORTH DAKOTA - Morton, Stark, and Hettinger Counties--infested 0.5-30% of spring wheat, damage less than 1% in 1 field in Cass County. (Kopt, Scholl).

ENGLISH GRAIN APHID (Macrosiphum avenae) - WISCONSIN - Southwestern, south-central, and central areas--mostly this species on oats, up to 16 per sweep. (Lovett).

TURF, PASTURES, RANGELAND

INSECTS

SOUTHERN CHINCH BUG (Blissus insularis) - CALIFORNIA - San Diego County--adults 200 per 0.8 sq m (sq yd) of Dichondra at Vista. (Demmer).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEVADA - Lyon County--larvae completely stopped regrowth for 14 days on 32 ha (80 acres) of hay alfalfa in Mason Valley. (Lauderdale, Pursel). UTAH - Larvae (1st instar and some larger larvae) unusually heavy for first of July, 2-3 per sweep. (Davis). WISCONSIN - Southern one-third of State--adults and larvae stabilized at 0.5-4 per sweep of regrowth alfalfa, adults made up entire populations in some fields. Counts much lighter in Central Sands. These populations expected to persist through summer. (Lovett).

ALFALFA LOOPER (Autographa californica) - NEVADA - Averages per sweep of this species and a NOCTUID MOTH (Heliothis phloxiphaga) on seed alfalfa by county: Pershing--mostly alfalfa looper 3 on 32 ha (80 acres) at Lovelock (Munk) and Humboldt--H. phloxiphaga fewer than 1 at Jungo (Stitt).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Pershing County--adults 1-25 (averaged 14) per sweep of seed alfalfa at Lovelock. (Munk). UTAH - Millard County--general in Delta, major alfalfa seed growing area. Some controls not successful. (Karren, Haskell).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Counts per sweep of seed alfalfa by county: Pershing--1,000 in some fields in Lovelock area, treated (Munk); Humboldt--40-250 (averaged 80) at Jungo, an increase of 4 times over previous period (Stitt), and averaged 50-60 per sweep at Orovada (Bechtel).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Central County--still heavy on alfalfa June 24 to July 7, 50% of growers sprayed before second cutting and many expect to spray third cutting. (Hellman, Pinto).

SOYBEANS

DISEASES

PHYTOPHTHORA ROOT AND STEM ROT (Phytophthora megasperma var. sojae) - KANSAS - Eastern area--most widespread disease on soybeans week of June 30. Riley, Neosho, and Labette Counties--traces; Montgomery County--50-60% of plants dead in 1 field. (Sim).

RHIZOCTONIA ROOT ROT (Rhizoctonia solani) - ILLINOIS - Iroquois [3 nodes], Will [4 nodes], Kane [5 nodes], and McHenry [6 nodes] Counties--few scattered commercial soybean plants infected week of June 26. (Jordan).

SOYBEAN BROWN SPOT (Septoria glycines) - KANSAS - Morris County--prevalence 1% on soybeans [15cm (6in) tall] in 1 field week of June 30. (Sim). ILLINOIS - McHenry County--prevalence 99%/severity 5-10% in 1 commercial soybean field [6 nodes formed] week of June 26. (Jordan).

CHARCOAL ROT (Macrophomina phaseolina) - KANSAS - Johnson County--trace in soybean field week of June 30. (Sim).

PHYLLOSTICTA LEAF SPOT (Phyllosticta sojaecola) - ILLINOIS - Prevalence/severity on commercial soybeans by county week of June 26: Vermilion, Kane, and De Kalb--5%/5-10% [5 nodes]; Iroquois--1%/1-5% [3 nodes]; Will and Kendall--trace/1% [4 nodes]; and Ogle--1%/1-5% [6 nodes]. (Jordan).

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - ILLINOIS - Prevalence/severity on soybeans by county week of June 26: Vermilion--10%/10-15% [5 nodes], Kane--50%/1-5% [5 nodes], De Kalb--25%/1-5% [5 nodes], Ogle--25%/5-20% [6 nodes], and McHenry--75%/5-20% [6 nodes]. (Jordan). WISCONSIN - Rock County--moderately infected field of soybeans. (Lovett).

BACTERIAL PUSTULE (Xanthomonas phaseoli var. sojense) - KANSAS - Prevalence on soybeans by county week of June 30: Wilson--trace in 1 field and Labette--80% in 1 field. (Sim). ILLINOIS - Prevalence/severity on commercial soybeans by county week of June 26: Vermilion--trace/trace [5 nodes], and McHenry--50%/1-5% [6 nodes]. (Jordan).

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - KENTUCKY - Ohio River area--all stages on soybeans, potentially damaging populations continued to develop. Trimble (3 fields) and Gallatin (2 fields) Counties--larvae 4.1-38.1 (averaged 13.2) per row m (3 row ft), and adults trace to 0.6 (averaged 0.3) per row m of soybeans [4 trifoliolate leaves to early bloom]. Grant County--no adults or larvae in field 16-24 km (10-15 miles) south of "zone of infestation". (Yeagan, Isehour).

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - ARKANSAS - Counts per 0.3 row m (row ft) of soybeans by county; Arkansas--larvae about 2 in several fields [3-4 trifoliolate leaves], terminal feeding spotty, defoliation averaged 25-30% (Mueller); Desha and Drew--larvae up to 2-3 in several fields but generally spotty (Wall); and northeastern area--defoliation heavy in many soybean [10-18 cm (4-7 in) tall] fields. (Kimbrough).

GREEN CLOVERWORM (Plathypena scabra) - MISSOURI - Large larvae light in small spots within soybean fields. (English). IOWA - Central area--2nd and 3rd instar larvae 1-11.5 (averaged 5) per 0.3 row m (row ft) in 3 soybean [late vegetative to early bloom] fields. (Townsend, Pedigo).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis grandis) - TENNESSEE - Western area--punctured squares 1-6% in southern counties, all cotton fields below control levels. (Locke).

BOLLWORMS (Heliothis spp.) - ARKANSAS - Status on cotton by area: Southeastern--problems decreased, mostly large larvae with a few eggs (Wall), and northeastern--damaged 1.5-2 squares per 0.3 row m (row ft) in some fields (Kimbrough). TENNESSEE - Status on cotton by area: Western--eggs and larvae averaged 1 per 100 terminals in fields surveyed. (Locke). Lincoln County--adults in lure traps unusually heavy for time of year, next generation may cause problems. (Gordon).

TOBACCO

INSECTS

A NOCTUID MOTH (*Heliothis* sp.) - TENNESSEE - Trousdale, Smith, Sumner, Wilson, and Macon Counties--27 of 28 tobacco fields at or above control levels, larvae 0-1,444 per 0.4 ha (acre). (Gregory).

TOBACCO HORNWORM (*Manduca sexta*) - KENTUCKY - Larvae unusually heavy with most tobacco fields above economic levels. Infestations as high as 20%. (Sloderbeck). MARYLAND - St. Marys, Charles, and Calvert Counties--this species and TOMATO HORNWORM (*M. quinquemaculata*) infested up to 40% (averaged 20%) of tobacco [11 leaf] June 24 to July 7. Prince Georges County--infestations less than 10% in all fields. (Hellman, Pinto).

A SPHINGID MOTH (*Manduca* sp.) - TENNESSEE - Trousdale, Smith, Sumner, Wilson, and Macon Counties--10 of 28 tobacco fields at or above control level, larvae 0-1,000 per 0.4 ha (acre). (Gregory).

POTATOES, TOMATOES, PEPPERS

DISEASES

TOMATO BACTERIAL CANKER (*Corynebacterium michiganense*) - CALIFORNIA - San Diego County--prevalence 2% on about 100 ha (300 acres) of tomatoes at Del Mar; collapse, dieback, and dead plants evident. (Sims, Esparza).

INSECTS

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - MARYLAND - Statewide--this species and EGGPLANT FLEA BEETLE (*E. fuscula*) heavy and at economic levels in small untreated plantings of tomatoes, eggplants, and peppers June 24 to July 7. (Hellman, Pinto).

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - OREGON - Umatilla, Morrow, and Malheur Counties--heavy in potato production areas. Adults fed heavily on tomatoes in gardens at Hermiston. (Goeden).

BEANS AND PEAS

INSECTS

PEA APHID (*Acyrtosiphon pisum*) - WISCONSIN - South-central and Central Sands areas--0.1-15 per sweep of peas. (Lovett).

COLE CROPS

INSECTS

IMPORTED CABBAGEWORM (*Pieris rapae*) - WEST VIRGINIA - Kanawha County--damage ranged from slight to 25% of heads destroyed on about 200 cabbage and 50 broccoli plants in several gardens. (Hacker). MARYLAND - Statewide--larvae moderate to heavy, 10-15 per plant, on untreated cabbage June 24 to July 7. (Hellman, Pinto).

CUCURBITS

INSECTS

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - TEXAS - New county records. Bandera County--about 20 adults collected from squash in garden near Bandera, June 10, 1977, by N.M. Moritz. Determined by B.J. Abraham. Frio County--1 adult collected from squash at residence near Pearsall, June 15 by N.M. Moritz. Determined by R.L. Hodgson. (Jackman).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - WEST VIRGINIA - Kanawha County--adults heavy on cucumbers in most gardens. Several untreated gardens showed signs of CUCURBIT BACTERIAL WILT (Erwinia tracheiphila). (Hacker).

DECIDUOUS FRUITS AND NUTS

INSECTS

A SCOLYTID BEETLE (Xylosandrus germanus) - LOUISIANA - New State record. Pointe Coupee Parish--several adults collected from pecan tree in small orchard at Morganza, May 10, 1978. Collected by D.K. Pollet. Determined by D.M. Anderson. (Chapin).

SMALL FRUITS

INSECTS

GRAPE BERRY MOTH (Endopiza viteana) - PENNSYLVANIA - Flights continued to increase at most locations, larvae fed in grape clusters. (Kim).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - PENNSYLVANIA - Adults still relatively light in grape vineyards. (Kim).

A PSYLLID (Trioza tripunctata) - MARYLAND - Montgomery and Prince Georges Counties--young nymphs on blackberries June 24 to July 7, infestation levels 80+% in untreated patches, leaf curl 10-15% in treated patches. (Hellman, Pinto).

FOREST AND SHADE TREES

INSECTS

A SOFT SCALE (Inglisia vitrea) - FLORIDA - New county record. Martin County--adults moderately infested leaves of Persea borbonia (redbay) tree at residence at Palm City, April 11, 1978. Collected by E.W. Campbell. Determined by S. Nakahara. (Mead).

MAN AND ANIMALS

INSECTS

A TABANID FLY (Chrysops calvus) - MARYLAND - New county record. Garrett County--collected biting man in Cranesville Swamp, June 28, 1978. Collected and determined by W.E. Bickley. (Hellman, Pinto).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (Tetrastichus julis) - New county records. Collected from Oulema melanopus (cereal leaf beetle) larvae in 1 field each. VIRGINIA - Prince William County--parasitism 1% in wheat in Brentsville Magisterial District, May 30, 1978, collected by R. Morris; Frederick County--parasitism 6% in oats in Back Creek Magisterial District, June 2, collected by E. Elliott. WEST VIRGINIA - Putnam County--parasitism 7% in oats in Buffalo Magisterial District, June 7, collected by S. Moore. PENNSYLVANIA - Montgomery County--parasitism 100% in oats in Limerick Township, June 20; Chester County--72% in oats in Penn Township, June 23, both collected by J. Raub. NEW YORK - Orleans County--parasitism 90% in oats in Barre Township, June 22, collected by N. Herendeen. All determined by V.E. Montgomery. (T.L. Burger).

AN ICHNEUMONID WASP (Diaparsis n.sp.) - New county records. Collected from Oulema melanopus (cereal leaf beetle) larvae in 1 oat field each. MARYLAND - Washington County--parasitism 7% near Clearspring, June 16, 1978, collected by M. Wilson; PENNSYLVANIA - Venango County--parasitism 4% in Canal Township, June 20, 1978, collected by R. Shiner; NEW YORK - Genesee County--parasitism 20% in Byron Township, June 9, 1978, collected by R. Carruba. All determined by V.E. Montgomery. (T.L. Burger).

WEEDS

A WEEVIL (Rhinocyllus conicus) - INDIANA - Switzerland and Johnson Counties--released for second year to control Carduus nutans (musk thistle). Pupation begun. (Clark). IOWA - Mesa County--this species overwintered at Collbran, eggs averaged 7 per head of musk thistle, heaviest at 31. (Merlino, Nees).

FEDERAL AND STATE PROGRAMS

DISEASES

OAT STEM RUST (Puccinia graminis f.sp. avenae) - MISSOURI - Central area--prevalence 100%/severity 5-10% in only 2 variety trial plots of late-planted oats [milky] week of June 30. (Foudin).

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - NEW HAMPSHIRE - Merrimack County--no adults or larvae found after intensive survey of previously infested oat field at Concord in 1978. (T.F. Burger).

GRASSHOPPERS - KANSAS - Status by county week of July 3: Western area--damage restricted to field margins for field crops and most significant in alfalfa field margins; Lyon, Comanche, Johnson, and Haskell--some noticeable field border damage to soybeans; Stevens and Seward--some noticeable field border damage to corn. Averages per 0.8 sq m (sq yd) by county: Clark and Meade--2-10 in alfalfa fields and 4-15 in field margins with defoliation 0-4.6 m (0-15 ft) into fields, mostly Melanoplus differentialis and M. bivittatus in Clark County and M. differentialis and M. sanguinipes in Meade County; north-central Haskell--15, mostly latter 2 species, in 2 alfalfa field margins and 7-9

in fields; Seward--mostly all adult M. sanguinipes about 17 in field margin and 11 inside 1 field, damage very light; Stevens--damaged some corn about 91 m (100 yd) into field, mostly M. differentialis, M. bivittatus, and M. sanguinipes, treating planned; Morton--light on range but increased eastward into Meade County; Clark--less than 3 per 0.8 sq m but ranged up to 8 in area north of Englewood, Phlibostroma quadrimaculatum about 80% of population. (Gates et al.).

GRASSHOPPERS - NORTH DAKOTA - Traill and Cass Counties--isolated concentrations of grasshoppers caused occasional damage to small grains. Ranged 10-36 per sq m (8-30 per sq yd). Averaged 20 per sq m (17 per sq yd) in 1 barley field. Mostly Melanoplus bivittatus 5th instar to adult. (Scholl).

JAPANESE BEETLE (Popillia japonica) - KENTUCKY - Madison County--adults still light on corn. Fewer than 2 per 100 plants in corn fields [mid to late whorl]. About 5 per 100 plants [beginning to silk] in 1 field. Damage very light. (Sloderbeck). INDIANA - Allen County--first adult June 28, early for species. Early indications show populations expected to be heavy this season. Vigo and Marion Counties--"balling" occurred. (Clark).

WEST VIRGINIA - Kanawha and Putnam Counties--Japanese beetle adults severely damaged beans and sweet corn in several gardens. Ate all silks on 50% of corn plants in 0.2 ha (0.5 acre). (Hasker). MARYLAND - Howard County--emergence heavy June 24 to July 7, adults (mating and egg laying) 1 per 0.09 sq m (sq ft) on commercial turf farm. (Hellman, Pinto).

DELAWARE - New Castle County--Japanese beetle adults first appeared week of June 26; now common on grapes, raspberries, and roses. (Burbutis, Kelsey). NEW HAMPSHIRE - First adults of season. Merrimack County--found in oat field at Concord, June 28 and 29. (Burger, Tatham).

SCREWORM (Cochliomyia hominivorax) - Total of 269 cases reported from continental United States June 11-17 as follows: Texas 13, New Mexico 48, Arizona 207, California 1. (Meadows). Total of 598 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 485 cases reported in Mexico south of Barrier Zone. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - A LEAFMINER FLY (Liriomyza sativae) moderate to heavy on 0.8 ha (2 acres) of tomatoes under plastic and 1 ha (3 acres) of recently harvested cucumbers at Kona, Hawaii Island. Damage by a LEAFMINER FLY (Liriomyza huidobrensis) heavy on 185.8 sq m (2,000 sq ft) of celery at Volcano, Hawaii Island. MELON FLY (Dacus cucurbitae) infestations and damage (100% of fruits affected) heavy on 1 ha of recently harvested cucumber at Kona and on backyard zucchini at Volcano; adults active on perimeter of 0.8 ha of tomatoes under plastic at Kona. (Yoshioka, L. Nakahara).

DETECTION

NEW STATE RECORD

INSECTS

A SCOLYTID BEETLE (Xylosandrus germanus) - LOUISIANA - Pointe Coupee Parish. (p. 350).

NEW COUNTY RECORDS

INSECTS

A EULOPHID WASP (Tetrastichus julis) - NEW YORK - Orleans; PENNSYLVANIA - Montgomery, Chester; VIRGINIA - Prince William, Frederick; and WEST VIRGINIA - Putnam. (p. 351).

AN ICHNEUMONID WASP (Diaparsis n.sp.) - MARYLAND - Washington; NEW YORK - Genesee; and PENNSYLVANIA - Venango. (p. 351).

A SOFT SCALE (Inglisia vitrea) - FLORIDA - Martin. (p. 350).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - TEXAS - Bandera, and Frio. (p. 350).

A TABANID FLY (Chrysops calvus) - MARYLAND - Garrett. (p. 350).

CORRECTIONS

CPFR 3(22):242 - BENEFICIAL ORGANISMS AND THEIR ENEMIES - AN APHIDIID WASP - Delete information.

CPFR 3(24):277 - FOREST AND SHADE TREES - COOLEY SPRUCE GALL ADELGID (Adelges cooleyi) - "...75-year-old..." should read "...75-acre..." (Kim).

CPFR 3(24):281 - MISSISSIPPI - Manduca sexta - 11 should read Peridroma saucia - 11.

CPFR 3(27):323 and 336 - SUGARCANE SMUT (Ustilago scitaminea) - See p. 343.

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
 Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Stemphilium bolickii</u> Sobers & Seymour a fungus Det. F.G. Pollack	imperfect	on leaves of Crassula plants from cargo	South Africa	Brownsville	TX
<u>Aethus nigrinus</u> (Fabricius) a cydnid bug Det. J.L. Herring	nymph	with licorice root from cargo	China	Philadelphia	NJ
<u>Heterobostrychus hematipennis</u> (Lesne) a bostrichid beetle Det. T.J. Spilman	larval adult	in bamboo slats with bales of feathers	People's Republic of China	New York	USA
<u>Maruca testulalis</u> (Geyer) bean pod borer Det. R. Kunishi	larval	in Sesbania cut flowers from baggage	Hawaii	Honolulu	CA
<u>Sirex noctilio</u> Fabricius a siricid wasp Det. D.R. Smith	adult	in crating with machinery	Germany	Charleston	SC
<u>Trogoderma granarium</u> Everts khapra beetle Det. F.C. Averill	adult	with foodstuffs from baggage	Saudi Arabia	San Antonio	TX
<u>Helicella protea</u> (Ziegler) a helicid snail Det. R. Munkittrick	juvenile	on container van with household goods	Turkey	Savannah	TX
<u>Helix aspersa</u> Müller brown garden snail Det. F. Mathews	juvenile	on Trevesia plants from cargo	New Zealand	Miami	FL

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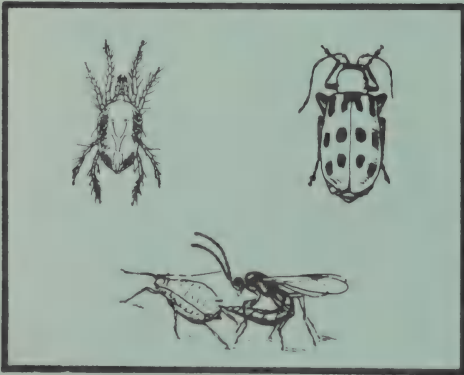
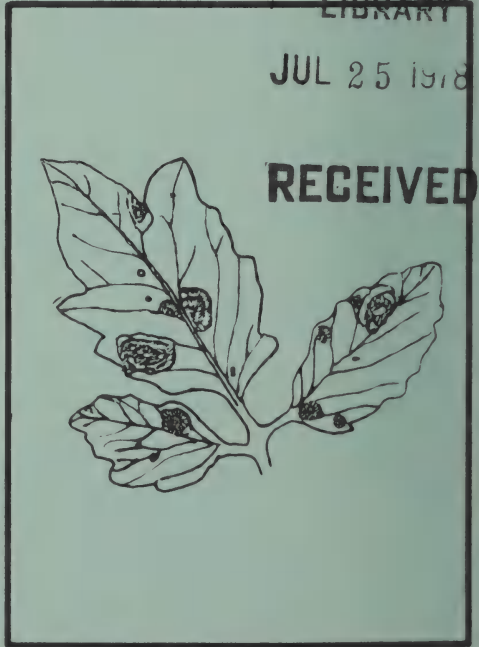
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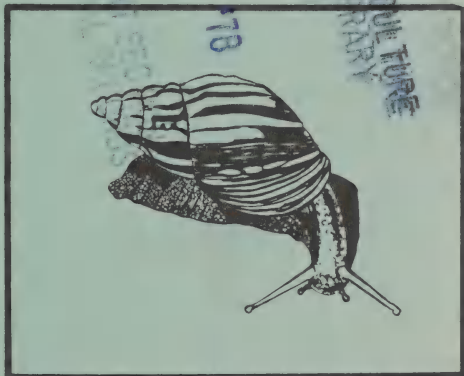
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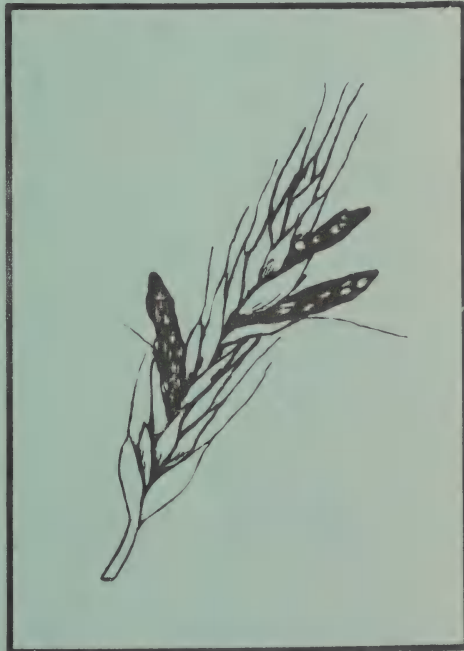
Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

CORN LEAF APHID 1,000+ or more per plant in southeastern Nebraska and east-central area of Mississippi (p. 361-362).

GREENBUG numbers significant in some sorghum fields in Kansas. (p. 362).

WHEAT LEAF RUST will be severe on spring wheats in Pacific Northwest. (p. 362).

POTATO LEAFHOPPER 1+ per sweep of alfalfa in parts of West Virginia and Ohio. (p. 367-368).

GRASSHOPPERS damaged many soybean borders in north and central Mississippi. (p. 369). Some damage to winter wheat heads in southeastern Colorado. Damage serious to field margins in isolated cases in Kansas. Numbers moderate to severe on roadsides, pastures, and crop borders in western Nebraska. (p. 374-375).

Detection

● A CYDNID BUG new to the Western Hemisphere found in Delaware. (p. 376).
An ICHNEUMONID WASP is new for New Jersey. (p. 373).

For new county records see page 377.

Reports in this issue are for the week ending July 14 unless otherwise indicated

CONTENTS

Corn, Sorghum, Sugarcane		Tobacco	
Diseases.....	359	Insects.....	370
Insects.....	360		
Small Grains		Sugar Beets	
Diseases.....	362	Insects.....	370
Insects.....	365		
Turf, Pastures, Rangeland		Miscellaneous Field Crops	
Insects.....	366	Insects.....	371
Forage Legumes		Potatoes, Tomatoes, Peppers	
Diseases.....	366	Insects.....	371
Insects.....	367		
Soybeans		Beans and Peas	
Diseases.....	368	Diseases.....	371
Insects.....	369	Insects.....	371
Peanuts		General Vegetables	
Insects.....	369	Insects.....	371
Cotton		Deciduous Fruits and Nuts	
Insects.....	369	Insects.....	371
		Forest and Shade Trees	
		Insects.....	372
Beneficial Organisms and Their Enemies			
Insects.....	372		
Weeds.....	373		
Federal and State Programs			
Diseases.....	373		
Insects.....	374		
Hawaii Pest Report.....	376		
Corrections.....	376		
Detection.....	376		
Light Trap Collections.....	378		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	380		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON SMUT (*Ustilago maydis*) - KANSAS - First of season. Stafford and Riley Counties--trace in single corn fields, and northwestern area--widespread in some parts past 2 periods. (Sim). OHIO - Clark County--prevalence 1-2% on corn [12 leaves emerged] week ending July 7. (Hite).

HOLCUS SPOT (*Pseudomonas syringae*) - MISSOURI - Jefferson County--prevalence less than 1%/severity less than 5% of leaf area involved in southern sweet corn variety virus and disease test plots at House Springs. (Foudin). NEBRASKA - Thayer County--trace on corn June 19 to July 2. (Poe). SOUTH DAKOTA - Roberts County--prevalence 100%/severity trace to 5% on field corn [8-12 leaves fully emerged] July 3-7. (Jons). NORTH DAKOTA - Prevalence/severity on field corn [8-12 leaves fully emerged] by county July 3-7: Cass--100%/trace to 1%, and Richland, Sargent, and Dickey--100%/trace to 2%. (Jons).

GRAMINICOLA ANTHRACNOSE (*Colletotrichum graminicola*) - ILLINOIS - St. Clair County--prevalence trace/severity trace on corn [16 leaves emerged] in monitoring plots week of July 3. (Jordan). OHIO - Clark County--prevalence 15% on lower leaf of corn [12 leaves emerged] in 1 field week ending July 7. Infected lower leaves of several lines in experimental trial plots. Lesions contain many sporulating acervuli; inoculum heavy. (Hite).

COMMON MAIZE RUST (*Puccinia sorghi*) - KANSAS - First of season. Shawnee and Leavenworth Counties--trace in single corn fields past 2 periods. (Sim).

STEWART'S WILT (*Erwinia stewartii*) - MISSOURI - Jefferson County--prevalence 30-50%/severity trace to 1% of leaf area involved in southern sweet corn variety virus and disease test plots at House Springs. (Foudin). ILLINOIS - St. Clair [16 leaves emerged] and Saline [12 leaves emerged] Counties--prevalence trace/severity trace on corn in monitoring plots week of July 3. (Jordan).

GOSS WILT (*Corynebacterium nebraskense*) - KANSAS - First of season. Cheyenne County--found in 1 corn field. (Sim).

CORN STUNT SPIROPLASMA - MISSOURI - Jefferson County--symptoms severe in less than 1% of plants in southern sweet corn variety virus and disease test plots at House Springs. (Foudin).

MAIZE DWARF MOSAIC POTYVIRUSES - NEBRASKA - Prevalence on corn by county week of June 19 to July 2: Webster--10%, Franklin--5-10%, Harlan--trace to 75%, 20-30% most common. (Poe). KANSAS - Riley County--traces in 1 corn field. Kearny and Douglas Counties--traces in single sorghum fields. (Sim). MISSOURI - Jefferson County--prevalence of symptoms 60-80%/severity moderate to severe for 75+ varieties in southern sweet corn variety virus and disease test plots at House Springs. (Foudin).

CORN LETHAL NECROSIS - KANSAS - Norton County--MAIZE DWARF MOSAIC POTYVIRUSES and MAIZE CHLOROTIC MOTTLE VIRUS combination prevalent on about 50% of corn in 1 field. (Sim).

MAIZE CHLOROTIC DWARF VIRUS - MISSOURI - Jefferson County--prevalence of symptoms 60-80%/severity moderate to severe for 75+ varieties in southern sweet corn variety virus and disease test plots at House Springs. (Foudin).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - IOWA - Audubon, Greene, Poweshiek, Dallas, Muscatine, Black Hawk, Fayette, Dubuque, Howard, Kossuth, Wapello, Palo Alto, Calhoun, and Story Counties--first generation larvae damaged field corn, infested 40-100% of plants, 3rd to 5th instars 1-3 per plant, large larvae bored into stalk. Most treatments applied to early planted corn. (J.R. DeWitt).

MINNESOTA - European corn borer infestation level increased on field corn but present second brood potential may be less than expected. Number of infested corn plants per 100 [average height in cm (in)], larvae per 100 plants, and predominant larval instar by district: West-central--19 [150 (59)], 300, and 1st; central--8 [119 (47)], 21, and 1st and 2nd; east-central--10 [102 (40)], 9, and 1st and 2nd; southwest--32 [124 (49)], 53, and 2nd and 3rd; south-central--36 [231 (91)], 74, and 3rd; and southeast--23 [188 (74)], 51, and 2nd. Some heavy infestations with larvae per 100 plants by county: Swift and Chippewa--80% in 2 fields; Steele--64%, 224 in 1 field; and Faribault--56%, 140 in 1 field. (Sreenivasam).

WISCONSIN - European corn borer infested 10-75% of grain corn 76 cm (30 in) tall or taller. Infestation about 3-5 times heavier than in recent years in south-central and southwestern counties. Larvae mostly 3rd and 4th instar south of Madison and mostly 2nd north of Madison to the central counties. (Lovett).

NEBRASKA - European corn borer status on corn by county: Antelope--larvae, 2nd to 4th instars, 0-15 (averaged 4) per plant [127-152 cm (50-60 in) extended leaf height] on 10-80% of plants; Knox--2nd to 4th instars 4-15 (averaged 6) per plant [152 cm (60 in) extended leaf height] in 90% and 100% of 2 fields, about half of larvae in stalks; Dawson--leaf damage averaged 25-30% on early planted corn surveyed; Lancaster--First pupa of season on sweet corn July 10. (Buske et al.).

SOUTH DAKOTA - Southern one-half of State--most European corn borer larvae in midrib or cornstalk, past effective treatment stage except for late-planted corn less than 2 m (5 ft) tall. (Walgenbach). NORTH DAKOTA - Richland County--3rd instar larvae caused "shotholing" on corn in 1 field near Wyndmere. (Pinkham).

MISSOURI - European corn borer status on corn by area: Statewide--second generation emergence well underway, southwestern and west-central--adults and eggs noted, and southeastern--eggs on 28-80% of plants. (Munson).

ILLINOIS - Northern one-half area--1st to 5th instar European corn borer noted; stalk entry very light, most 5th instars tunneling in preemergent tassels. Northwest district--infestation 0-100% (averaged 51%) for 5 counties, larvae averaged 1.8 per plant. (Black). OHIO - Southeastern area--pupae and late instar larvae (16 mm, 0.63 in, long) in corn. Washington and Gallia Counties--some leaf feeding and tunneling on 15% of corn [tassel] and 20% of corn [late whorl], respectively. (Drees).

WEST VIRGINIA - Berkeley and Jefferson Counties--European corn borer larvae averaged 35%, (ranged 15-70%) on corn [4 leaf to presilk], most damage to later corn. (Washburn). NEW HAMPSHIRE - Southern area--damage 15% or more in corn whorls and adults laid eggs. (J.F. Burger).

ARMYWORM (*Pseudaletia unipuncta*) - MISSOURI - Southwestern and west-central areas--larvae moderate to heavy in 5 fields of late-planted corn [36-51 cm (14-20 in) tall]. Small larvae 1-4 per plant on 13-28% of plants. Controls applied to some fields. (Munson).

NEBRASKA - Armyworm larvae by county: Hall--infestations appeared in areas that received hail 7-14 days ago, larvae (one-third grown) averaged 1.5 per corn plant on 50% of plants in 1 field (Raun); and Colfax--1st to 3rd instar larvae in lawns (Kahl). WISCONSIN - Larvae averaged about 0.5 per 0.09 sq m (sq ft) in few very grassy corn fields. (Lovett).

CORN EARWORM (Heliothis zea) - MISSISSIPPI - Newton, Neshoba, Winston, Clay, Chickasaw, Pontotoc, and Marshall Counties--larvae, 3rd to 4th instars, on 1-16% of field corn ears [silk to full cob]; damage light. (Anderson).

MISSOURI - Southwestern and west-central areas--light on late corn and sorghum. Small larvae of this species and FALL ARMYWORM (Spodoptera frugiperda) infested 2-12% of plants. (Munson).

FALL ARMYWORM (Spodoptera frugiperda) - ILLINOIS - Western and southwestern areas--damaging infestations in occasional corn fields. (Kuhlman).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - COLORADO - Northeastern area--adults active in some corn fields. (Hantsbarger). NEBRASKA - First of season. Dundy County--first adult and egg mass July 5. (Raun).

STALK BORER (Papaipema nebris) - NORTH DAKOTA - Richland County--larvae, 3 cm (1 in) long, on corn near Wyndmere. (Pinkham).

POTATO STEM BORER (Hydroecia micacea) - MAINE - Larvae pupated in corn. (Gall).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - First WESTERN CORN ROOTWORM (D. virgifera) adults of season by county: Merrick--July 7. Dawson--July 5, adults averaged 25 per 100 corn plants in 1 field July 11. (Raun). SOUTH DAKOTA - Statewide--Diabrotica spp. larvae hatched on corn. Expected to be very heavy in isolated fields only. Adults will begin appearing in 7 days. (Walgenbach).

MISSOURI - D. virgifera emerged throughout corn areas. Northwestern area--adults heavy, 4-5 per ear, in some fields. (Munson). IOWA - Hardin, Clarke, Black Hawk, and Story Counties--new D. virgifera males on field corn. (J.R. Dewitt).

WISCONSIN - Walworth, Rock, Dane, Green, Lafayette, Iowa, and Grant Counties--Diabrotica spp. adults began to emerge, fewer than 1 per plant but expected to increase steadily next 21 days. Due to number of late corn fields in several areas, adults will probably congregate heavily in late fields as corn silks in August. (Lovett).

OHIO - Madison County--late instar larvae, pupae, and 1 newly eclosed or teneral adult of NORTHERN CORN ROOTWORM (D. longicornis) in soil samples. (Clement et al.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEBRASKA - Southeastern area--up to 2,000+ per sorghum plant in most fields; York County--dead areas on leaves in whorls in 1 sorghum field. (Miller). KANSAS - Southeastern area--still heavy in some sorghum fields; some treated. (Bell).

MISSISSIPPI - Oktibbeha County--corn leaf aphid 0-1,000+ per sweet corn plant on upper stalk and tassels in gardens. (Anderson). ILLINOIS - Percent of lightly infested corn fields by district: Central--60, west--45, northwest--63, and east--70; averaged 20% with fewer than 10 aphids per plant. (Black).

WISCONSIN - Most corn fields--corn leaf aphid colonies small, colonies of about 15-100 aphids per infested plant on 3-80% of plants; average colonies of 15 aphids per plant on about 5% of plants. Iowa County--50-100 within 0.6 m (2 ft) of ground on 80% of plants. (Lovett).

OHIO - Corn leaf aphid status on corn by county: Madison--heavy, averaged 4 stem mothers with their colonies on all plants surveyed, and Washington, Meigs, and Gallia Counties--heavy in whorls of tasseling corn. (Drees).

GREENBUG (Schizaphis graminum) - KANSAS - Statewide--numbers significant in some sorghum fields. Wilson County--ranged 50-300 (averaged 100) per sorghum plant [bloom] near Buffalo. Montgomery, Wilson, and Woodson Counties--none found in 3 other fields [61 cm (24 in) to bloom]. Averages per plant [and height] by county: Kearny--2-40 [30-61 cm (12-24 in)], Stanton--20 [61 cm], Finney--10 [61 cm], and Scott, Wichita, Grant, and Seward--0 [20-61 cm (8-24 in)]. Stafford--averaged 0-3.3 per plant in 1 field. Kingman and Comanche--none found. (Salsbury).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Eastern area--damaged corn and sorghum. Harvey and McPherson Counties--migration from wheat into adjacent sorghum fields seemed complete by July 11; may be complete or almost complete at affected areas north and east of these counties. Infestations still concentrated on sides of fields nearest wheat fields. Much of first generation became adults by July 11. (Brooks). Control failures frequent. (Bell).

NEBRASKA - Southeast and east districts--chinch bug continued to migrate into corn and sorghum, all instars present, averaged 800+ per plant along migration line; Lancaster County--10-12 border rows killed and next 6-8 rows damaged in 1 field of sorghum [76 cm (30 in) extended leaf height]. (Peters et al.).

GRASSHOPPERS - SOUTH CAROLINA - Marlboro County--heavily damaged about 0.10 ha (0.25 acre) of corn in garden. (White). Newberry County--moderate to heavy Melanoplus differentialis populations heavily damaged about 6.1 ha (15 acres) of corn, 1-5 per stalk, many in grass along field border. (Kissam, Eason).

SMALL GRAINS

Small grain harvest still late in Kansas areas due to wet weather June 28 to July 11. Winter wheat harvest started in northern Nebraska and southern South Dakota. Adequate soil moisture and warm temperatures favored normal small grain development in upper Great Plains. (Roelfs, Long).

DISEASES

WHEAT LEAF RUST (Puccinia recondita f.sp. tritici) general throughout wheat area June 28 to July 11. Moderate on susceptible spring wheat varieties as far north as St. Paul, MINNESOTA. Severe, up to 30% loss projected in some fields of winter wheat varieties throughout eastern WASHINGTON, eastern OREGON, and adjacent areas of IDAHO. Will severely damage some Pacific Northwest spring wheats due to unusually favorable environmental conditions for these 14 days. Severities of 100% expected in 7-10 days, losses up to 30%. Became more serious in Pacific Northwest with increased use of irrigation and stripe rust resistant cultivars. (Line).

NEBRASKA - wheat leaf rust prevalence/severity on wheat [before late dough] by county June 19 to July 2: Lancaster--100%/5-20%, Saunders--80%/15%, Dodge--80%/10-25%, Washington--60%/5%, Douglas--50-90%/10%, Sarpy--85%/15%, and Cass--70%/10%. (Poe).

SOUTH DAKOTA - Wheat leaf rust prevalence/severity by county July 3-7: Clark--100%/40-50% on winter wheat [middough] in 1 field, Clark--100%/trace to 5% on durum wheat [berry one-fourth formed] in 1 field, Day--100%/5-10% on spring wheat [berry three-fourths formed] in 1 field, and Marshall--trace/trace on spring wheat [berry one-half formed to milky] on spring wheat. (Jons). NORTH DAKOTA - Prevalence/severity by county (1 field each) July 3-7: Cass--50%/trace on durum wheat [flowering], and Richland--trace/trace on spring wheat [berry one-half formed]. (Jons).

OHIO - Clark and Franklin Counties--wheat leaf rust prevalence 99% on wheat [ripe] week ending July 7. (Hite).

MICHIGAN - Wheat leaf rust prevalence/severity on winter wheat [flowering to base unless stated otherwise] by county: Huron--35%/5% on lower leaves, and trace at second site, Clare--trace/- [flowering], Osceola--trace/- [kernel forming], Missaukee--5%/1% [early milky], Ogemaw--trace/-, Montmorency--60%/1% on lower leaves, smaller pustules [early milky], Antrim--trace/-, and Leelanau--trace/- [milky]. (Singh).

RYE LEAF RUST (*Puccinia recondita* f.sp. *secalis*) severities trace to 20% in commercial rye fields in MINNESOTA; severities of 40-60% common in trap plots of spring ryes in southern area. (Roelfs, Long). SOUTH DAKOTA - Hamlin County--prevalence 100%/severity 50% in 1 rye field [middough]. (Jons).

OAT CROWN RUST (*Puccinia coronata* var. *avenae*) moderate to heavy throughout central States. Severities 10-60% in eastern SOUTH DAKOTA. Warm temperatures and abundant moisture favored crown rust development; losses expected. (Roelfs, Long).

NEBRASKA - Oat crown rust prevalence/severity on oats [late milky to soft dough] by county June 26: Lancaster--60%/5%, Seward--50%/10%, York--40%/5%, and Hamilton--40%/5%. (Poe). SOUTH DAKOTA - Prevalence/severity on oats [berry forming to milky] by county July 3-7: Roberts--100%/trace to 5%, Grant--100%/trace to 2%, Codington--100%/1-20%, and Hamlin--100%/5-20%. (Jons). NORTH DAKOTA - Richland County--prevalence trace /severity trace on oats [berry forming to milky] July 3-7. (Jons).

IOWA - Oat crown rust prevalence/severity on surveyed oats [late flower to early dough] by county June 17-30: Cerro Gordo--100%/trace to 15%, Sioux--70%/trace to 20%, O'Brien--25%/5-10%, Plymouth and Woodbury--5-25%/trace to 5%, Crawford--100%/5-20%, and Adair--100%/10%. (Williams). WISCONSIN - Southern counties--teliospores to infect buckthorn developed on oats. (Lovett).

YELLOW STRIPE RUST (*Puccinia striiformis*) heavier than usual throughout WASHINGTON, OREGON, southern IDAHO, and northern UTAH. Losses will be close to 30% on Yamhill wheat in western part of Washington and Oregon. Will cause some damage on varieties resistant to higher temperatures in the adult stage; such as Hyslop in western Oregon and Paha in eastern Washington and Oregon. Losses of 30% expected in some fields, less in dry areas. (Line).

BARLEY LEAF RUST (*Puccinia hordei*) severities trace to 10% in nursery plots and commercial barley in north-central States June 28 to July 11. Dry season in northern Great Plains in 1975 and 1976, very early season in 1977, and cold winters past 2 years reducing overwintering rust on winter barley in southern Great Plains may account for low incidence of barley leaf rust. (Roelfs, Long).

HELMINTHOSPORIUM LEAF BLOTCH (Pyrenophora (Helminthosporium) avenae) - NEBRASKA - Prevalence/severity on oats [late milky to soft dough] by county week of June 26: Lancaster--90%/10%, Seward--30%/15%, York--55%/10%, Hamilton--60%/15%, Clay--60%/10%, and Nuckolls--40%/5%. (Poe). IOWA - Prevalence in surveyed oats [milky to early dough] by county June 17-30: Cerro Gordo--25% and Boone--20%. (Williams).

EYESPOT (Pyrenophora trichostoma) - SOUTH DAKOTA - Prevalence/severity on spring and durum wheat [flowering to berry three-fourths formed] by county July 3-7: Roberts--100%/trace to 5%, Codington--100%/trace to 5%, Hamlin--100%/5-10%, Clark--100%/5-10%, Day--100%/5-20%, and Marshall--100%/5-10%. (Jons).

NORTH DAKOTA - Eyespot prevalence/severity on spring and durum wheat [flowering to berry three-fourths formed] by county July 3-7: Ransom, Richland, and Sargent--100%/trace to 5%; Cass, Dickey, and La Moure--100%/trace to 10%; and Barnes--100%/2-10%; on spring and durum wheat [flowering to milky] July 10-14: Stutsman and Logan--100%/trace to 10%; McLean, McHenry, Wells, and Nelson--100%/1-5%; Benson--100%/trace to 5%; Steele--100%/1-5%; and Cass--100%/1-10%. (Jons).

MICHIGAN - Eyespot prevalence on winter wheat by county: Mason--trace [milky] and Wexford--trace [early milky]. (Singh).

SATIVUM ROOT ROT (Cochliobolus (Helminthosporium) sativus) - NORTH DAKOTA - Southeastern area--widespread in trace to moderate amounts on spring and durum wheat. (Jons).

TAKE-ALL (Gaeumannomyces graminis var. tritici) - NEBRASKA - Lancaster County--prevalence 2% on wheat [before late dough] June 19 thru July 2. (Poe).

WHEAT POWDERY MILDEW (Erysiphe graminis f.sp. tritici) - NEBRASKA - Saunders and Douglas Counties--prevalence trace in wheat [before late dough] June 19 to July 2. (Poe). OHIO - Clark and Franklin Counties (1 field each)--prevalence 99% on wheat [ripe] week ending July 7. Heavy on most varieties in variety performance test plots. Infected all parts, including flag leaves and sometimes glumes. (Hite).

MICHIGAN - Wheat powdery mildew prevalence/severity on winter wheat [flowering to base unless stated otherwise] by county: Huron--60%/35% on lower leaves, Bay--50%/15% on lower leaves, Clare--trace/- [flowering], Osceola--trace/- [kernel forming], Ogemaw--30-35%/50-60% on lower leaves, Iosco--80-90%/5-15% on lower leaves [early milky], Antrim--trace/-, and Leelanau--40%/60% symptoms up to flag leaves [early milky]. (Singh).

LOOSE SMUT (Ustilago nuda) - SOUTH DAKOTA - Prevalence by county July 3-7: Roberts--trace, Clark (1 field each)--3% on durum wheat and 1% on spring wheat, Day--trace to 1%, and Marshall (1 field)--3% on spring wheat. (Jons). NORTH DAKOTA - Prevalence on spring wheat [flowering to berry three-fourths formed] by county July 3-7: Cass, Richland, La Moure--trace; on spring wheat and durum wheat [flowering to milky]: Sargent--trace (3% in 1 durum field); Dickey, La Moure, McLean, McHenry, and Barnes--trace (12% in 1 spring wheat field for last county). (Jons).

WISCONSIN - Grant County--loose smut prevalence 1-8% on oat heads in 3 of 5 fields. (Lovett). MICHIGAN - Prevalence on winter wheat by county: Bay--trace [flowering to base], Clare--trace [flowering], Osceola--trace [kernel forming], Ogemaw--1% [flowering to base], Iosco--trace [milky], Montmorency--trace [early milky], and Antrim--trace [flowering to base]. (Singh).

OAT LOOSE SMUT (Ustilago avenae) - IOWA - Prevalence in surveyed oats [late boot to early dough] by county June 17-30: Winneshiek and Fayette--trace to 3%, and Floyd--5%. (Williams).

SPECKLED LEAF BLOTCH (Septoria tritici) - NEBRASKA - Prevalence/severity on wheat [before late dough] by county June 19 to July 2: Lancaster--100%/15-35%, Saunders--90%/20%, Dodge--85%/10%, Washington--80%/15%, Douglas--90%/15%, Sarpy--90%/20%, and Cass--90%/15%. (Poe). OHIO - Clark and Franklin Counties (1 field each)--symptom prevalence of this species and SEPTORIA GLUME BLOTCH (Leptosphaeria (Septoria) nodorum) 99% on wheat [ripe] week ending July 7. Infection very severe on most varieties in variety performance trials. Severe on flag leaves of some varieties, glume blotch symptoms prevalent. (Hite).

SEPTORIA COMPLEX (Septoria spp.) - MICHIGAN - Prevalence/severity on winter wheat [early milky unless stated otherwise] by county: Huron (2 sites)--30-40%/10-15% [flowering], Bay--5-10%/8-12% [flowering to base], Clare--trace/- [flowering to top], Osceola--trace/- [kernel forming], Mason--trace/- [milky], Wexford--trace/-, Missaukee--15%/1%, Ogemaw--30-40%/5-7% on lower leaves [flowering to base], Iosco--trace/-, Montmorency--75-80%/1% on lower leaves, Antrim--trace/- [flowering to base], and Leelanau--35-45%/1-5% on lower leaves [milky]. (Singh).

CEPHALOSPORIUM STRIPE (Cephalosporium gramineum) - MICHIGAN - Prevalence on winter wheat by county: Ogemaw--trace [flowering to base] and Iosco--15-20% [milky]. (Singh).

SCAB (Fusarium spp.) - NORTH DAKOTA - Eastern area--prevalence trace in hard red spring wheat and durum fields [milky]. (Jons).

CORONAFACIENS HALO BLIGHT (Pseudomonas coronafaciens) - IOWA - Prevalence/severity in surveyed oats [late flower to early dough] by county June 17-30: Boone--10%/3%, Grundy--50%/10%, Winneshiek--trace to 25%, Floyd--5%/1-10%, Cerro Gordo--50%/3%, Kossuth--70%/10%, Sioux--50%/5-10%, Plymouth--80-100%/trace to 3%, and Monona--10%/3%. (Williams). MICHIGAN - Emmet and Presque Isle Counties--symptoms on few oat plants [heading]. (Singh).

BLACK CHAFF (Xanthomonas translucens f.sp. undulosa) - SOUTH DAKOTA - Roberts County (1 field)--prevalence 100%/severity 1-5% on wheat July 3-7. (Jons). NORTH DAKOTA - Prevalence/severity on spring wheat [flowering to berry three-fourths formed] by county July 3-7: Richland and Sargent (1 field each)--100%/5-20%, La Moure, Dickey, and Sargent--trace/trace; currently on spring wheat [flowering to milky] by county (number of fields): Richland (2)--100%/10-30%, Sargent (3)--100%/10-25%, Dickey (1)--100%/10-20%, La Moure (2)--100%/10-30%, Stutsman (3)--100%/10-30%, and Logan (1)--100%/trace to 10%. (Jons).

BARLEY YELLOW DWARF LUTEOVIRUS - IOWA - Prevalence of red leaf in oats surveyed [late flower to early dough] by county June 17-30: Boone--trace to 3%, and Winneshiek, Fayette, Floyd, and Kossuth--trace. (Williams). MICHIGAN - Prevalence on winter wheat by county: Huron (2 sites)--trace [flowering and flowering to base], Mason--trace [early milky], Missaukee--trace [early milky], Ogemaw--trace [flowering to base], and Iosco--5% [early milky]. Presque Isle County--red leaf trace on oats [heading]. (Singh).

INSECTS

ARMYWORM (Pseudaletia unipuncta) - IOWA - Howard, Linn, Palo Alto, and Cerro Gordo Counties--late instar larvae caused economic damage to 14 oat fields; treatments applied. (J.R. Dewitt).

NORTH DAKOTA - Eddy, Foster, and Stutsman Counties--armyworm larvae trace on wheat, barley, and oats; some stem cutting with larvae 1 per 0.09 sq m (sq ft) in 1 oat field in Stutsman County. (Scholl).

WISCONSIN - Expected armyworm increase on oats occurred. Slight possibility of additional increase, isolated areas required controls. Counts per 0.09 sq m (sq ft) by county: Marathon--up to 3 on lodged oats; and Walworth, Green, Rock, Dane, Grant, and Iowa--0.1-0.5. Most larvae 0.953-3.8 cm (0.375-1.5 in) long. (Lovett). ILLINOIS - Northern half of State--half-grown larvae light in many oat fields. Damaging infestations expected; none to date. (Black).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Cedar County--2nd instars in oat field, lodging occurred. (Buske). IOWA - Larvae, 3rd and 5th instars, caused 20-50% loss due to lodging in 4 oat fields. (J.R. DeWitt).

WHEAT STEM MAGGOT (Meromyza americana) - NORTH DAKOTA - Average percent infested wheat by county: Grant and Morton--9% (ranged 4-18%), Stutsman--2.25%, Eddy--1.9%, Foster--2.5%, and Griggs--2.6%. (Brandvik, Scholl).

HESSIAN FLY (Mayetiola destructor) - SOUTH DAKOTA - North-central area--second brood pupated on wheat; head size and kernel weight reduced. Amount of lodging unknown. (Walgenbach).

ENGLISH GRAIN APHID (Macrosiphum avenae) - NEVADA - Eureka County--all instars ranged 5-10 (averaged 8) per sweep after treatment on 180+ ha (450+ acres) of barley in Diamond Valley. (Peters). IDAHO - Canyon County--up to 100 per head on wheat at Parma and various locations. (Bishop). NORTH DAKOTA - Stutsman, Eddy, Foster, and Griggs Counties--this species and an APHID (Rhopalosiphum padi) light to threatening on small grains. Winged and wingless forms present. (Scholl).

SAY STINK BUG (Chlorochroa sayi) - NEVADA - Eureka County--all instars, but mostly adults, averaged 2 per sweep on 180+ ha (450+ acres) of barley in Diamond Valley after treatment. (Peters).

TURF, PASTURES, RANGELAND

INSECTS

GRASSHOPPERS - SOUTH CAROLINA - Abbeville County--heavy, 20 per 0.09 sq m (sq ft) in areas of heaviest infestation; moderately damaged 8.1-ha (20-acre) fescue pasture. (Jones).

FORAGE LEGUMES

DISEASES

SUMMER BLACK STEM (Cercospora zebrina) - KANSAS - Northeastern area--most common alfalfa disease. Prevalence [and height in cm (in)] by county: Pottawatomie--90% [36 (14)], Leavenworth--100% [30 (12)], Jefferson--70% [30], Shawnee--80% [45 (15)], and Douglas--90% [45]. (Sim).

SPRING BLACK STEM (Phoma medicaginis) - IOWA - Prevalence in surveyed alfalfa fields by county June 17-30: Winneshiek--100%; Greene and Carroll--20%. (Williams).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEVADA - Averages per sweep by county: Elko--larvae 80 (ranged 25-100) and adults 12 on hay alfalfa in Clover Valley; and White Pine--larvae 50 and adults 40 on 200+ ha (500+ acres) at Lund. (Peters). TEXAS - Adults and larvae per 50 sweeps: El Paso County--3 and 0 in upper valley, 7 and 11.5 in lower valley, and 2.5 and 0.5 at Acala and Ft. Hancock. (Lee, Foster).

WISCONSIN - South-central, southwestern and east-central areas--alfalfa weevil adults and larvae 0.1-7 per sweep on alfalfa, unchanged from previous period. Adults on new alfalfa seedlings in oats. (Lovett). OHIO - Washington, Gallia, and Jackson Counties--late instar larvae and adults fewer than 0.2 per sweep of alfalfa. (Drees).

MEXICAN BEAN BEETLE (Epilachna varivestis) - OHIO - Washington County--some feeding damage on alfalfa [30 cm (12 in) tall]. (Drees).

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - South-central and southwestern areas--increased on alfalfa past 7 days, heaviest in Brooklyn and Brodhead areas of Dane, Rock, and Green Counties; up to 3 per 10 sweeps, much lighter in most fields and in east-central area. Larvae may migrate to alternate hosts when alfalfa is cut. (Lovett).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Counts per 100 sweeps of seed alfalfa by county: Maricopa--larvae 6-300 and adults 15; Pinal--larvae 29 and adults 4; Yuma--larvae very light and adults heavy. (Brooks et al.). OHIO - First of season. Gallia County--larvae, 17 mm (0.67 in) long, swept from alfalfa. (Drees).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - VERMONT - Addison County--second generation adults averaged 5-10 per sweep of alfalfa. Pinholing and early mines visible on regrowth. (MacCollom, Nielsen).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Counts on seed alfalfa by county: Pershing--still heavy in scattered fields and very variable within fields at Lovelock. (Munk et al.); and Lander--spotted and variable at Reese River, increased from 50 to 280 per sweep in 5 days in some fields, and currently ranged 100-600 per sweep in these fields. BLUE ALFALFA APHID (A. kondoi) about 5% of population (Stitt).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Pershing County--averaged 300 (highs of 500) per sweep on 56.7 ha (140 acres) of seed alfalfa with heavy honeydew, at Lovelock. Averaged 30-50 per sweep in many other fields. About 400 ha (1,000 acres) in addition to those reported last period to be treated. Populations increased in field of resistant varieties adjacent to heavily infested fields. (Munk). Occasional specimens at Jungo, Humboldt County, and Reese River, Lander County. (Stitt).

UTAH - Counts of spotted alfalfa aphid and BLUE ALFALFA APHID (Acyrtosiphon kondoi) per sweep of seed alfalfa in Millard County--averaged 4.8 at Abraham, 6.8 at Delta, 12.1 at Deseret, 12.6 at Hinckley, 4.3 at Oasis, 6.0 at Sugarville, and 16.7 at Sutherland. (Karren, Haskell).

POTATO LEAFHOPPER (Empoasca fabae) - WEST VIRGINIA - Jefferson and Berkeley Counties--adults and nymphs 0.03-7.5 per sweep of third-growth alfalfa [13-28 cm (5-11 in) tall] and 0.3-3.5 on second-growth alfalfa [61 cm (24 in) tall]. (Washburn).

OHIO - Southeastern area--heavy potato leafhopper populations, exceeding threshold, in all alfalfa fields surveyed. Averages per sweep from alfalfa [height] by county: Washington--1.3 [53 cm (21 in)] and 3.2 [23 cm (9 in)], Gallia--1.2 [43 cm (17 in)] and Jackson--1.4 [23 cm]. (Drees).

A PLANT BUG (*Psallus ancorifer*) - OREGON - Yamhill, Polk, and Lane Counties--heavy, up to 4-5 per head in red clover planting. (Capizzi). Adult feeding caused flower distortion and could affect seed yield. (Penrose).

LYGUS BUGS (*Lygus* spp.) - ARIZONA - Counts per 100 sweeps of seed alfalfa by county: Maricopa--2-40 nymphs and 2-60 adults, Pinal--40 nymphs and 117 adults, and Yuma--nymphs very light and 5 adults. (Brooks et al.). WEST VIRGINIA - Averages of TARNISHED PLANT BUG (*L. lineolaris*) per sweep of alfalfa [58 cm (23 in) tall] by county: Jefferson--4 and Berkeley--3. (Hacker).

GRASSHOPPERS - OHIO - Nymphs, 7-15 mm (0.3-0.59 in) long, per sweep of alfalfa by county: Washington--1.8 and Gallia--1.5. (Drees).

SOYBEANS

DISEASES

FUSARIUM WILT (*Fusarium oxysporum*) - NEBRASKA - Widespread on soybeans, damage to root system seems slight to moderate. Prevalence by county week of June 19 to July 2: Lancaster--60%, Saunders--90%, Dodge--70%, Washington 60%, Douglas--70%, Sarpy--50%, Seward--15%, Hamilton--60%, Clay--20%, and Webster--15%. (Poe).

PHYLLOSTICTA LEAF SPOT (*Phyllosticta sojaecola*) - ILLINOIS - Prevalence/severity on commercial soybeans [growth stage] by county (1 field each) week of July 3: Clay--trace/trace [5 nodes], Wayne--1%/3-6% [3 nodes], and White--trace/trace [3 nodes]: all soybean varieties in monitoring plots: Saline [9 nodes], Jackson [6 nodes], St. Clair [5 nodes], and Fayette [5 nodes]--trace/trace. (Jordan).

CHARCOAL ROT (*Macrorhominia phaseolina*) - ILLINOIS - White County in one commercial soybean field [3 nodes] and Saline County in one monitoring plot [9 nodes] week of July 3--prevalent on few scattered plants. (Jordan).

SOYBEAN BACTERIAL BLIGHT (*Pseudomonas glycinea*) - SOUTH DAKOTA - Roberts County--prevalence 50-100%/severity trace to 1% on soybeans July 3-7. (Jons). NORTH DAKOTA - Prevalence/severity on soybeans by county July 3-7: Cass--75-100%/trace to 5% and Richland--50-100%/trace to 5%. (Jons). IOWA - Statewide--starting to show up, prevalence trace to 3% on soybeans [most 3rd to 4th trifoliolate] June 17-30. (Williams). WISCONSIN - Rock, Lafayette, Green, and Sauk Counties--infected all soybean fields observed, prevalence almost 100%/severity about 20% in several fields with symptoms on all leaves. (Lovett).

RHIZOCTONIA ROOT ROT (*Rhizoctonia solani*) - ILLINOIS - Wayne [3 nodes] and White [3 nodes] Counties (1 commercial soybean field each) and Saline [9 nodes] County (1 monitoring plot) week of July 3--prevalent on few scattered plants. (Jordan).

SOYBEAN BROWN SPOT (*Septoria glycines*) - ILLINOIS - Fayette County--prevalence 99%/severity 3-6% on all soybean [4-5 nodes formed] varieties in monitoring plot, week of July 3. (Jordan).

SOYBEAN MOSAIC POTYVIRUSES - MISSOURI - Northeastern area--prevalence trace on commercial soybeans [3 nodes], probably seedborne infection initially. (Foudin). ILLINOIS - Wayne County in 1 commercial soybean field [3 nodes] and St. Clair County in 1 monitoring plot [5 nodes] week of July 3--symptoms on few scattered plants. (Jordan).

INSECTS

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - ARKANSAS - Southeastern area--larvae continued to cause some problems in soybeans. Controls effective. (Wall).

GARDEN WEBWORM (Achyra rantalis) - KANSAS - Montgomery County--all pupated; destroyed 2 fields of 15-cm (6-in) soybeans (1 field 20 ha (50 acres)) near Lafontaine. (White, Smith).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - MISSISSIPPI - Copiah County--heavy in some soybean fields, girdled up to 18% of plants on 202 ha (500 acres). (Anderson).

GRASSHOPPERS - MISSISSIPPI - North and central areas--defoliation by several species heavy in many soybean fields, mostly in first 3-4 rows; moved into field from bordering grasses. (Lambert). ILLINOIS - Nymphs moved into and damaged soybeans and corn with mowing of roadside areas. Livingston County--nymphs 40 per 0.8 sq m (sq yd) in 1 roadside area. Statewide--nymphs 15-20 per 0.8 sq m common. (Black).

PEANUTS

INSECTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Hampton County--damage moderate to heavy on about 10 ha (30 acres) of peanuts; treatment needed. (Wallace).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis grandis) - ARKANSAS - Southeastern area--still very light on cotton. (Wall). MISSISSIPPI - Percent punctured cotton squares, with acreage, by county: Leake--9%, 80.9 ha (200 acres); Madison--3%, 1,012 ha (2,500 acres); Franklin--5%, 60.7 ha (150 acres); Holmes--3-5%, 202 ha (500 acres); Lafayette--3-5%, 607 ha (1,500 acres); Yazoo--1%, 202 ha; Montgomery--0-6%, 304 ha (750 acres); and Calhoun--0-2%, 1,214 ha (3,000 acres). (Anderson).

SOUTH CAROLINA - Chester, York, McCormick, and Abbeville Counties--almost no evidence of boll weevil activity in survey of about 650 ha (1,600 acres). No weevils of any stage found, egg punctures noted. Other parts of State--very light. (Douglass, Johnson).

BOLLWORMS (Heliothis spp.) - CALIFORNIA - Kern County--4th instar TOBACCO BUDWORM (H. virescens) larvae in cotton bolls and field near Arvin June 30. First record of insect on cotton in this county. (Bently). ARIZONA - Bollworm (H. zea) per 100 cotton terminals (unless stated otherwise) by county: Maricopa--larvae 1-10 and eggs 1-5; Pinal--larvae and eggs 1-6 in eastern half, and larvae 6-10 and eggs 2-10 in western half; Yuma--larvae 1 per 50 plants in central portion, and larvae 4 and eggs 6 in eastern portions; very few in Yuma Valley. (Kirkpatrick et al.).

ARKANSAS - Southeastern area--H. zea adults increased significantly in light traps. Chicot and Desha Counties--adults 115 and 102, respectively, in 3-day totals. Drew County--adults 60-70 per night in some traps. (Wall).

MISSISSIPPI - Statewide--Heliothis spp. eggs decreased on squaring cotton; some problems on early treated fields. Percent larval infestation by county: Calhoun--5% on 1,214 ha (3,000 acres), Montgomery--1% on 304 ha (750 acres), Yazoo--4% on 404.7 ha (1,000 acres), Monroe--5% on 162 ha (400 acres), Itawamba--1% on 80.9 ha (200 acres), Madison--5% on 1,012 ha (2,500 acres), Quitman--0-4% on 1,012 ha, Yalobusha--2% on 1,619 ha (4,000 acres), Tate--0.5% on 404.7 ha, Sunflower--10% on 202 ha (500 acres), and Lafayette--6-8% on 607.0 ha (1,500 acres). (Anderson).

SOUTH CAROLINA - York, McCormick, and Abbeville Counties--activity by both species very light; eggs 0-10 per 100 cotton plants. Rest of State--activity variable, heavy (20+ larvae per 100 plants) in some sections and almost no activity in others. Calhoun, Orangeburg, and Saluda Counties--2 or more treatments needed. (Douglass, Johnson).

LYGUS BUGS (Lygus spp.) - ARIZONA - Counts per 100 sweeps of cotton by county: Maricopa--nymphs 5-24 and adults 2-36; Graham--adults 10-15; and Pinal--nymphs 2-20 and adults 2-21, damage to seed in bolls 20-30%. (Kirkpatrick et al.). ARKANSAS - Southeastern area--mostly TARNISHED PLANT BUG (L. lineolaris) increased in some cotton fields with decrease of beneficials. (Wall). SOUTH CAROLINA - Abbeville, McCormick, Chester, and York Counties--L. lineolaris heavy, 15-30+ per 100 cotton plants on about 650 ha (1,600 acres) of cotton; damage light, to moderate. Treatment needed in all cases. (Douglass).

TOBACCO

INSECTS

TOBACCO HORNWORM (Manduca sexta) - OHIO - Gallia County--larvae, up to 5 cm (2 in) long, fed on tobacco ["knee-high"]. Of 4 larvae collected, 1 covered with braconid pupae and eggs laid on 2. (Drees).

SUGAR BEETS

INSECTS

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Yolo County--larvae active, affected 5% of plants on 56.7 ha (140 acres) of sugar beets at Davis. (Lippencott).

MISCELLANEOUS FIELD CROPS

INSECTS

SUNFLOWER BEETLE (Zygogramma exclamationis) - NORTH DAKOTA - Status on sunflowers by county: Griggs--larvae up to 12 (averaged 1) per plant; and Barnes, Eddy, Foster, Stutsman, and Wells--very light feeding evident. (Kaatz, Scholl).

POTATOES, TOMATOES, PEPPERS

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - OREGON - Malheur County--still in potato fields; severe damage noted in untreated areas. (Burr). MAINE - Central area up to central Aroostook County and, to lesser extent, from there north--second generation on potatoes. Commercial plantings treated. (Gall).

GREEN PEACH APHID (Myzus persicae) - OREGON - Malheur County--heavy again this season, alates trapped in all potato areas. (Burr). IDAHO - Canyon County--10 per leaf on potatoes. (Bishop). MAINE - Newport, Penobscot County, up through valley of Aroostook County ending at Fort Kent--first winged forms found last period in 4 of 143 yellow pan traps in southern area, unusually early. Only 4 wingless forms found in all potato check plots. (Gall).

BEANS AND PEAS

DISEASES

PHASEOLICOLA HALO BLIGHT (Pseudomonas phaseolicola) - WISCONSIN - Significant amount observed in snap bean fields, apparently much of seed from out-of-State infected. Prevalence/severity by county: Waushara (25 fields)--2%/1%, Portage (15 fields)--12%/2%, and Adams (10 fields)--3%/1%; averaged 6%/1%. (Lovett).

INSECTS

PEA APHID (Acyrtosiphon pisum) - WISCONSIN - South-central and east-central areas--variable on peas, 0.5-100+ per sweep. Heaviest in Fond du Lac County. (Lovett).

GENERAL VEGETABLES

INSECTS

ASTER LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Carrots did not need treatment this season for this vector of ASTER YELLOW MYCOPLASMA. Amount of infection relatively light in untreated lettuce or celery; low-level maintenance spray program will be adequate. (Lovett).

DECIDUOUS FRUITS AND NUTS

INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - First adults of season. North St. Paul--3 adults July 10 and Hennepin County--1 each July 11 and 12. (Sreenivasam). MAINE - First trapped adult on red ball sticky trap at Highmoor July 8-9. Adults will increase rapidly and peak at 50% emergence probably by July 22. (Wave).

PEAR PSYLLA (*Psylla pyricola*) - OREGON - Jackson County--populations of this species and SPIDER MITES (*Tetranychus* spp.) continued to increase in many pear orchards in Rogue River Valley. (Berry).

FOREST AND SHADE TREES

INSECTS

MIMOSA WEBWORM (*Homadaula anisocentra*) - CALIFORNIA - New county record. Kern County--small and large immature larvae on *Albizia julibrissin* (mimosa) at Bakersfield, June 21, 1978. Collected by D. Hook and D. Griffin. Determined by R.E. Somerby. (Hasbrouck).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (*Tetrastichus julis*) - INDIANA - New county records. Parasitism of *Oulema melanopus* (cereal leaf beetle) larvae in single oat fields (unless stated otherwise) by county: Ohio--29% and 50% (2 fields) in Union Township; Switzerland--32% in Posey Township; and Jefferson--7% and 23% (2 fields) in Shelby Township. All above collected by V. Knapp, June 15, 1978. Randolph County--77% in Stone Township, June 20. Collected by K. Gregg. All determined by V.E. Montgomery. (T.L. Burger).

VIRGINIA - New county record. Shenandoah County--*T. julis* parasitism of *O. melanopus* (cereal leaf beetle) larvae 4% in 1 oat field in Central Magisterial District, June 12, 1978. Collected by E. Elliott. Determined by V.E. Montgomery. (T.L. Burger). PENNSYLVANIA - New county records. Parasitism of *O. melanopus* (cereal leaf beetle) larvae in single oat fields by county: Adams--96% in Straban Township, June 20, 1978. Collected by S. Maxwell; and Wayne--89% in Lake Township, June 29. Collected by J. Sporer. Both determined by V.E. Montgomery. (T.L. Burger).

NEW JERSEY - New county records. *T. julis* parasitism of *O. melanopus* (cereal leaf beetle) larvae in single oat field by county: Salem--4% in Upper Pittsgrove Township, June 15, 1978; Ocean--5% in Plumbsted Township, June 16; Monmouth--2% in Freehold Township, June 16; and Sussex--90% in Frankford Township, June 21. All collected by R. Balaam and determined by V.E. Montgomery. (T.L. Burger).

NEW YORK - New county record. Cayuga County--*T. julis* parasitism of *O. melanopus* (cereal leaf beetle) larvae 100% in 1 oat field in Conquest Township, June 16, 1978. Collected by C. Whiteman. Determined by V.E. Montgomery. (T.L. Burger).

AN ICHNEUMONID WASP (*Diaparsis* n.sp.) - INDIANA - New county record. Parasitism of *Oulema melanopus* (cereal leaf beetle) larvae in single oat field by county: Lawrence--3% in Pleasant Run Township, June 5, 1978, collected by M. Bratovich; Jefferson--6% in Smyrna Township, June 16, collected by V. Knapp; and Shelby--2% in Marion Township, June 20, collected by K. Gregg. All determined by V.E. Montgomery. (T.L. Burger).

PENNSYLVANIA - New county record. Adams County--*Diaparsis* n.sp. parasitism of *O. melanopus* (cereal leaf beetle) larvae 2% in oat field in Straban Township, June 20, 1978. Collected by S. Maxwell. Determined by V.E. Montgomery (T.L. Burger).

NEW JERSEY - New State record. Sussex County--*Diaparsis* n. sp. parasitism of *Oulema melanopus* (cereal leaf beetle) larvae 72% in T oat field in Wantage Township, June 21, 1978. Collected by R. Balaam. Determined by V.E. Montgomery. (T.L. Burger).

WEEDS

A WEEVIL (*Rhinocyllus conicus*) - WEST VIRGINIA - Jefferson County--pupae and teneral adults collected July 11 from *Carduus crispus* (curled thistle) heads on 32-ha (79-acre) pasture near Shepherdstown by J.D. Hacker and C.C. Coffman. Release of 200 adults in this field May 23, 1978. Hardy County--pupae and teneral adults collected by C.C. Coffman, July 12, 1978, from 225-sq m (2,422-sq ft) patch of *Carduus nutans* (musk thistle) south of Moorefield. Heads examined with up to 4 individuals. Original release at this site on July 16, 1975. Determined by C.C. Coffman. New establishment record. (C.C. Coffman).

FEDERAL AND STATE PROGRAMS

DISEASES

BLACK STEM RUST (*Puccinia graminis*) collected from quackgrass 27 m (30 yd) from barberry bush in Fillmore County, MINNESOTA, June 28 to July 11. (Schlick).

BARLEY TRITICI STEM RUST (*Puccinia graminis* f.sp. *tritici*) traces on susceptible barley variety Hypana in trap plots across southern one-half of MINNESOTA, June 28 to July 11. (Roelfs, Long).

OAT STEM RUST (*Puccinia graminis* f.sp. *avenae*) traces on commercial oats across southern WISCONSIN, central IOWA, western MINNESOTA, and eastern SOUTH DAKOTA, June 28 to July 11. Prevalent throughout this area with heavier severities in 1977 at this time of year. Crop maturity more uniform this year. Rust increase but final severities will be lighter than in 1977. Following races identified from collections received before July 11. (Roelfs, Long).

Area	No. of Collections	No. of Isolates of Oat Stem Rust Races				
		1	2	7	31	61
AR	1				1	
KS	1				1	2
LA	1				3	
OK	2				1	5
SC	2				6	
N TX	29	4	15		27	37
S TX	90	1		5	206	56

WISCONSIN - Grant County--oat stem rust prevalence 1-20%/severity up to 3% in 4 of 5 fields. (Lovett).

RYE STEM RUST (*Puccinia graminis* f.sp. *secalis*) trace on rye June 28 to July 11 in Dakota, Goodhue, and Houston Counties (Schulz), MINNESOTA, and Hamlin (Jons), Deuel and Codington Counties, SOUTH DAKOTA (Goodfellow). South Dakota - Hamlin County--prevalence 100%/severity trace to 10% in 1 commercial rye field [middough] July 6. (Jons).

WHEAT STEM RUST (*Puccinia graminis* f.sp. *tritici*) - MINNESOTA - Trace to light in parts of susceptible spring wheat varieties as far north as Crookston, MINNESOTA, by June 29. Rust collected from commercial winter wheat in Peoria County (Jordan), ILLINOIS, Dane County (Smith), WISCONSIN, and traces on Bounty 309 in eastern SOUTH DAKOTA. Following races identified from collections received before July 11. (Roelfs, Long).

Area	No. of Collec- tions	No. of Isolates of Wheat Stem Races														
		11	15		17		29	56		113		151				
		RCR	TNM	TLM	TDM	HDL	HDB	HJC	MBC	MCC	RTQ	RPQ	QCB	QCM	QFB	QSH
AZ	3		7		2											
KS	17		21		6					1	3				4	3
LA	6	1								5			5	1	1	
OK	8		6	1	4					1					2	1
N TX	6									1					3	9
S TX	10		5	1		3	1	2				3	5	10		

WISCONSIN - Dane County--light wheat stem rust infection found for first time July 7 in winter wheat field. (Lovett).

INSECTS

GRASSHOPPERS - CALIFORNIA - Fresno County--*Melanoplus differentialis* adults moderate to heavy in residential area feeding on lawns and flowers in Fresno area. (Dunnegan). San Bernardino County--thousands of *M. devastator* adults around 20 ha (50 acre) nursery site at Alta Loma. (Cruzen, Bial). NEVADA - New county record for *Cordillacris occipitalis cinerea*. Churchill County--collected 8 km (5 miles) northeast of Fallon, July 11, 1978, on sandy soil by R.C. Bechtel and D.M. Martinelli. Determined by R.C. Bechtel. (Bechtel). COLORADO - Southeastern area--*Melanoplus* spp. up to 35 per 0.8 sq m (sq yd) on winter wheat in some fields. Fed on ripening heads; damage reported. (Hantsbarger).

KANSAS - Statewide--grasshoppers damaged alfalfa, soybeans, corn, sorghum, and sugar beets past 14 days. Serious damage to field crops restricted to isolated cases to date and in field margins except alfalfa and sugar beets. Controls often unsatisfactory. Eastern area--currently, damage reports more frequent where activity nil previously. Southwestern area--mostly adults on field crops and weedy field margins. Northeastern area--mostly still nymphs, concentrations of *M. differentialis* and *M. bivittatus* nymphs of all stages along with small nymphs of probably *M. femurrubrum* along field margins. (Bell). Pratt County--eggs well developed in dissected *M. bivittatus* female. (Salsbury).

Kansas - Scott, Wichita, Greeley, Kearny, Finney, Hamilton, Stanton, Grant, Haskell, and Seward Counties--averaged 0-2 per 0.8 sq m (sq yd) 50 paces into corn fields and 1-11 in field margins in 16 fields; some field margin damage at heaviest infestation levels. (Shuman). Stafford County--seriously damaged margin of 1 corn field, defoliated first 5 rows; ranged 20-100 (averaged 30) per 0.8 sq m in weedy border. No damage in 2 other corn fields. Edwards County--no damage. (Salsbury). Montgomery County--feeding trace along corn field margin. (White). Scott, Wichita, Kearny, Finney, Stanton, Grant, and Seward Counties--averages per 0.8 sq m of sorghum, 0 to trace 50 paces into field and 0-4 in margin of 8 fields; no significant damage. (Shuman). Averages per

0.8 sq m of weeds along margins of fields likely to be planted to wheat this fall by county: Barber--1 at 2 sites, Pratt--4 at 1 site, and Kingman--3 at 2 sites. Major species Melanoplus differentialis, M. bivittatus, and M. sanguinipes. (Salsbury).

Kansas - Mostly M. differentialis destroyed 32 rows of soybeans [18 cm (7 in)] in 1 field near Sycamore; averaged 4 per 0.8 sq m (sq yd) along field margins; adults and large nymphs present. (White). Finney, Kearny, and Hamilton Counties--mostly M. differentialis, M. sanguinipes, and M. bivittatus averaged 4-10 per 0.8 sq m in alfalfa field margins and 1-8 per 0.8 sq m 50 paces into fields. (Shuman). Reno County--mostly M. differentialis defoliated several 7.6-m (25-ft) poplar trees at 1 site; up to 45 per 0.8 sq m of weeds in area. (Baurernfeind).

NEBRASKA - Western one-half area--grasshoppers still moderate to severe, migration from roadsides into field crops increased in southwest and northwest districts; Keith, Arthur, Perkins, Deuel, Morrill, Lincoln, Hitchcock, Dundy, Furnas, Red Willow, Frontier, and Hayes Counties--severe in pastures, alfalfa, roadsides, and cropland borders, up to 40 per 0.8 sq m (sq yd) of alfalfa and pasture border areas; Nuckolls, Webster, Clay, and Adams Counties--variable, 1-30 per 0.8 sq m on roadsides, light on alfalfa, corn, and pastures in these counties, grasshoppers one-third to full grown. Averages per 0.8 sq m of pastures, alfalfa, corn margins, and roadsides, respectively, with percent of adults by district: Northeast--3.3-5.25, 2.8-16.5, 1.6-17.5, 1.3-10.7, 10-40%; north--5.3, 2.4, 3.7, 3.9, 25%; central--9.2, 0.75, 7, 4.5, 10%; east--2-13.2, 4.5-19.2, 3.5-17.5, 8-24.2, and 12-17%. (Keith et al.).

IOWA - Greene, Monona, Dallas, Howard, Calhoun, Polk, and Story Counties--early instar Melanoplus spp. nymphs about 5-15 per 0.8 sq m (sq yd) damaged soybeans, defoliation up to 25%. (J.R. DeWitt).

SOUTH DAKOTA - North of Wall along Cheyenne River--heavy on about 81,000 ha (200,000 acres). Along White River and Pine River--localized heavy infestations present. (Winks). Statewide--several reports of crop damage. (Walgenbach).

NORTH DAKOTA - Grant and Morton Counties--infestations isolated. Melanoplus differentialis 3rd to 5th instars up to 30 per 0.8 sq m (sq yd) in 1 alfalfa field; M. bivittatus 3-12 per 0.8 sq m in other alfalfa fields. Ageneotettix deorum and M. sanguinipes 4th instar through adult up to 8 per 0.8 sq m in 1 pasture. (Brandvik).

MINNESOTA - No grasshopper problem. Chippewa, Grant, Ottertail, Pope, Swift, and Wilkin Counties--trace on roadsides and field margins, Melanoplus femurrubrum and M. bivittatus common, 80% adults, some movement into grain fields but damage slight. Yellow Medicine and Lac Qui Parle Counties--1-3 per 0.8 sq m (sq yd) of alfalfa, M. differentialis and M. bivittatus 3rd and 4th instars and M. femurrubrum 1st and 2nd instars. Lincoln, Lyon, Pipestone, Redwood, and Rock Counties--same data as sentence above except M. differentialis and M. bivittatus 3rd to 5th instar. (Sreenivasam).

GYPSY MOTH (Lymantria dispar) - PENNSYLVANIA - Perry County--eggs, pupae, and adults in Hellam Township. Female oviposited in moderately to heavily defoliated 80.9-ha (200-acre) area of oaks. (Keeran).

NEW HAMPSHIRE - Merrimack County--gypsy moth infestation in Canterbury increased to about 200 ha (500 acres). Defoliation almost 100% on favored hosts in about 121 ha (300 acres). Also defoliated white pine. From original 1976 infestation, defoliation spread about 0.8 km (0.5 mile) south, 0.40 km (0.25 mile) west, and 0.8 km north. Defoliation at edges of infestation about 60-70% on most trees. (J.F. Burger).

JAPANESE BEETLE (Popillia japonica) - OHIO - Meigs County--damaged roses. Jackson County--damaged blackberry plants and peach trees. Wayne County--on basil plants. Washington County--still present on alfalfa and some garden beans; mating noted. (Drees). WEST VIRGINIA - Jefferson and Berkeley Counties--adults heavy on grapes and roses. (Hacker).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Counts on cotton by county: Maricopa--larvae 1-6 per 50 bolls, 10% of bolls infested in Tonopah, infested 30% of bolls in Cotton Center; Pinal County--larvae 2 in 100 blooms in eastern half, and 4 per 50 bolls in western half; Yuma--6-21% in 100 bolls in Hyder and Aztec area, larvae 1 in 100 bolls in Yuma Valley. (Kirkpatrick et al.). Adults from pheromone trap per day by county: Maricopa--17; Pinal--0-25. (Kirkpatrick, Pilling).

SCREWORM (Cochliomyia hominivorax) - Total of 244 cases reported from continental United States June 18-24 as follows: Texas 24, New Mexico 56, Arizona 161, California 6. (Meadows). Total of 318 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 414 cases reported in Mexico south of Barrier Zone. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) heavy on 0.10 ha (0.25 acre) of yardlong beans at Waimanalo, Oahu. CARMINE SPIDER MITE (Tetranychus cinnabarinus) moderate to heavy on 0.2 ha (0.5 acre) of pole beans and 92.90 sq m (1,000 sq ft) of soybeans at Waimanalo. (Kumashiro, Nagamine). CUCURBIT LONGICORN (Apomecyna saltator) larvae severe, per 0.3 m (ft) of vine, in garden plantings of seequa and togan squash at Pearl City, Oahu. (Nagamine, L. Nakahara).

CORRECTIONS

CPPR 3(25):291 - A FUSARIUM CROWN RUST should be A FUSARIUM CROWN ROT.

DETECTION

NEW WESTERN HEMISPHERE RECORD

INSECTS

A CYDNID BUG (Aethus nigratus (Fabricius)) - DELAWARE - New Castle County--1 adult male trapped from soybeans on farm at Townsend by K.A. Conner, June 8, 1977. Determined by E.R. Hoebeke; confirmed by R. Froeschner. Occurring throughout the Palearctic and portions of the Oriental Region, this bug commonly encountered in sandy areas associated with roots of weeds and grasses, particularly that of Corynephorus canescens (Poaceae). (Hoebeke).

New State Record

INSECTS

AN ICHNEUMONID WASP (Diaparsis n.sp.) - NEW JERSEY - Sussex County. (p. 373).

New County Records

INSECTS

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Ohio, Switzerland, Jefferson, and Randolph; VIRGINIA - Shenandoah; NEW JERSEY - Salem, Ocean, Monmouth, and Sussex; PENNSYLVANIA - Adams and Wayne; and NEW YORK - Cayuga. (p. 372).

A GRASSHOPPER (Cordillacris occipitalis cinerea) - NEVADA - Churchill. (p. 374).

AN ICHNEUMONID WASP (Diaparsis n.sp.) - INDIANA - Lawrence, Jefferson, and Shelby; and PENNSYLVANIA - Adams. (p. 372).

MIMOSA WEBWORM (Homadaula anisocentra) - CALIFORNIA - Kern. (p. 372).

PERIODICAL CICADA (Magiccicada septendecim) - VIRGINIA - Page County--collected on Massanutten Mountain by A. Frymyer, June 23, 1978. Determined by B.C. Kondratieff. (Smith).

LIGHT TRAP COLLECTIONS

Locality	Temperature °F	Precipitation mm	Type of trap	Crops		Manduca sexta (tobacco hornworm)	Manduca quinquemaculata (milkweed hornworm)	Manduca sexta (tobacco hornworm)	Gafnia rubilis (European corn borer)	Peridroma composita	Pantodon saucia (parasitic cicada)	Pentateles unipuncta (spiny)	Scolopora eximia (beet fly)	Scolopora ferruginea (fall armyworm)	Scolopora orithyialis (cabbage looper)
				17	10										
ARIZONA Mesa 7/3-9			BL	6	40	1				62		903			
ARKANSAS (County) Mississippi 6/26-30			BL	8	113										
CALIFORNIA Bellota 7/5	18-35		BL				1			4	54	8			
La Grange 7/7, 11			BL				2			2	16				
FLORIDA Gainesville 7/8-12			2BL	12	59		1								9
KANSAS Garden City 7/3-5, 10-12			BL		5			11			21				1
Haviland 7/4-7, 10-13			BL		56			30			58				104
MINNESOTA Fergus Falls 7/5-11	5-27	63.4	BL					19							
Worthington 7/5-11	10-30	31.7	BL					116							
MISSISSIPPI Stoneville 7/7-13	23-37	1.0	2BL	13	184		7				1	74			35
NEBRASKA Clay Center 7/6-11			BL	78	69						1	61	108		2
Scottsbluff 7/3-9			BL	3	12								12		
NORTH DAKOTA Bismarck 7/11, 12			BL	8											
Williston 7/7, 12			BL	2											
OHIO (Counties) Stark 7/1-14			2BL												
Wayne 7/1-14			3BL												

LIGHT TRAP COLLECTIONS

	Temperature °C	Precipitation mm	Type of trap	Artificial light	Artificial heat	Crop
			BL = Blacklight	0 = other	1 = Incandescent	
PENNSYLVANIA (Regions) Central 7/7, 10, 11 Southeast 7/7, 11			BL			Trioxys
			BL			Spodoptera frugiperda
			BL			Spodoptera frugiperda
WEST VIRGINIA (Counties) Monongalia 7/11 Randolph 7/10			BL			Spodoptera frugiperda
			BL			Spodoptera frugiperda
			BL			Spodoptera frugiperda
			BL			Spodoptera frugiperda
WISCONSIN Evansville 6/27-7/3 Mazomanie 7/6-11			BL			Spodoptera frugiperda
			BL			Spodoptera frugiperda
			BL			Spodoptera frugiperda

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
 Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Anchonus</u> sp. a weevil Det. D.R. Whitehead	adult	with <u>Anthurium</u> plants from cargo	Panama	Miami	FL
<u>Cryptorhynchus olivieri</u> Faust a weevil Det. D.R. Whitehead	adult	in seeds of mangos from baggage	Philippines	Honolulu	HI
<u>Lechriops</u> sp. a weevil Det. D.R. Whitehead	adult	in stems of cycad plants from cargo	Costa Rica	Miami	FL
<u>Midila</u> sp. a pyralid moth Det. D.M. Weisman	larval	in stems of <u>Philodendron</u> plants from cargo	Guatemala	Los Angeles	CA
<u>Popillia lewisi</u> Arrow a scarab Det. R.D. Gordon	adult	in aircraft holds	Okinawa	Horton	CA
<u>Sipalinus gigas</u> (Fabricius) a weevil Det. D.R. Whitehead	adult	in wood bracing with tractor parts	Japan	Savannah	USA
<u>Tadius erirrhinoides</u> Pascoe a weevil Det. D.R. Whitehead	adult	with orchid plants from cargo	Philippines	Los Angeles	CA
<u>Trogoderma granarium</u> Everts Khapra beetle Det. J.M. Kingsolver	larval	in wood pallets with gum karaya	India	New York	NY

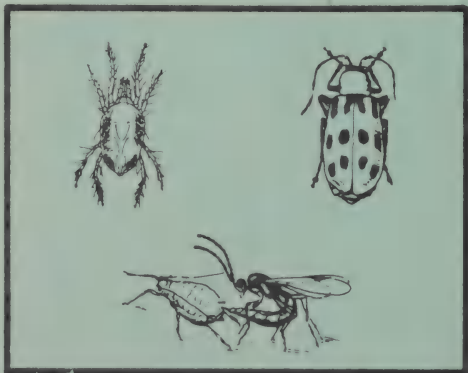
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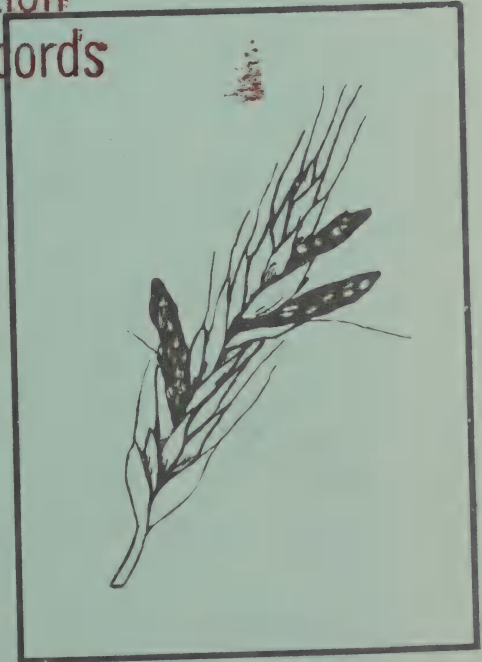
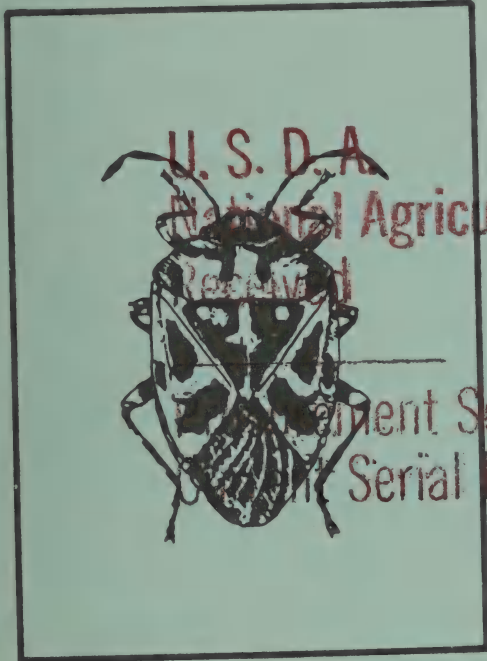
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Potential for heavy second generation EUROPEAN CORN BORER in Iowa. (p. 384-385).

ARMYWORM damage to corn severe in scattered fields in Wisconsin. (p. 385).

Some GRASSHOPPER movement into seed alfalfa in Nevada, alfalfa in Utah, and into sugar beets and field beans in Nebraska. Damage heavy on alfalfa in Oklahoma. (p. 398).

Detection

For new county records see page 399.

Special Reports

Grasshopper Status and Outlook on Field Crops in the West - 1978. (p. 403-404).
With continued favorable conditions where grasshoppers are heavy, yield losses could be high for many field crops in several Western States this summer and fall.

Reports for this issue are for the week ending July 21 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Potatoes, Tomatoes, Peppers	
Diseases.....	383	Diseases.....	393
Insects.....	384	Insects.....	394
Small Grains		Beans and Peas	
Diseases.....	387	Insects.....	394
Insects.....	388	Cole Crops	
Turf, Pastures, Rangeland		Diseases.....	394
Insects.....	388	Insects.....	394
Forage Legumes		Cucurbits	
Diseases.....	389	Insects.....	394
Insects.....	389	General Vegetables	
Soybeans		Insects.....	394
Diseases.....	390	Deciduous Fruits and Nuts	
Insects.....	391	Diseases.....	395
Peanuts		Insects.....	395
Insects.....	392	Small Fruits	
Cotton		Insects.....	395
Insects.....	392	Forest and Shade Trees	
Tobacco		Insects.....	395
Insects.....	393	Man and Animals	
Miscellaneous Field Crops		Insects.....	396
Diseases.....	393		
Insects.....	393		
Beneficial Organisms and Their Enemies			
Insects.....	396		
Federal and State Programs			
Diseases.....	397		
Insects.....	398		
Hawaii Pest Report.....	399		
Detection.....	399		
Light Trap Collections.....	400		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	402		
Grasshopper Status and Outlook on Field Crops in the West - 1978.....	403		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON SMUT (Ustilago maydis) - KANSAS - Stafford County--trace on corn. (Sim). IOWA - Muscatine, Jones, Clinton, Marion, Mahaska, and Lee Counties--trace on corn [tassel] July 3-14. (Williams). MINNESOTA - Martin [early tassel] and Renville [12 leaf] Counties--prevalence trace on corn in 1 commercial field each, week of July 14. (Stromberg).

ILLINOIS - Common smut infected few scattered plants in following counties (1 commercial field each) week of July 10: La Salle [silks emerged], Livingston [13 leaves emerged], Kendall [12 leaves emerged], and Ford [13 leaves emerged]. De Kalb County--trace in monitoring plot [10 leaves emerged]. (Jordan).

MICHIGAN - Prevalence on corn by county: Monroe--trace [8 leaves emerged], Lenawee--trace [6 leaves emerged], and Berrien--trace [14 leaves emerged]. (Singh).

GRAMINICOLUM ANTHRACNOSE (Colletotrichum graminicolum) - ILLINOIS - Commercial corn fields (1 field each) in Marshall [14 leaves emerged], McLean [silks emerged], Livingston [13 leaves emerged], La Salle [silks emerged], and Ford [13 leaves emerged] Counties, and monitoring plots in De Kalb [14 leaves emerged] and Logan [10 leaves emerged] Counties--prevalence trace/severity trace week of July 10. Kendall County--prevalence 20%/severity 1-3% in 1 commercial field [12 leaves emerged]. (Jordan).

INDIANA - Graminicolium anthracnose prevalence/severity on corn by county week ending July 15: Madison, Wayne, Union, Dearborn, Jefferson, Clark, Jackson, Jennings, and Bartholomew--0/0; Henry--80%/6%; Franklin--5%/2%; Ohio--60%/5%; Switzerland--5%/6%, Scott--5%/3%; and Shelby--70%/2%. Averaged 15%/2% for 11 sites. (Schall). MICHIGAN - St. Joseph County--prevalence 10%/severity 30% on corn [12 leaves emerged]. (Singh).

COMMON MAIZE RUST (Puccinia sorghi) - KANSAS - Stafford County--trace on corn. (Sim). IOWA - Allamakee and Winneshiek Counties--first of season, trace on corn July 3-14. (Williams). ILLINOIS - Prevalence trace/severity trace in 1 commercial corn field in Livingston County [13 leaves emerged] and in monitoring plot in De Kalb County [12 leaves emerged]. Kendall County--prevalence 50%/severity 1% in 1 commercial field [12 leaves emerged] week of July 10. (Jordan).

SOUTHERN RUST (Puccinia polysora) - FLORIDA - Jackson County--problem on corn. (Tapan).

CORN EYESPOT (Kabatiella zeae) - WISCONSIN - Fond du Lac, Dane, and Columbia Counties--symptoms on corn, moderate infection in Columbia County involved localized areas of minimum till field. (Lovett). MICHIGAN - Prevalence/severity on corn by county: Monroe--trace [8 leaves emerged] and Branch--70-80%/20-25% [10 leaves emerged]. (Singh).

YELLOW LEAF BLIGHT (Phyllosticta maydis) - ILLINOIS - Kendall County--prevalence trace/severity trace in 1 commercial corn field [12 leaves emerged] week of July 10. (Jordan).

NORTHERN LEAF BLIGHT (Helminthosporium turcicum) - WISCONSIN - Fond du Lac County--lesions trace on corn in 1 field. (Lovett).

HOLCUS SPOT (Pseudomonas syringae) - KANSAS - Kingman County--trace on sorghum. (Sim). MINNESOTA - Prevalence/severity on lower one-fourth of corn plant by county (1 commercial field each) week of July 14: Pipestone--100%/trace to 3%

[10 leaf], Renville--100%/trace to 3% [12 leaf], and Sibley--90%/trace [early tassel]. (Stromberg).

BACTERIAL STRIPE (Pseudomonas andropogoni) - KANSAS - Riley and Dickinson Counties--trace on sorghum. (Sim).

STEWART'S WILT (Erwinia stewartii) - INDIANA - Prevalence/severity on corn by county week ending July 15: Madison, Henry, Wayne, Union, Franklin, Dearborn, Ohio, Switzerland, Jefferson, Scott, Jackson, Jennings, Bartholomew, and Shelby--0/0, and Clark--trace/trace; averaged trace/trace for 15 sites. (Schall).

SORGHUM BACTERIAL STREAK (Xanthomonas holcicola) - KANSAS - Riley and Cloud Counties--trace on sorghum. (Sim).

BACTERIAL TOP AND STALK ROT (Erwinia chrysanthemi) - MINNESOTA - Favored by recent heavy rains. Renville [12 leaf] and Sibley [early tassel] Counties--prevalence trace in 1 corn field each. (Stromberg).

MAIZE DWARF MOSAIC POTYVIRUSES - MINNESOTA - First of season. Le Sueur County--positively identified in 8 plants in 2 sweet corn fields planted June 10. (Zeyen). INDIANA - Prevalence on corn by county week ending July 15: Madison, Henry, Wayne, Union, Franklin, Ohio, Switzerland, Jefferson, Clark, Scott, Jackson, Jennings, Bartholomew, and Shelby--0, and Dearborn--3%; averaged trace for 15 sites. (Schall). NEW YORK - Cayuga County--small amounts in corn and Ulster County--increased up to 8% week ending July 12. (Boothroyd).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Sedgwick, Haskell, and Barton Counties--second brood eggs on corn; 20% plants infested with eggs mostly on leaves in ear zone and below in 1 Barton County field. Marshall County--none on corn. (Bauernfiend, et al.). Second brood adult catches increased at all light trap locations. (Bell). NEBRASKA - Dawson County and Northeast district--pupation of first generation less than 5% and 20%, respectively. (Raun, Witkowski).

IOWA - Potential exists for very heavy second brood European corn borer population. Adults present throughout June; flight activity peaked from about June 10 to June 15. Weather between July 24 and August 15 will determine magnitude of second generation, could nearly equal severe 1949 infestation. (Townsend, Stockdale).

MINNESOTA - Number of infested corn plants per 100, European corn borer per 100 plants, [average height in cm (in)], and predominant instar by district: Northwest--4, 10, [132 (52)], and 3rd; west-central--23, 49, [198 (78)], and 3rd; central--39, 82, [224 (88)], and 3rd; southwest--35, 71, [170 (67)], and 4th; south-central--32, 42, [231 (91)], and 4th; and southeast--26, 46, [196 (77)], and 2nd and 3rd. Some heavy infestations per 100 plants and percent of infestation by county: Rice--130, 52% (1 field); Wright--168, 56% (2 fields); Renville--228, 76% (1 field); and Kandiyohi--240, 80% (1 field). If present trend continues, little damage expected from first generation. (Sreenivasam).

WISCONSIN - Status of European corn borer on corn by area: Southern and western--pupation underway. Eastern and northern--first flight continued, sometimes up to 10 days behind south-central counties. Larval infestation rates similar to previous periods. Heavy second adult flight expected. (Lovett).

ALABAMA - Northern area--continued to infest corn throughout area, all stages of pest present. (Smith).

INDIANA - Northern district--European corn borer pupation began. (Meyer). OHIO - Status on corn by county: Wayne--flight of first brood almost completed, total of 337 adults in 3 blacklight traps by July 15 compared with 411 in 1977. Flight peaked during second week of June this year, 2 weeks later than peak in 1977. Seneca County--pupae in sweet corn. Damage estimates by county: Lake--16% of large sweet corn planting ready for harvest and damage severe with 85-90% of plants infested [12 leaves]; and Ashtabula--50% of pretassel corn. (Drees).

MARYLAND - Lower Eastern Shore--fresh European corn borer egg masses in 10-15% of sweet corn fields; egg masses on 12% of plants in these fields. (Hellman, Pinto). DELAWARE - Kent and Sussex Counties--pupae from first brood common in most corn fields. Second adult flight started in most areas. Few egg masses on corn in Sussex County. (Burbutis, Kelsey). NEW YORK - Central area--heavy flights continued, Long Island--light in sweet corn, and Monroe County--infested 9-50% of tassels. (Chomyn, Entz). Capital district--damaged early sweet corn. (Cuniglio).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - KANSAS - Stafford County--first generation (second brood) adult emergence trace in corn, based on old pupal case in stalk. (Salsbury).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - NEBRASKA - Dundy County--adult activity and egg laying increased. Fresh egg masses on up to 16% of corn plants [3-4 days from full tassel emergence]. (Raun, Schade). KANSAS - Haskell, Finney, Sheridan, and Sherman Counties--eggs and larvae light on corn; hatch noted in Sheridan and Haskell Counties. (Shuman, Mock). No economic infestations reported. (Bell). IDAHO - Twin Falls County--first egg mass of season on corn near Buhl, adults averaged 25 per trap per night. (Blickenstaff, Stoltz).

CORN EARWORM (Heliothis zea) - UTAH - Utah County--damaged 30% of corn tassels in 1 field at Mapleton. (Davis, Horn). OKLAHOMA - Alfalfa County--infested almost 100% of field corn ears. Alfalfa, Craig, and Pittsburg Counties--light in sorghum. (Arnold). NEBRASKA - Central area--half-grown larvae feeding on corn tassels trace. (Raun).

MISSISSIPPI - Neshoba, Newton, and Winston Counties--corn earworm larvae, 3rd to 5th instars, infested 0-31% of corn [soft dough] ears. (Anderson). NEW YORK - Hudson Valley--first adult of season. Tompkins County--adult in blacklight trap July 18. (Bogen).

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - Damage severe in scattered corn fields, generally heavily infested fields had heavy QUACKGRASS (Agropyron repens) infestation. Taylor County--2 per corn plant and 4 per 0.09 sq m (sq ft) in quackgrass in 1 field. Walworth County--damage heavy about 261 m (660 ft) into field heavily infested with quackgrass. Sheboygan County--142 ha (350 acres) sprayed; "hotspots" of 3-5 larvae per plant. Trempealeau County--heavy populations completely destroyed some corn in scattered fields. (Lovett). INDIANA - Status on corn by county: Noble, Porter, and La Porte--larvae 2-4 cm (0.8-2 in) long defoliated isolated corn fields. (Mathew). West-central and northern areas--larvae 1 cm (0.4 in) or less in length on corn silk and soybeans. (Sillings, Meyer).

FALL ARMYWORM (Spodoptera frugiperda) - NEBRASKA - Stanton County--larvae damaged about 5% of corn plants in 1 field. (Witkowski). MISSISSIPPI - Pontotoc County--larvae, 2nd to 5th instars, up to 26 per plant on 3 ha (8 acres) of corn [pretassel] in spots; controls good. (Jarratt).

NORTH CAROLINA - Fall armyworm infestations widely scattered on corn [pretassel]. Damage up to threshold level in less than 15% of known infested fields. Coastal Plain--pupation underway in about 50% of fields examined indicating adults can be active until August 1. (Jackson). MARYLAND - Eastern Shore--late instars unusually early in whorl along field margins in late-planted corn. (Hellman, Pinto).

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - MISSOURI - Southeastern area--damage light in very late-planted corn. This species and FALL ARMYWORM (S. frugiperda) infested 5% (average) of plants. (Jones).

CORN ROOTWORMS (Diabrotica spp.) - COLORADO - Yuma County--WESTERN CORN ROOTWORM (D. virgifera) adults appeared in corn fields, larval damage heavy in some fields. (Hantsbarger). TEXAS - New county records for D. virgifera taken in pheromone traps in sweet corn patches. Callahan County--adults 1 km (0.7 mile) east of Clyde, July 14, 1978. Crosby County--adults 1.6 km (1 mile) west of Crosbyton, July 14, 1978. Both collected and determined by J. Krysan. (Jackman).

KANSAS - Haskell County--western corn rootworm adults averaged mostly less than 1 per corn plant. (Mock). Northwestern area--some adults found in most corn fields in several counties; no serious root damage. (Shuman). Marshall County--averaged 1.8 per plant in early tassel corn. (Bell). NEBRASKA - Dawson County--corn rootworm adults, about 80% males and 5% females carrying fully developed eggs, ranged 0-4 per plant in 100 corn fields [not yet tassel] surveyed. (Raun). Fillmore County--adults, mostly males, averaged 1.5 per plant in 3 corn fields. Last instar larvae, prepupae, pupae, and teneral adults in soil. Clay County--adults only trace in corn fields. (Peters).

MISSOURI - Stoddard County--NORTHERN CORN ROOTWORM (D. longicornis) moderate, averaged 1 per plant, fed on corn silks. (Jones). WISCONSIN - Southern and western counties--corn rootworm adults gradually increased. Peak expected about August 7. Much of earlier planted corn will be pollinated by then, but some late fields may suffer from silk clipping and reduced pollination. (Lovett).

INDIANA - Adult catches in 10 sticky traps in corn field compared with catches for previous period and with total for July 21, 1977, in Tippecanoe County--D. longicornis 43 versus 3 and 3,664, and D. virgifera 28 versus 0 and 1,374. Up to 5 per stalk in isolated locations in northern and central districts. (Meyer, Sillings). KENTUCKY - Madison County--northern corn rootworm adults active on silking corn, averaged 1 per ear on corn in early silk. (Sloderbeck).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Noble County--ranged 0-50 per sorghum plant. Craig and Ottawa Counties--light. (Arnold). KANSAS - Washington, Nemaha, Brown, and Douglas Counties--heavy in whorls and in some cases on undersides of lower leaves of scattered sorghum plants; some parasitism. (Hilbert, et al.). Central area--general increase noted in sorghum. (Willis). Northwestern area--light in sorghum. (Shuman). WISCONSIN - Rock and Walworth Counties--colonies on about 32% of corn plants. (Lovett).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Alfalfa County--light on grain sorghum. (Arnold). KANSAS - Averages per sorghum plant by county: Nemaha--60 [boot]; Douglas--40 [61-cm (24-in)]; Doniphan--25, some winged [56-cm (22-in)]; Riley--2.5 [20-cm (8-in)]; Rush--10; and Logan, Thomas, Sheridan, Morton, Rawlins, Cheyenne, and Sherman Counties--0 [30 to 46-cm (12 to 18-in)]. (Hilbert et al.). NEBRASKA - Lancaster County--light on sorghum. (Peters).

CHINCH BUG (Blissus leucopterus leucopterus) - OKLAHOMA - Craig and Ottawa Counties--ranged 0-10 per plant in 15 sorghum fields. Pittsburg County--light in sorghum heads in 1 field. (Arnold). NEBRASKA - Southeastern area--adults and nymphs continued to migrate from wheat into corn and sorghum. Stand losses along migration lines occurred with damage as far north as Saunders County. (Miller).

SMALL GRAINS

DISEASES

WHEAT LEAF RUST (Puccinia recondita f.sp. tritici) - NORTH DAKOTA - McLean County (1 commercial winter wheat field)--prevalence 100%/severity 40%. Eastern two-thirds of State--trace in commercial spring wheat fields (mostly on cultivar Waldron). (Jons). MINNESOTA - Prevalence/severity on lower leaves of wheat by county (1 commercial field each) week of July 14: Redwood--100%/trace to 5% on ERA wheat [midmilky], Yellow Medicine--100%/trace to 5% [early dough], and Redwood--100%/60% with 20% on flag leaf of Bart wheat [early dough] in cereal rust plots. (Stromberg). MICHIGAN - Lenawee County--prevalence 3-5%/severity 1% on wheat [late dough]. (Singh).

OAT CROWN RUST (Puccinia coronata var. avenae) - NORTH DAKOTA - Prevalent in most commercial oat fields with severity light to moderate. Most oat fields approaching maturity [milky to dough] and losses will be minimal. (Jons). IOWA - Prevalence/severity [late dough] on oats by county July 3-14: Wapello, Marion, Jones, Delaware, Dubuque, Clayton, Muscatine, Lee, Jefferson, Lucas, Clinton--100%/10-25%; Clarke, Adams, and Page--100%/5-15%. (Williams).

MINNESOTA - Oat crown rust prevalence/severity on flag leaf of oats by county (1 commercial field each) week of July 14: Martin--100%/20% [middough], Rock--100%/trace to 5% [early milky], Pipestone--100%/5% [late milky], and Sibley--100%/5% [late milky]. (Stromberg).

RYE LEAF RUST (Puccinia recondita f.sp. secalis) - MINNESOTA - Redwood County--prevalence 100%/severity trace to 5% on flag leaf and 40% on lower leaves of Prolific rye [early dough] in cereal rust monitoring plot week of July 14. (Stromberg).

LOOSE SMUT (Ustilago nuda) - NORTH DAKOTA - Ward, McLean, and Kidder Counties--trace in commercial hard red spring and durum wheat fields [berry formed to milky]. (Jons). MINNESOTA - Prevalence on wheat by county (1 commercial field each) week of July 14: Pipestone--18% [half berry] and Yellow Medicine--trace [early dough]. Sibley County--prevalence 1% on oats [late milky] in 1 commercial field. (Stromberg).

ERGOT (Claviceps purpurea) - MINNESOTA - Redwood County--prevalence 2% on Hypana barley [late dough] and on Prolific rye [early dough] in cereal rust monitoring plot week of July 14. (Stromberg). NORTH DAKOTA - Cass, Wells, and Kidder Counties--trace in commercial fields of 'Waldron' hard red spring wheat [dough]. (Jons).

EYESPOT (Pyrenophora trichostoma) - NORTH DAKOTA - Prevalent in all commercial hard red spring and durum wheat fields surveyed. Severe on lower leaves, moderate on middle leaves, and trace to light on flag leaves. (Jons). MICHIGAN - Lenawee County--prevalence 30-35%/severity 2-5% [late dough]. (Singh).

EYESPOT FOOT ROT (Pseudocercospora herpotrichoides) - MICHIGAN - Lenawee County--trace on wheat [late dough]. (Singh).

WHEAT POWDERY MILDEW (Erysiphe graminis f.sp. tritici) - MICHIGAN - Lenawee County--prevalence 25-30%/severity 5-10% on wheat [late dough]. (Singh).

TAKE-ALL (Gaeumannomyces graminis var. tritici) - MICHIGAN - Lenawee County--trace on wheat [late dough]. (Singh).

SCAB (Fusarium spp.) - NORTH DAKOTA - Cass County--trace in 1 commercial triticale field. Cass, Ransom, Ward, McLean, Burleigh, Kidder, La Moure, and Stutsman Counties--trace in several hard red spring wheat and durum wheat fields [milky to early dough]. (Jons). MINNESOTA - Prevalence on about one-third of oat heads by county (1 commercial field each) week of July 14: Redwood--3% [midmilky] and Yellow Medicine--trace [early dough]. (Stromberg). MICHIGAN - Prevalence on wheat [late dough unless stated otherwise] by county: Monroe--5-10%, Lenawee--trace, Branch--25-30%, St. Joseph--50-60% [ripe], Berrien--25-30% [ripe], and Van Buren--5%. (Singh).

SEPTORIA COMPLEX (Septoria spp.) - MICHIGAN - Lenawee County--prevalence 45-50%/severity 10-15% on wheat [late dough]. (Singh).

BARLEY YELLOW DWARF LUTEOVIRUS - MINNESOTA - Prevalence of red leaf in oats by county (1 commercial field each) week of July 14: Martin--trace [middough], Rock--12% [early milky], Pipestone--3% [late milky], and Sibley--3% [late milky]. (Stromberg).

INSECTS

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - West-central, north-central, and northeastern areas--larvae 0.5-8 per 0.09 sq m (sq ft) of lodged oats, heaviest in Lincoln County. Half to full-grown larvae showed feeding will continue for 7-10 days; larvae less full grown in Lincoln County. (Lovett).

EUROPEAN CORN BORER (Ostrinia nubilalis) - IOWA - Ringgold County--larvae destroyed about 20% of stems in oat field. (Townsend).

ENGLISH GRAIN APHID (Macrosiphum avenae) - NEVADA - Eureka County--averaged 25 per sweep on 60.7 ha (150 acres) of oats at Beowawe. (Peters). IDAHO - Clearwater County--averaged 50 per head of wheat [milky] near Cavendish. (Homan).

GREENBUG (Schizaphis graminum) - IDAHO - Twin Falls County--light on late-planted barley near Kimberly. (Stoltz).

TURF, PASTURES, RANGELAND

INSECTS

FALSE CHINCH BUG (Nysius raphanus) - UTAH - Statewide--unusually heavy on rangelands, field margins, and at residences. Congregated and migrated in great numbers. Most general and severe outbreak in several years. (Knowlton).

GRASSHOPPERS - ARKANSAS - Benton County--mostly very small nymphs of Melanoplus differentialis, M. sanguinipes, and M. bivittatus; fewer than 15 per 0.8 sq m (sq yd) in fescue and unimproved pastures. (Jones). Boone County--M. differentialis 10-20 per 0.8 sq m in Bermuda and fescue pastures. Heavier in thistle infested pastures. (Jones).

FORAGE LEGUMES

DISEASES

SUMMER BLACK STEM (Cercospora zebrina) - KANSAS - Republic and Saline Counties--trace on alfalfa [38-56 cm (15-22 in) tall]. (Sim).

LEPTOSPHAERULINA LEAF SPOT (Leptosphaerulina briosiana) - KANSAS - Prevalence decreased rapidly with increased temperatures. Prevalence on alfalfa by county (1 field each): Dickinson--trace, and Cloud--30%. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - UTAH - Cache County--adults became heavy in some alfalfa fields. Late instar larvae heavier than in past 20 years. (Davis). WISCONSIN - Sauk, Sheboygan, and Door Counties--adults fed on second growth alfalfa, averaged 0.5-3 per sweep. (Lovett).

CLOVER LEAF WEEVIL (Hypera punctata) - MAINE - moderate damage to hay field with clover and grass mixture. (Gall).

ALFALFA LOOPER (Autographa californica) - IDAHO - Boundary County--larvae severely damaged red clover seed fields near Bonners Ferry. (Studer).

ARMYWORM (Pseudaletia unipuncta) - IOWA - Howard County--larvae moved from grass pasture into hay field, damage heavy to field margins. (Townsend).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Averages per 10 sweeps of alfalfa by county: Jackson--70 and Harmon--45. (Arnold).

BEEF ARMYWORM (Spodoptera exigua) - OKLAHOMA - Averages per 10 sweeps of alfalfa by county: Harmon--40 and Jackson--6. (Arnold).

PEA APHID (Acyrtosiphon pisum) - WISCONSIN - Alfalfa in east-central and new seedings in Central Sands areas--counts heavy. Calumet and Waushara Counties--100+ per sweep. (Lovett).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Humboldt County--increased on seed alfalfa at Jungo, but still noneconomic and variable. (Stitt).

POTATO LEAFHOPPER (Empoasca fabae) - KENTUCKY - Fayette County--very heavy in some alfalfa fields with averages of 9.5 adults and 16.1 nymphs per sweep. Alfalfa [blooming] and "hopper burn" severe. (Sloderbeck). WEST VIRGINIA - Jefferson County--adults and nymphs 0.5-1.5 per sweep on third growth alfalfa [8-25 cm (3-10 in) tall] with 50% of fields sprayed and 3 per sweep of harvested second cutting alfalfa. (Washburn).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSOURI - North-central area--heavy, up to 50 per sweep, on red clover. (Huggans).

GRASSHOPPERS (Melanoplus spp.) - MISSOURI - North-central area--heavy, up to 70 per 0.8 sq m (sq yd) of red clover. (Huggans). VIRGINIA - Shenandoah Valley--M. femurrubrum nymphal damage serious to pastures, alfalfa hay plantings, and in some cases, peach orchards. Infestations localized but heavy along pasture borders and hay field borders. Damage unexpected because buildups do not usually occur in cool, wet springs. (Allen).

SOYBEANS

DISEASES

PHYTOPHTHORA ROOT AND STEM ROT (*Phytophthora megasperma* var. *sojae*) - MISSOURI - Adair, Audrain, Clark, and Monroe Counties--prevalence 2-25% in 1 commercial soybean field [first flower]. (Foudin). MINNESOTA - Prevalence on soybeans [prebloom] by county (1 commercial field each) week ending July 14: Faribault--scattered plants in low spots, Martin--trace on scattered plants throughout field on var. Corsoy, and Sibley--in low spot at end of field. (Stromberg).

ILLINOIS - Phytophthora root and stem rot prevalence on soybeans [6 nodes formed unless stated otherwise] by county week of July 10: Kendall (1 commercial field [7 nodes formed]) and McDonough (1 monitoring plot [beginning bloom])--few scattered plants; and Livingston--1% in 1 monitoring plot on following varieties, Corsoy [full bloom], Kent, Amsoy [beginning bloom], Elf, Clark, Williams, Wells [beginning bloom], Franklin, and Woodworth. (Jordan).

WISCONSIN - Lafayette County--dead, stunted, and wilted soybean plants due to phytophthora root and stem rot in low limited area of field. (Lovett). MICHIGAN - Prevalence on soybeans by county: Monroe--1% [3 nodes], Lenawee--trace [4 nodes], Berrien--trace [8 nodes], and Van Buren--5% in lower spots [8 leaves]. (Singh).

PHYLLUSTICTA LEAF SPOT (*Phylllosticta sojaecola*) - ILLINOIS - Prevalence/severity on soybeans [full bloom unless stated otherwise] by county (1 commercial field or 1 monitoring plot each), week of July 10: In commercial fields, Marshall--trace/trace to 1%, Ford--trace/trace, McLean--trace/trace, Kendall--trace/trace to 1% [7 nodes formed], La Salle--trace/1%. In monitoring plots, De Kalb--trace/trace, Bureau--20%/1-3% (beginning bloom), Livingston--trace/trace (beginning bloom), Logan--10%/trace (6 nodes formed), and McDonough--trace/trace (beginning bloom). (Jordan).

INDIANA - *Phylllosticta* leaf spot prevalence/severity on soybeans [fourth node unless stated otherwise] by county week ending July 15: Madison, Wayne, Dearborn, Ohio, Henry, and Bartholomew [seventh node]; Switzerland [fifth node]; Jefferson, Clark, and Jennings [sixth node]; Jackson [eighth node]; and Shelby--0; Franklin [sixth node]--trace/trace; Union [unifoliolate leaf]; averaged trace/trace 14 sites. (Schall).

SOYBEAN BROWN SPOT (*Septoria glycines*) - ILLINOIS - Prevalence/severity on soybeans [full bloom unless stated otherwise] by county (1 commercial field or 1 monitoring plot each) week of July 10: In commercial fields, La Salle--99%/25-30%, Marshall--99%/10-15%, Kendall--99%/25% [7 nodes formed], McLean--99%/1-3%, and Ford--99%/1-3%; in monitoring plots, De Kalb--99%/12-25% [beginning bloom], Logan--99%/1-6%-[6 nodes formed], and McDonough--99%/10-25% [beginning bloom]. (Jordan).

WISCONSIN - Southern area--soybean brown spot infected lower leaves in most soybean fields. (Lovett). MICHIGAN - Prevalence/severity on soybeans by county: Monroe--trace [3 nodes], Lenawee--1-2%/60-80% on lower leaves [4 nodes], Branch--80-85%/60-70% on lower leaves [3 nodes], St. Joseph--70-80%/1-5% on lower leaves [6 nodes], Berrien--45-50%/5-7% [8 nodes], and Van Buren--30-35%/5-10% [8 nodes]. (Singh).

TENUISSIMA LEAF SPOT (*Alternaria tenuissima*) - ILLINOIS - Commercial fields in La Salle and McLean Counties [full bloom] and monitoring plots in McDonough [beginning bloom], Bureau [beginning bloom], and De Kalb [full bloom] Counties week of July 10: prevalence trace/severity trace on soybeans. (Jordan).

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - KANSAS - North-central area--most obvious soybean disease. Prevalence by county: Clay--80%, Republic 100%, Cloud--100%, Washington--40%, and Geary--80%. (Sim). MISSOURI - Northwestern and north-central areas--prevalence 5-25% on soybeans [first flower]; 1 or 2 leaves infected. (Foudin).

MINNESOTA - Statewide--locally heavy rains and winds contributed to increased severity of soybean bacterial blight. Prevalence/severity on soybeans [prebloom unless stated otherwise] by county (1 commercial field each) week ending July 14: Faribault--100%/20%, Martin--100%/15-20% on var. Corsoy, Rock--100%/25%, Pipestone--100%/15-20%, Murray--100%/15%, Yellow Medicine--100%/trace to 2% [early flowering], Renville--100%/trace to 5% on var. Corsoy [early flowering], and Sibley--100%/trace to 3% [prebloom]. (Stromberg).

ILLINOIS - Soybean bacterial blight prevalence/severity on soybeans [full bloom unless stated otherwise] by county (1 commercial field or 1 monitoring plot each) week of July 10: In one commercial field each. Kendall--99%/15-20% [7 nodes formed], McLean--50%/3%, Marshall--90%/5%, and La Salle--99%/20%; in 1 monitoring plot each, DeKalb--99%/3-12%, Bureau--90%/1-6% [beginning bloom], Livingston--50%/1-2% [beginning bloom], Logan--trace/trace [6 nodes formed], and McDonough--90%/1-6% [beginning bloom]. (Jordan).

INDIANA - Soybean bacterial blight prevalence/severity on soybeans [fourth node unless stated otherwise] by county week ending July 15: Madison, Wayne, Dearborn; Switzerland [fifth node]; Jefferson, Clark, and Jennings [sixth node]; Jackson [eighth node]; Bartholomew [seventh node]--0/0; Henry--15%/1% [seventh node]; Union--2%/trace [unifoliolate leaf]; Franklin--trace/trace [sixth node]; Ohio--5%/3% [seventh node]; and Shelby--1%/trace; average 2%/trace in 14 sites. (Schall).

MICHIGAN - Prevalence/severity on soybeans by county: Monroe--trace [3 nodes], Lenawee--5-10%/1-2% [4 nodes], Branch--trace [3 nodes], and Berrien--10-15%/2-5% [8 nodes]. (Singh).

SOYBEAN MOSAIC POTYVIRUS - MISSOURI - Northwestern area--prevalence on soybeans [first flower] trace to 5% in commercial fields. (Foudin). MICHIGAN - Prevalence on soybeans by county: St. Joseph--trace [6 nodes] and Van Buren--trace [8 nodes]. (Singh).

BEAN YELLOW MOSAIC POTYVIRUS - MISSOURI - Northwestern area--prevalence on soybeans [first flower] trace to 3% in commercial fields. (Foudin).

TOBACCO RINGSPOT NEPOVIRUS - KANSAS - Occurrence due to infected seed. Prevalence on soybeans by county: Clay, Geary, Dickinson, and McPherson--trace, and Saline--trace to 1%. (Sim). MICHIGAN - Prevalence of bud blight on soybeans by county: Berrien--trace [8 nodes] and Van Buren--trace [8 nodes]. (Singh).

INSECTS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Gadsden County--first larva (late instar) of season on soybeans at Quincy. (Herzog).

POTATO LEAFHOPPER (Empoasca fabae) - ARKANSAS - Lee County--adults and nymphs unusually abundant in soybean fields, caused chlorosis and some leaf curling. Averaged 2 adults and 4 nymphs per trifoliolate. (Wall). MARYLAND - Eastern Shore--increase on soybeans. Caroline County--controls applied to 20 ha (50 acres), most fields lightly infested. (Hellman, Pinto).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ARKANSAS - Jefferson County--nymphs some concern to a few soybean growers. (Mayse).

STINK BUGS - FLORIDA - Nezara viridula and Euschistus servus began to move from corn to April-planted soybeans. (Herzog).

GRASSHOPPERS (Melanoplus spp.) - IOWA - Statewide--heavy in central and southern counties. Infestations not limited to field margins, and found across many soybean fields.

PEANUTS

INSECTS

CORN EARWORM (Heliothis zea) - FLORIDA - Jackson County--increased on untreated peanuts near Greenwood, but below economic threshold. (Tappan).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - MISSISSIPPI - Oktibbeha at treatment level on peanuts. (Cochran).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis grandis) - OKLAHOMA - Counts in pheromone traps (and number of traps) by county: Jackson--18 (82), Harmon--8 (13), and Tillman and Kiowa--0. (Arnold).

MISSISSIPPI - Boll weevil damage light with "hotspots" present. Percent larval infestation and acreage involved in hectares (acres) by county: Carroll--0.5%, 324 ha (800 acres); Lawrence--10%, 20 ha (50 acres); Yalobusha--0.1%, 1,619 ha (4,000 acres); Tippah--0%, 304 ha (750 acres); Franklin--5%, 32 ha (80 acres); Holmes--5%, 4.7 ha (1,000 acres); Calhoun--3%, 607.0 ha (1,500 acres); Prentiss--4%, 40.5 ha (100 acres); Madison--5%, 1,012 ha (2,500 acres); Quitman--0, 1,012 ha; Leake--8%, 121 ha (300 acres); and Monroe--0.1%, 2,023 ha (5,000 acres). (Anderson).

ALABAMA - Madison County--boll weevil very light on cotton. (Freeman). Southern counties--continued to increase in untreated fields where second generation began to emerge. (Worley). Autauga County--infestations spotty. (Conley). SOUTH CAROLINA - Statewide--very light on cotton in isolated areas. (Douglass).

BOLLWORMS (Heliothis spp.) - CALIFORNIA - Kern County--TOBACCO BUDWORM (H. virescens) larvae in cotton bowl at Arvin. First find of this pest on cotton in this county. Determined by R.E. Somerby. (Hasbrouck). ARIZONA - BOLLWORM (H. zea) status on cotton by county: Maricopa--eggs 6-25 and larvae 6 per 100 plants, Pinal--eggs 16 and larvae 4 per 50 plants, and Yuma--infestation 2-3%. (Kirkpatrick et al.).

OKLAHOMA - Southwestern counties--H. zea eggs, larvae, and damaged squares increased rapidly on cotton in some areas. Jackson County--controls poor in some areas. (Arnold). ARKANSAS - Southeastern area--H. zea and H. virescens adults and eggs heavy in many fields. Lincoln County--larvae 77% H. zea, but 75% H. virescens previous week. (Wall).

MISSISSIPPI - Heliothis spp. egg deposition increased as second generation in many areas. Percent larval infestation and acreage in hectares (acres) by county: Monroe--0.3%, 2,023 ha (5,000 acres); Prentiss--0, 40.5 ha (100 acres); Calhoun--2%, 607.0 ha (1,500 acres); Holmes--5 to 15%, 404.7 ha (1,000 acres); Tippah--5%, 304 ha (750 acres); Itawamba--1%, 80.9 ha (200 acres); Leake--3%, 121 ha (300 acres); Quitman--5%, 1,012 ha (2,500 acres); Madison--2%, 1,012 ha; Carroll--2%, 324 ha (800 acres); and Yalobusha--0.1%, 1,619 ha (4,000 acres). (Anderson).

ALABAMA - Heliothis spp. activity increased in some cotton fields in much of State. Adult flight not expected to be widespread. (Smith). Madison County--light, 5 per 100 terminals. (Freeman). Southern Counties--adult activity continued to increase with most larvae H. zea. Escambia and Monroe Counties--eggs about 100 per 100 terminals in few isolated fields. (Gamble et al.). Marengo County--adults light and eggs in most fields still below 10%. (Smith, Worley). Dallas County--40 per night in traps. (Worley). Colbert County--very light, larvae and eggs in most fields. (Potter).

SOUTH CAROLINA - Statewide--H. zea and H. virescens increased. Calhoun County--eggs 10-15 per 100 plants. Most of Piedmont area--treatment not yet begun. York County--adults light, 5-6 H. zea per night, but increase over previous periods may indicate build up. (Douglass).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Tillman County--common in dry-land cotton in southern area; up to 15 per 0.3 row m (row ft) in some fields, several fields treated. (Arnold).

COTTON LEAFWORM (Alabama argillacea) - ALABAMA - Escambia County--heavy in scattered untreated cotton fields; control excellent where treatments applied. (Martin, Worley).

TOBACCO

INSECTS

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - Central and northern Counties--unusually heavy on burley tobacco. Counties above threshold: Madison--4 of 8 fields (heaviest at 19%), Ashe--1 of 6 fields (averaged 6%), and Yancey--1 of 5 fields (averaged 7.5%). Counts significantly reduced in last 2 counties by chemical controls and a parasite, Campoletis (an ichneumonid wasp). (Southern).

GREEN PEACH APHID (Myzus persicae) - NORTH CAROLINA - Status on flue-cured tobacco by county: Wake--3 of 72 fields at threshold, average infestation of 5%; Lenoir--43 of 383 fields at threshold, average infestation of 9%; Wake, Lenoir, Bladen, Washington, and Martin Counties--decreased in most localities; and Coastal Plain area--expected to continue to decrease in central and northern sections. (Clark et al.).

MISCELLANEOUS FIELD CROPS

DISEASES

SCLEROTINIA STEM ROT (Sclerotinia sclerotiorum) - WISCONSIN - Langlade and Waushara Counties--rot severe on lower stem and roots in sunflower fields, plants leaning badly. (Lovett).

INSECTS

SUNFLOWER MOTH (Homoeosoma electellum) - MINNESOTA - Pipestone County--first of season. Adults trace on sunflowers, plants 127+ cm (50 in) tall, buds opening. (Sreenivasam).

POTATOES, TOMATOES, PEPPERS

DISEASES

POTATO AND TOMATO LATE BLIGHT (Phytophthora infestans) - WISCONSIN - Conditions still favor rapid development on potatoes. (Lovett).

TOMATO WILT (Fusarium oxysporium f.sp. lycopersici) - CALIFORNIA - Fresno County--dieback, yellowing, and wilting on 50% of 4.0 ha (10 acres) of tomatoes in 1 field at Fresno. (Wade, Parman).

INSECTS

BEE T ARMYWORM (Spodoptera exigua) - CALIFORNIA - San Diego County--larvae moderate on leaves, buds, and stems of chili peppers in 64.7-ha (160-acre) planting at San Diego. (Halberg, Rinder).

BEANS AND PEAS

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NEBRASKA - Scotts Bluff and southern Sioux Counties--adults moved from buffalobur (Solanum rostratum) in field margins and migrated through field beans with counts as high as 12 per 0.09 sq m (sq ft). (Hagen).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEBRASKA - Panhandle area--egg laying began in field beans. (Hagen).

PEA APHID (Acyrtosiphon pisum) - IDAHO - Averages per sweep by county: Latah and Clearwater--200-500 in most untreated lentil fields. Plants showed curled leaves and stunted symptoms; Clearwater County--500-1,500 on green peas in 24-121 ha (60-300 acres) green pea fields in Frasier area. (Homan).

COLE CROPS

DISEASES

CABBAGE YELLOWS (Fusarium oxysporum f.sp. conglutinans) - WISCONSIN - Columbia County--wilting and dropping of yellow lower leaves on 5% of cabbage plants in part of 1 field. (Lovett).

INSECTS

CABBAGE LOOPER (Trichoplusia ni) - NEW YORK - Central area--increased on cabbage, larvae averaged 2 per 20 plants. (Wilson).

DIAMONDBACK MOTH (Plutella xylostella) - NEW YORK - Monroe County--larvae active on cabbage, 3-22 per 20 plants on 5 farms. (Chomy, Entz).

CUCURBITS

INSECTS

CAMPESTRIS BLACK ROT (Xanthomonas campestris) - WISCONSIN - Columbia County--began to develop on margins of outer leaves in cabbage field beginning to head, prevalence 40-60% in spots in 1 corner of field. (Lovett).

GENERAL VEGETABLES

INSECTS

BLACK CUTWORM (Agrotis ipsilon) - NEW YORK - Statewide--increased in blacklight traps. Steuben County--adults averaged 15 per pheromone trap versus 1 for previous period at Arkport. (Willson, Bogen).

DECIDUOUS FRUITS AND NUTS

DISEASES

BLISTER SPOT (Pseudomonas papulans) - NEW YORK - Wayne County and western area--first infections of Mutsu apples reported last week. (Burr).

FIRE BLIGHT (Erwinia amylovora) - WISCONSIN - Wood and Crawford Counties--severe in some apple orchards. (Lovett).

INSECTS

CODLING MOTH (Laspeyresia pomonella) - CALIFORNIA - Fresno County--2nd and 3rd instar larvae 1 per fruit in commercial plums at Sanger; 3rd instar larvae in almond nuts. (Dunnegan).

AN APHID (Panaphis juglandis) - CALIFORNIA - Butte County--infested 100% of 6.1 ha (15 acres) of English walnut, 17 per leaflet, at Chico. (Mattoon, Lewis).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OKLAHOMA - Wagoner County--continued to increase in apple orchards, averaged 10 per leaf on some trees. (Arnold).

SMALL FRUITS

INSECTS

A PSYCHID MOTH (Apterona crenulella) - CALIFORNIA - New county and host record. Shasta County--larvae in 0.2-ha (0.5-acre) in strawberry nursery at Fall River Mills. Collected by R. Price, July 5, 1978. Determined by T.D. Eichlin. (Price).

RASPBERRY CANE BORER (Oberea bimaculata) - MAINE - Egg laying and girdling on raspberry decreased. Number of plantings and infestations more severe than for past 5 years (especially those near wild plants). Many canes girdled when less than 0.6 m (2 ft) tall. (Gall).

GRAPE LEAFFOLDER (Desmia funeralis) - CALIFORNIA - Fresno County--2nd instar larvae of new generation infested grapes at Clovis. (Dunnegan).

FOREST AND SHADE TREES

INSECTS

BANDED ALDER BORER (Rosalia funebris) - UTAH - New county record. Tooele County--adults collected from 2 residences at Tooele, July 7, 1978, by D. Harrison. Determined by J.B. Karren. (Roberts, Jacobson).

ELM LEAF BEETLE (Pyrrhalta luteola) - OKLAHOMA - Payne, Noble, Pawnee, and Harmon Counties--moderate to heavy on Siberian elms; larvae and pupae present in Payne County, some trees 50-75% defoliated. (Arnold).

WHITE PINE WEEVIL (Pissodes strobi) - MAINE - Central area--damaged up to 50% of leaders in plantings along many roadsides and to a lesser extent in less densely populated tree plantings, damage heaviest in 14 years. (Gall).

VICEROY (Limenitis archippus) - IOWA - Story County--moderate larvae infestation caused significant defoliation to aspen trees 60-100 cm (24-39 in) tall in park; larvae 8-23 mm (0.31-0.90 in). About 400 trees involved, hand-picking controls planned for July 21. (Lewis).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OKLAHOMA - Pittsburg County--larvae heavy in pine trees in 2 areas. (Arnold).

SPRUCE BUDWORM (Choristoneura fumiferana) - WISCONSIN - Forest and Oneida Counties--egg laying peaked July 20. (Lovett).

MIMOSA WEBWORM (Homadula anisocentra) - DELAWARE - New Castle County--first larvae of season on mimosa. (Burbutis, Kelsey).

BUCKEYE (Precis coenia) - CALIFORNIA - Unusual host record for State. Trinity County--larvae found defoliating American elm tree at Ruth, June 17, 1978. Adults emerged from larvae in early July. Determined by T.D. Eichlin. (Hasbrouck).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - OKLAHOMA - Status on cattle by county: Garfield--50-100 per head, Craig--heavy, Nowata--moderate to heavy, and Pittsburg--light. (Arnold). MISSOURI - Central and north-central areas--light, averaged 5-10 per side, on livestock. (Hall).

FACE FLY (Musca autumnalis) - MISSOURI - Central and north-central areas--decreased on livestock, averaged 3 per head. (Hall).

BENEFICIAL ORGANISMS & THEIR ENEMIES s

INSECTS

A EULOPHID WASP (Tetrastichus julis) - INDIANA - New county records. Parasitism of Oulema melanopus (cereal leaf beetle) larvae on oats by county (1 field each): Clark--2% in Washington Township, June 8, 1978; collected by M. Carandang; Crawford--4% in Whiskey Run Township, June 7, collected by M. Bratovich; Decatur--12% in Clinton Township, June 15, collected by K. Gregg; Dubois--2% in Ferdinand Township, June 6, collected by M. Bratovich; Fayette--4% and 38% (2 fields) in Harrison Township, June 14, collected by K. Gregg; Floyd--64% in Franklin Township, June 22, collected by R. Carandang; Marshall--73% and 80% (2 fields) in German Township, June 26, collected by R. Cummings; Perry--4% in Clark Township, June 8, collected by M. Bratovich; Rush--6% in Walker Township, June 14, collected by K. Gregg; Scott--7% in Vienna Township, June 12, collected by R. Carandang; and Union--13% in Center Township, June 13, collected by K. Gregg. All determined by V.E. Montgomery. (T.L. Burger).

OHIO - New county record. Stark County--T. julis parasitism of Oulema melanopus (cereal leaf beetle) larvae 32%, 61%, and 62% in 3 oat fields in Nimishillen Township, June 6, 1978. Collected by J. Slates. Determined by V.E. Montgomery. (T.L. Burger).

VIRGINIA - New county records. Culpeper County--T. julis parasitism of Oulema melanopus (cereal leaf beetle) larvae 19% in oat field in Catalpa Magisterial District. Madison County--parasitism of O. melanopus 67% in oat field in Rapidan Magisterial District. Collected June 15, 1978, by P. Larkins. Determined by V.E. Montgomery. (T.L. Burger). VIRGINIA - Parasitism rates of Oulema melanopus (cereal leaf beetle) larvae by county: Frederick--5% and 17% in 2 samples, Shenandoah--4%, Prince William--12%, Culpepper--19% and 11%, Madison--67% and 15%, and Warren--47%. (Allen).

NEW JERSEY - New county record. Mercer County--T. julis parasitism of Oulema melanopus (cereal leaf beetle) larvae 64% in oat field in Hopewell Township, June 1, 1978. Collected by R. Balaam. Determined by V.E. Montgomery. (T.L. Burger).

A EULOPHID WASP (Pediobius foveolatus) - VIRGINIA - Northeast district--about 56,000 adults of this parasite of Epilachna varivestis (Mexican bean beetle) released in 17 counties. Larvae of E. varivestis scarce, indicated preplant systemic controls, 1977's dry weather, heavy foliar spraying in 1977, and parasites combined to suppress pest populations. (Allen).

AN ICHNEUMONID WASP (Diaparsis n.sp.) - INDIANA - New county record. Union County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 4% in oat field in Union Township, June 13, 1978. Collected by K. Gregg. Determined by V.E. Montgomery. (T.L. Burger). OHIO - New county record. Monroe County--parasitism of O. melanopus larvae 2% in oat field in Salem Township, June 16, 1978. Collected by D. Pollock. Determined by V.E. Montgomery. (T.L. Burger).

PENNSYLVANIA - New county record. Columbia County--Diaparsis n.sp. parasitism of Oulema melanopus (cereal leaf beetle) larvae 1% in oat field in Locust Township, June 19, 1978. Collected by P. Krigauskas. Determined by V.E. Montgomery. NEW JERSEY - New county record. Hunterdon County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 2% in oat field in Rariton Township, June 20, 1978. Collected by R. Balaam. Determined by V.E. Montgomery. (T. L. Burger).

AN APHIDIID WASP (Aphidius smithi) - IDAHO - Latah County--adults averaged 4 per sweep and parasitized Acyrtosiphon pisum (pea aphid) common on lentil leaves near Troy. (Homan).

FEDERAL AND STATE PROGRAMS

DISEASES

BARLEY SECALIS STEM RUST (Puccinia graminis f.sp. secalis) - MINNESOTA - Redwood County--prevalence 100%/severity trace to 10% on Hypana barley in cereal rust monitoring plot week of July 14. (Stromberg).

OAT STEM RUST (Puccinia graminis f.sp. avenae) - IOWA - Prevalence/severity by county on oats [late dough] by county July 3-14: Wapello--30%/3%; Marion--10%/3%; Dubuque and Delaware--60%/5%; Jones--100%/15%; Monroe--30%/5%, and Clinton--70%/5%. (Williams). MINNESOTA - Rock County--prevalence 90%/severity trace on oats [early milky] in 1 commercial field week of July 14. (Stromberg).

WHEAT STEMRUST (Puccinia graminis f.sp. tritici) - MINNESOTA - Redwood County--prevalence 100%/severity trace to 10% on Bart wheat [early dough] in cereal rust plot week of July 14. (Stromberg).

INSECTS

GRASSHOPPERS - NEVADA - Humboldt County--Melanoplus sanguinipes (adults 35%, 5th instar 50%, and 4th instar nymphs 15%) ranged 8-18, averaged 12 per 0.8 sq m (sq yd) on 3,642 ha (9,000 acres) of rangeland between Rock Creek and Willow Creek in Orovada area, some movement to alfalfa seed fields. (Kail et al.). UTAH - Cache County--moved from foothill range into adjacent alfalfa fields, 3-5 per sweep in areas nearest uncultivated land (Davis); Salt Lake and Utah Counties--similar reports (Knowlton). COLORADO - Prowers, Weld, Fremont, Baca, Pueblo, Las Animas, Logan, Kiowa, and Cheyenne Counties--ranged 8-30 per 0.8 sq m (sqyd); spray programs underway or being started. (Hantsbarger, Fronk)

OKLAHOMA - Alfalfa County--Melanoplus spp. ranged 20-40 per 0.8 sq m (sq yd) in alfalfa margins, fencerows, and roadsides; alfalfa damage heavy. Aulocara ellioti, Mermiria spp., and Melanoplus spp. ranged 10-30 per 0.8 sq m in rangeland. Status by county: Ellis--heavy on everything; Payne--M. differentialis heavy on popcorn; Mayes--heavy in Bermuda pastures in Adair area; Blaine--1-5 per 0.8 sq m in rangeland; Oklahoma--moderate to heavy in roadsides, pastures, and gardens; Wagoner--heavily damaged margins of some soybean fields in Porter area and 20 per 0.8 sq m in Bermuda pastures and weeds in the Verdigris River bottom; Comanche--0.5-4 per 0.8 sq m in rangeland; and Bryan--heavy in pastures, peanuts, and soybeans. (Arnold).

NEBRASKA - Dundy County and northeast and east crop districts--still concentrated in roadsides and field margins. (Raun et al.). Sioux, Dawes, Sheridan, and Box Butte Counties--damage continued. Scotts Bluff, Morrill, and Sioux Counties--moved into sugarbeets and field beans. Most Melanoplus bivittatus, M. sanguinipes, M. femurrubrum, and rangeland species are in adult stage. Northwest crop district--averaged 10-12 per 0.8 sq m (sq yd). Rangeland treated had 70-75% reduction in populations. (Hagen).

GYPSY MOTH (Lymantria dispar) - WISCONSIN - Waukesha County--1 male trapped in Oconomowoc area as of July 20. (Lovett).

JAPANESE BEETLE (Popillia japonica) - KENTUCKY - Adults increased but still below economic levels. Highest count 108 per 100 corn plants. Highest counts in fields [late silk] where beetles too late to reduce pollination. (Sloderbeck, Wilson). SOUTH CAROLINA - Dillon County--moderate infestation lightly damaged 4.0 ha (10 acres) of cotton. (Adams, DuBose). Spartanburg County--adults heavy in some spots, 1-2 to 25-30 per branch in several peach orchards. (Gorsuch).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Status on cotton by county: Maricopa--larvae 0-12 per 100 bolls, Pinal--larvae 1-10 in 100 bolls, and Yuma--larvae 1-10 in 100 bolls, adults 3-28 per pheromone trap per day. (Kirkpatrick et al.).

SCREW WORM (Cochliomyia hominivorax) - Total of 391 cases reported from continental United States June 25 to July 8 as follows: Texas 61, New Mexico 73, Arizona 254, and California 3. (Meadows). Total of 428 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 841 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 265,997,600 as follows: Texas 122,341,800, New Mexico 40,906,200, Arizona 101,021,600, and California 1,728,000. (Meadows). Total of 270,697,600 sterile flies released within Barrier of Mexico. (Williams, Smith).

Hawaii Pest Report

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) heavy on 1 ha (3 acres) of green onions (50-75% of leaves heavily mined) and 0.4 ha (1 acre) of cucumbers (50% of leaves heavily mined) in Waianae Valley, Oahu. Heavy on watermelons and tomatoes at Kihei, Maui. (Miyahira et al.).

Forest and Shade Trees - EURASIAN PINE ADELGID (Pineus pini) surveys seemed to indicate pest confined to Lihue area on Kauai. Negative in southern and western sections of island. (Sugawa).

Beneficial Insects - LANTANA HISPID (Uroplata girardi) heavy with 50% defoliation on roadside lantana from Wailua to Anahola, Kauai. (Sugawa).

DETECTION

NEW COUNTY RECORDS

INSECTS

BANDED ALDER BORER (Rosalia funebris) - UTAH - Tooele. (p. 395).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Clark, Crawford, Decatur, Dubois, Fayette, Floyd, Marshall, Perry, Rush, Scott, and Union; OHIO - Stark; VIRGINIA - Culpeper and Madison; and NEW JERSEY - Mercer. (p. 396-397).

AN ICHNEUMONID WASP (Diaparsis n. sp.) - INDIANA - Union; OHIO - Monroe; PENNSYLVANIA - Columbia; and NEW JERSEY - Hunterdon. (p. 397).

A LACE BUG (Leptodictya plana) - OKLAHOMA - Pottawatomie County--1 specimen swept from roadside at Earlsboro, June 26, 1978. Collected and determined by D.C. Arnold. (Arnold).

A PSYCHID MOTH (Apterona crenulella) - CALIFORNIA - Shasta. (p. 395).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - TEXAS - Callahan and Crosby. (p. 386).

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Dacus cucurbitae</u> (Coquillett) melon fly Det. R. Kunishi	larval	in Phaseolus pods from baggage	Hawaii	Honolulu	CA
<u>Hylastes attenuatus</u> Erichson a scolytid beetle Det. D.M. Anderson	adult larval	in wood crates with marble	Italy	Baltimore	MD
<u>Miarus</u> sp. a weevil Det. D.R. Whitehead	adult	with Protea cut flowers from cargo	South Africa	Honolulu	HI
<u>Pieris brassicae</u> (Linnaeus) a pierid butterfly Det. W.D. McLellan	pupal	on container van of marble	Italy	New Orleans	LA
<u>Pyropotosia pryori</u> (Janson) a scarab Det. R. Kunishi	adult	in aircraft holds	Midway	Honolulu	HI
<u>Rhagoletis cerasi</u> (Linnaeus) European cherry fruit fly Det. D. Walters	larval pupal	in cherries from baggage	Italy	Kennedy Airport	USA
<u>Stenoma catenifer</u> Walsingham avocado seed moth Det. D.M. Weisman	larval	in avocados from baggage	El Salvador	Los Angeles	CA
<u>Tomicus piniperda</u> (Linnaeus) a scolytid beetle Det. D.M. Anderson	adult	dunnage with steel	Poland	Meadville	PA

Grasshopper Status and Outlook on Field Crops in the West - 1978

Grasshoppers have increased to unusually heavy populations on field crops in localized areas of seven Western States. Infestations are particularly severe in Colorado, New Mexico, Oklahoma, Kansas, Missouri, Nebraska, and Iowa. Infestations in the surrounding States of Minnesota, North Dakota, South Dakota, Montana, Wyoming, Nevada, Arizona, Texas, and Arkansas are generally not a problem on cropland. Localized heavy infestations on roadsides and margins in North Dakota and South Dakota are not considered serious. In general, three major grasshopper species are involved: Twostriped grasshopper (Melanoplus bivittatus), differential grasshopper (Melanoplus differentialis), and migratory grasshopper (Melanoplus sanguinipes).

The Problem Area

Infestations on crops in Colorado are scattered through the eastern one-third of the State. Unusually heavy populations of 100+ per 0.8 sq m (sq yd) are found in the southeastern corner. Grasshoppers are moving from wheat, barley, and oats into alfalfa, corn, sugar beets, and other row crops.

In eastern New Mexico, very heavy populations in Eddy, De Baca, and Curry Counties damaged some alfalfa, clover, and grain sorghum. Differential grasshopper and bigheaded grasshopper (Aulocara elliotti) predominate on cropland. Heavy rains at various times combined with very hot weather resulted in three separate hatches. Diseases and parasites are very light. The small amount of treatment attempted did not achieve control because grasshoppers moved from untreated areas into treated areas.

Problems are occurring in the Oklahoma Panhandle, the northwestern area, and parts of the central area of this State. The three major species, Packard grasshopper (Melanoplus packardii), and other species are causing damage along field margins. Damage is moderate on corn, sorghum, and alfalfa in the northwestern area and minor on cotton in the southwestern area. Levels of robor flies and red mites are insufficient for control. Widespread treatment brought grasshoppers under control in irrigated areas.

In Kansas, problems with the three major grasshopper species are reported in the northwestern, west-central, south-central, and northeastern areas. Serious damage to soybeans, corn, and sorghum is confined to isolated cases and only in field margins. Damage is more extensive on alfalfa and sugar beets. The level of grasshopper diseases is low, possibly due to insufficient rainfall. Some fly parasites are present.

Infestations and damage appear severe for Missouri. Grasshoppers are moving from field margins into border rows. Current foliar loss is estimated at 10-60% on some crops. The three major species and redlegged grasshopper (Melanoplus femurrubrum) threaten an estimated 80-95% of the corn, soybean, alfalfa, red clover, and harvested hay crops and all of the tobacco crop. Grain sorghum is threatened also. Predators and parasites are negligible. Available chemical treatments have not been effective in some cases, possibly due to poor coverage, high temperatures, and many thundershowers.

Severe infestations occur in the western two-thirds of Nebraska. Populations of twostriped grasshopper and differential grasshopper in croplands are either very heavy or noneconomic in localized areas. The heavier counts of 50-100+ per sq m are found in field borders. Damage is visible in the first few border rows. Excellent rangeland growth slowed spread into crops and

concealed the young nymphs. Above normal rainfall kept vegetative growth on range and croplands ahead of grasshopper feeding for a time. Recent increases of center pivot irrigation supplied short grass borders and succulent crops for grasshopper development. Many alfalfa growers harvested one cutting instead of the usual three. Silking corn is threatened. Sugar beets, dry beans, soybeans, and this fall's winter wheat could be heavily damaged. Although moisture conditions favor development of fungi, disease is not evident as yet. Robber flies and carabid beetles are heavier than normal.

In Iowa, the redlegged, two-striped, and differential species are especially heavy in central and southern areas. Most damage to crops is fieldwide for soybeans, and in border rows for oats and alfalfa with some damage to corn. Predation and parasitism are not evident. Chemical treatment on a small acreage achieved excellent control.

Contributing Factors

The following weather conditions could have contributed to the grasshopper increase. Dry weather or short wet periods kept grasshopper diseases below effective levels. A warm summer and fall last year accelerated grasshopper maturity, which combined with a late fall provided a longer time for grasshoppers to lay more eggs. Thick snow cover last winter followed by prolonged cold prevented alternate freezes and thaws. A cold, wet spring prevented hatch until favorable conditions stabilized, provided lush vegetation, prevented tillage control from destroying egg pods and weedy food supply, and postponed planting so that crops were more susceptible when grasshoppers were present. Warm, dry weather since then resulted in a larger hatch, greater nymphal survival, accelerated nymphal development, lush vegetation for food and cover, and ineffective disease levels.

Outlook

If this summer continues warm and dry, and other conditions remain favorable, damage to succulent crops may increase as grasshoppers and crops mature. If weather remains warm late into the fall, grasshoppers should survive a little longer to feed and lay more eggs. Unfavorable conditions would reduce grasshopper populations.

As long as weather and food continue favorable where grasshoppers are heavy, damage will cause yield losses in the following crops. Yields for late-planted corn will be reduced due to plant and silk damage. Losses in small grains will result from feeding on grain heads of the present crop and on seedlings of the crop planted this fall. Hay and seed yields of alfalfa and other forage legumes will be reduced due to leaf and blossom feeding. On soybeans and other seed legume crops, feeding on blossoms and pods, and on leaves during the critical seed development period will reduce seed yields. Sugar yield in sugar beets will be reduced due to grasshopper feeding on the succulent leaves very late in the fall.

Prepared by New Pest Detection
and Survey Staff in cooperation
with State agencies

U.S. Dep. Agric.
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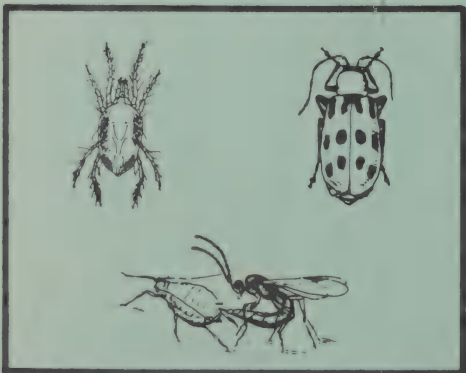
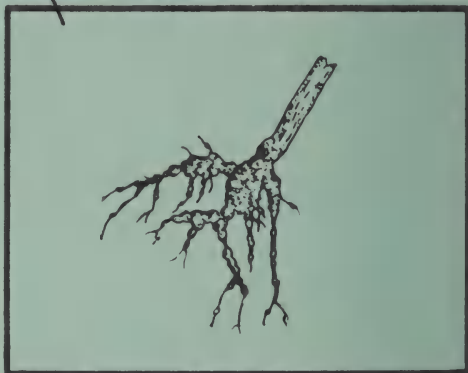


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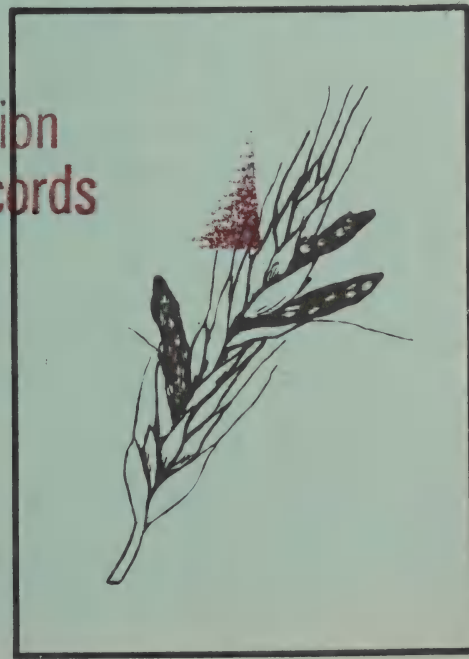
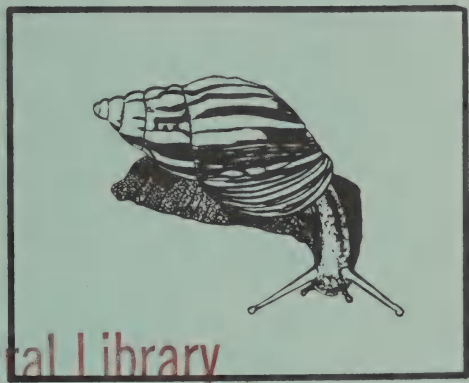
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER egg masses expected to be heavy soon in northeastern Kansas, first generation adults expected to be increasingly heavy next several weeks in southern South Dakota, egg laying to be 5-7 days earlier in southern half of Iowa, and buildup of adults on Eastern Shore of Maryland early by about a month. (p. 408-409).

GREENBUG 100 or more per sorghum plant in parts of southeastern Colorado and northeastern Kansas. (p. 411).

Detection

New State records include GRAMINICOLA ANTHRACNOSE in Iowa (p. 407), MAIZE CHLOROTIC MOTTLE VIRUS in Nebraska (p. 408), and an ANOBIID BEETLE in Wisconsin (p. 420).

DUTCH ELM DISEASE on new host for California. (p. 420).

For new county records see page 425.

Reports for this issue are for the week ending July 28 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane	Potatoes, Tomatoes, Peppers
Diseases.....407	Diseases.....418
Insects.....408	Insects.....418
Small Grains	Cole Crops
Diseases.....411	Insects.....418
Insects.....413	Cucurbits
rf, Pastures, Rangeland	Diseases.....418
insects.....413	Insects.....418
Forage Legumes	General Vegetables
Diseases.....413	Diseases.....418
Insects.....413	Insects.....419
Soybeans	Deciduous Fruits and Nuts
Diseases.....414	Diseases.....419
Insects.....416	Insects.....419
Peanuts	Citrus
Insects.....416	Insects.....419
Cotton	Ornamentals
Insects.....416	Insects.....420
Tobacco	Forest and Shade Trees
Insects.....417	Diseases.....420
Sugar Beets	Insects.....420
Insects.....417	Man and Animals
Miscellaneous Field Crops	Insects.....420
Insects.....417	Households and Structures
Beneficial Organisms and Their Enemies	Insects.....420
Insects.....421	
Federal and State Programs	
Diseases.....422	
Insects.....423	
Hawaii Pest Report.....424	
Detection.....425	
Light Trap Collections.....426	
Pest Interceptions of Quarantine Significance at Ports of Entry.....428	

CORN, SORGHUM, SUGARCANE

DISEASES

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - IOWA - New State record. Muscatine County--taken on corn (1 field) at Muscatine. New county record for Clinton County--taken on corn (1 field) at Preston. Both collected July 14, 1978, by D.J. Williams. Determined by D.J. Williams and confirmed by L. Tiffany. Distinctly visible on lower leaves of corn [midwhorl to tassel]. Brown, spindle-shaped lesions 0.64-1 cm by 1-3 cm (0.25-0.5 in by 0.5-1 in) long frequently surrounded by chlorotic zone. Acervuli with white spore masses randomly to linearly distributed in necrotic area. (Williams).

ILLINOIS - Champaign [silks emerged] in 1 commercial field and St. Clair [blister] in 1 monitoring plot, Counties--graminicola anthracnose prevalence trace/severity trace on corn week of July 17. (Jordan). INDIANA - Prevalence/severity on corn [tassel unless stated otherwise] by county: Jasper, Porter [blister], St. Joseph [12 leaves emerged], Marshall [blister], Fulton [blister], Cass [silks emerged], and Howard--0/0; Tippecanoe--trace/trace; White--12%/trace; La Porte--3%/0 [blister]; Carroll--7%/0; and Clinton--22%/2%; averaged 4%/trace in 12 sites. (Schall).

OHIO - Graminicola anthracnose prevalence/severity by county (1 field each) week ending July 21: Champaign--75%/1-5% on lower leaves [14 leaves emerged] and Preble--30%/1-5% on lower leaves [14 leaves emerged]. Infected fields in low-lying muck soils where water stood during heavy rains latter part of June. (Hite).

COMMON MAIZE RUST (Puccinia sorghi) - KANSAS - Prevalence on corn by county: Kiowa--trace and Republic--40%. (Sim). IOWA - Story, Marshall, Hardin, Franklin, Grundy, and Buchanan Counties--Prevalence trace/severity trace on corn [tassel to silk] July 15-28. (Williams). ILLINOIS - Macon, Champaign, Williamson, and Jackson [all counties, silks emerged], Madison, Coles, Perry, and Fayette [all counties, 12 leaves emerged] Counties (1 commercial field each)--prevalence trace/severity trace on corn week of July 17. (Jordan).

INDIANA - Common maize rust prevalence/severity on corn [tassel unless stated otherwise] by county: Tippecanoe, Jasper, Porter [blister], St. Joseph [12 leaves emerged], Marshall [blister], Fulton [blister], Cass [silks emerged], Carroll, and Howard--0/0; White--12%/trace; La Porte--3%/trace [blister]; and Clinton--13%/1%; averaged 2%/trace in 12 sites. (Schall).

HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) - IOWA - Prevalence/severity of imperfect stage on corn [tassel] by county July 15-28: Buchanan--10%/trace to 3%, Jones--5%/trace to 20%, Tama--20-30%/trace to 3%, and Winneshiek--60%/trace to 3%. (Williams). ILLINOIS - Coles County--prevalence trace/severity trace in 1 commercial field [12 leaves emerged] week of July 17. (Jordan).

SOUTHERN LEAF BLIGHT (Helminthosporium maydis) - ILLINOIS - Madison County--prevalence trace/severity trace in 1 commercial corn field [12 leaves emerged] week of July 17. (Jordan).

COMMON SMUT (Ustilago maydis) - IOWA - Franklin, Hardin, Buchanan, and Delaware Counties--prevalence trace/severity trace July 15-28. (Williams). ILLINOIS - Prevalence on corn [silks emerged unless stated otherwise] by county (1 commercial field each) week of July 17: Williamson--1%; Macon, Perry, Jackson, and Champaign--trace; Madison and Coles--1% [12 leaves emerged]; Christian--3% [12 leaves emerged]; and 1 monitoring plot each, St. Clair--1% [blister] and Jackson--trace. (Jordan).

INDIANA - Common smut prevalence/severity on cornstalks [tassel unless stated otherwise] by county: Tippecanoe, White, Jasper, La Porte, and Fulton--trace/trace; Porter [blister], Marshall [blister], Howard, and Clinton--0/0; and St. Joseph [12 leaves emerged], Cass [silks emerged], and Carroll--1%/trace; averaged trace/trace in 12 sites. (Schall).

SORGHUM DOWNY MILDEW (*Sclerospora sorghi*) - KANSAS - Pawnee County--infected 1 irrigated sorghum field. (Sim).

CORN EYESPOT (*Kabatiella zeae*) - MINNESOTA - Wadena County--prevalence 100%/severity 15-20% on lower leaves and 10% on upper leaves in single strain of oats at experimental station at Staples week ending July 21. (Stromberg).

CURVULARIA LEAF SPOTS (*Curvularia* spp.) - ILLINOIS - Washington County [10 leaves emerged] in 1 commercial field and Jackson County [12 leaves emerged] in 1 monitoring plot--prevalence trace/severity trace on corn week of July 17. (Jordan).

HOLCUS SPOT (*Pseudomonas syringae*) - MINNESOTA - Prevalence/severity on corn by county (1 field each) week ending July 21: Clay--80%/trace [12 leaves emerged] and Norman--100%/trace to 5% [silks emerged]. (Stromberg).

STEWART'S WILT (*Erwinia stewartii*) - ILLINOIS - Prevalence/severity [silks emerged unless stated otherwise] on corn by county week of July 17: Williamson (1 commercial field)--trace/trace; 1 monitoring plot, Jackson--10%/1-3% and St. Clair--trace/trace [blister]. (Jordan).

MAIZE CHLOROTIC MOTTLE VIRUS - NEBRASKA - New State record. Harlan County--collected from corn plants in 1 field near Republican City, August 5-15, 1977, by B. Doupnik, D. Wysong, L. Lane, and S. Poe. Current prevalence 5-80% in corn fields along Republican River near Republican City and in several fields farther west near Orleans. New county record for Franklin County--prevalence 5-80% in corn fields along Republican River near Naponee, Bloomington, and Franklin. Collections began July 10, 1978, by B. Doupnik, L. Lane, and S. Poe. All determined by L. Lane through serological methods. (Poe).

CORN LETHAL NECROSIS - KANSAS - Norton and Phillips Counties--prevalence of MAIZE CHLOROTIC MOTTLE VIRUS and MAIZE DWARF MOSAIC POTYVIRUSES or WHEAT STREAK MOSAIC VIRUS combination 30-80% in most corn fields between Norton and Woodruff on U.S. Highway 383. Nearby volunteer sorghum showed signs of maize dwarf mosaic potyviruses. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - KANSAS - Phillips County--prevalence 10% in 1 sorghum field. (Sim).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - KANSAS - Statewide--increased in all light traps. Brown and Doniphan Counties--eggs still scarce but expected to be heavy soon; Pawnee County--eggs (15% hatched) on 20% of corn plants in 1 field; Haskell County--eggs (none hatched) on 10% of plants in 1 field; and Kearny County--eggs trace in 1 field. (Bell, Mock). NEBRASKA - Eastern one-third area--first generation adult flight began. Eggs few due to unusually cool nights. Northeast district--first generation larval pupation still 25% or less in fields checked; about 30,000-40,000 ha (30,000-100,000 acres) treated for first generation larvae. (Witkowski et al.).

SOUTH DAKOTA - Southern area--first generation European corn borer adults active, expected to be heavy, and will increase next several weeks. Southeastern area--first generation very heavy in many corn fields. (Walgenbach). MISSOURI - Central and northern areas--egg masses 2-33 per 50 plants on marked plants; heavy in central area and light in northwestern area. (Roof). IOWA - Statewide--about 70% of egg laying anticipated during first week of August, 5-7 days earlier in southern one-half of State. (Townsend, Stockdale).

ILLINOIS - Statewide--European corn borer adults flying; emergence 20-30% and some egg laying in southern areas. (Black). MINNESOTA - Larval averages per 100 corn plants, predominant larval instar, number of infested plants per 100, and average height in cm (in) by district: West-central--41, 3rd and 4th, 23, 229 (90); east-central--30, 3rd and 4th, 17, 196 (77); southwest--33, 5th and 4th, 28, 178 (70); and south-central--16, 4th, 21, 254 (100). Potential appeared light for second generation. (Sreenivasam).

WISCONSIN - Waushara County--second European corn borer flight began at some southern blacklight trapping sites at Hancock. South-central, southwestern, west-central, and central counties--most larvae in final 2 larval instars and pupal stage. Eastern and northern counties--first flight at some sites. (Lovett). KENTUCKY - Adair County--late-instar larvae, pupa, adults, and eggs noted. No small larvae or fresh "shothole" feeding. Adults averaged about 45-50 per night in blacklight traps. Washington County--first generation pupation about 20%; no eggs noted. (Sloderbeck).

OHIO - Seneca and Huron Counties--late instar European corn borer larvae, 23 mm (0.91 in), taken from field corn [tassel]. Damage light on sorghum [heading]. (Drees, Bradfield). MARYLAND - Eastern Shore--first generation adult activity increased rapidly to levels usually observed in late August and early September. Central and lower Eastern Shore--egg masses on up to 70% of sweet corn plants in some fields. Average blacklight trap catches per night in some Eastern Shore "hotspots" by county July 20-26: Dorchester--141 at Linkwood and 20 at Hurlock; Caroline--131 at Greensboro; Queen Annes--49 at Price and 149 at Crumpton; Wicomico--120 at Delmar; and Kent--61 at Kennedyville. (Hellman, Pinto).

NEW YORK - Ulster County--first European corn borer flight ended. Central area--blacklight trap catches peaked past 14 days. (Willson). Monroe County--infested 0-43% (averaged 16%) of corn [tassel] in 3 fields. (Chomyn, Entz).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - KANSAS - Stafford County--adults expected to peak July 28-30 in St. John area. (Poston). South of Sandhills, south of Garden City, Finney County, and extending into edge of Kearny County--some first generation larvae infested 30-60% of corn; 50% infestation with 70% pupae and 30% larvae in 1 corn field; one-third of plants had 2 larvae. (Mock). Kiowa County--second generation eggs on 8% of plants in 1 corn field; few eggs hatched. (Salsbury).

SUGARCANE BORER (Diatraea saccharalis) - FLORIDA - Palm Beach County--heavier than normal on several thousand hectares (acres) of sugarcane south and east of Belle Glade, treatments required. (Summers).

FALL ARMYWORM (Spodoptera frugiperda) - WISCONSIN - Dane and Columbia Counties--larvae in damaging numbers in some late-planted sweet corn. (Lovett). ILLINOIS - Infestations in corn still noted; southern and western areas--most larvae full grown. (Black).

FLORIDA - St. Johns County--fall armyworm heavily infested sorghum, mostly, and corn cover crops in Hastings area, treatments and some replanting required. (Workman). Alachua County--males averaged 20-25 per night in pheromone traps. Young larvae and eggs heavily infested 4.0 ha (10 acres) of young, 25 to 30 cm (10 to 12 in) tall experimental field corn at Alachua in spite of 1 or 2 treatments weekly. Young larvae and eggs heavily infested about 14 ha (35 acres) of commercial sweet corn; treatment applied. (Mitchell).

SOUTH CAROLINA - Newberry County--fall armyworm larvae heavy, 1+ per whorl, damage moderate on 20 ha (50 acres) of grain sorghum. (Eason, Griffin).

NEW YORK - Ulster County--first larvae of season in sweet corn. (Straub). No adults in 7 blacklight or pheromone traps. (Willson).

ARMYWORM (Pseudaletia unipuncta) - NEBRASKA - South and Southeast districts--larvae trace in grassy margins of corn. (Peters). Holt County--larvae averaged 4 per 0.09 sq m (sq ft) in weedy areas of 2 corn fields; no damage. (Koinzan). WISCONSIN - Damaging populations mostly in grassy corn fields. Ranged 3-20 per 0.09 sq m (sq ft). Iowa, Crawford, Sheboygan, Trempealeau, St. Croix, Oconto, Shawano, Marinette, Brown, La Crosse, Racine, Marathon, and Dane Counties--larvae 0.953 cm (0.375 in) long common. Problems will continue for 14 more days. (Lovett). OHIO - Wayne County--damaged all corn plants in grassy fields. Larvae parasitized. More problems on corn expected. (Levine).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Wagoner County--damaged 100% of sweet corn ears. Texas and Cimarron Counties--generally light in field corn. (Arnold). MISSOURI - South-central area--this species and FALL ARMYWORM (Spodoptera frugiperda) moderate to heavy on late-planted corn and sorghum. Larvae, all sizes, fed in whorls on 2-19% of plants. (Munson).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - COLORADO - Phillips and Yuma Counties--egg masses 1 per 5 cornstalks. (Pilcher). NEBRASKA - Southwest and central districts--egg laying continued on corn. (Boxler). Northeast district--egg masses trace. (Koinzan). KANSAS - Kiowa County--first confirmed field infestations. Trace in corn field near Mullinville. Southwestern area--eggs and larvae up to 3 cm (1 in) long continued to be found on corn. (Mock). Cheyenne County--some hatched on corn. (Sandens, Shuman)

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Marion County--infested 25% of 32-ha (80-acre) stand of sweet corn; larvae bored into stalk underground where roots branch. Controls ineffective to date. (Collier).

CORN ROOTWORMS (Diabrotica spp.) - TEXAS - New county record. Deaf Smith County--WESTERN CORN ROOTWORM (D. virgifera) adults on field corn 5 km (3 miles) east of Hereford, July 16, 1978. Collected and determined by J. Krysan. (Jackman). OKLAHOMA - Texas and Cimarron Counties--D. virgifera adults light in most corn fields, but ranged 15-20 per plant in 1 field in Hough area, Texas County, and 5-10 per plant in few fields in Cimarron County. (Arnold).

KANSAS - Gray, Finney, Haskell, and Kearny Counties--D. virgifera averaged trace to 1 per corn plant. (Mock). NEBRASKA - Clay County--Diabrotica spp. adults, mostly males, averaged less than 1 per corn plant. (Peters).

WISCONSIN - Iowa and Buffalo Counties--Diabrotica spp. larval feeding caused lodging of corn plants. Adults well under 1 per plant in fields. (Lovett). INDIANA - Tippecanoe County--total corn rootworm catch on 10 sticky traps in untreated corn fields versus totals same period in 1977: NORTHERN CORN ROOTWORM (D. longicornis) 58 versus 3,048 and D. virgifera 141 versus 854. (Meyer).

OHIO - Wayne County--D. longicornis light, fewer than 1 per corn silk, in field corn [mature]. Seneca and Erie Counties--none in surveyed corn. (Drees). NEW YORK - Western area--first D. longicornis adult activity. (Herendeen, Kanouse). Heavy adult activity on corn in early silk may cause excessive silk loss. (Willson).

SORGHUM MIDGE (Contarinia sorghicola) - FLORIDA - Jackson County--populations increased sharply on grain sorghum [just heading up] in untreated fields at Greenwood. (Gorbet).

GREENBUG (Schizaphis graminum) - COLORADO - Southeastern corner of State--up to 200 per plant on 10-95% of sorghum plants. (Schweissing). OKLAHOMA - Texas County--ranged 0-15 per 30-cm (12-in) plant and 0-35 per 46-cm (18-in) plant in irrigated sorghum fields. Cimarron County--up to 150 per 76-cm (30-in) plant in field. (Arnold).

KANSAS - Greenbug counts on sorghum by county: Nemaha--increased (Wilde); Pottawatomie, Brown, and Doniphan--trace to 100 per plant [10 cm (4 in) tall to boot] with predators and parasites heavy on older but scarce on young sorghum. (Bell et al.). NEBRASKA - Northeast district--small colonies on sorghum. (Witkowski).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Texas County--ranged 0-10 per 30-cm (12-in) plant and 0-100 per 46-cm (18-in) plant in irrigated grain sorghum. Cimarron County--heavy in 76-cm (30-in) tall field. (Arnold). KANSAS - Statewide--light to heavy on sorghum. Northwestern area--some treating. Northeastern area--predators and parasitic wasps heavy in colonies. (Bell et al.). OHIO - Erie and Huron Counties--heavy on corn tassels and sorghum heads, honeydew heavy. (Drees, Bradfield).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Marion County--recent damage heavy in sorghum field near Peabody. (Baurenfeind). NEBRASKA - Southeastern area--egg laying continued on corn in some areas; stand losses still reported for sorghum in Saline County. (Emal). ILLINOIS - Southern area--adults fewer than 10 per corn plant on 50-90% of plants in many fields in dry areas. (Black).

GRASSHOPPERS - TENNESSEE - Gibson County--unusually heavy with damage to corn and other crops. (Locke). NORTH CAROLINA - Coastal Plains and Piedmont areas--Melanoplus differentialis damaged scattered corn fields; total defoliation of 0.2-ha (0.5-acre) spots along field margins. (Register, Pleasants).

BANKS GRASS MITE (Oligonychus pratensis) - COLORADO - Southeastern corner of State--light in corn fields, found only on lower 2-5 leaves with some yellowing. Kit Carson County--infested 75% of corn. (Schweissing, Pilcher). OKLAHOMA - Texas County--moderate to heavy in many corn fields. Cimarron County--generally light. Controls poor. (Arnold).

SMALL GRAINS

Small grain crop situation in Upper Great Plains good to excellent July 12-25. Soil moisture in most areas adequate to excessive. Overall crop development near normal with wide range in grain maturity in some areas from delayed spring seeding due to rains. Winter wheat, early oats, and barley harvest beginning in Minnesota and the Dakotas. (Roelfs, Long).

DISEASES

WHEAT LEAF RUST (Puccinia recondita f. sp. tritici) widely distributed throughout spring wheat area July 12-25. No losses expected on commonly grown varieties. Moderate to heavy on susceptible varieties in nurseries. (Roelfs, Long).

MINNESOTA - Wadena County--wheat leaf rust prevalence 100%/severity trace to 30% on flag leaves of irrigated ERA wheat [middough] week ending July 21. (Stromberg).

OAT CROWN RUST (*Puccinia coronata* var. *avenae*) heavier July 12-25 than in recent years throughout oat growing areas. Light losses could occur in northern SOUTH DAKOTA and southern NORTH DAKOTA, mainly in late-planted fields. Will increase northward but most of crop should mature without significant damage. (Roelfs, Long). MINNESOTA - Prevalence/severity on commercial oats by county (1 field each) week ending July 21: Clay--100%/trace to 2% [early dough], Clearwater--100%/trace [full berry], Norman--100%/trace [post-anthesis], and Marshall--40%/trace [early milky]. (Stromberg).

LOOSE SMUT (*Ustilago nuda*) - MINNESOTA - Prevalence on barley by district by July 14: Northwest--3.38% and west-central--2.85%. (Sreenivasam). Prevalence on commercial wheat by county week ending July 21: Kittson (1 field)--trace [one-fourth berry], Marshall (2 fields)--1% [full berry] and trace [three-fourths berry], and Norman (1 field)--trace [early dough]. (Stromberg).

OAT LOOSE SMUT (*Ustilago avenae*) - MINNESOTA - Norman County--trace on oats [post-anthesis] in 1 commercial field week ending July 21. (Stromberg).

COMMON SMUT (*Ustilago maydis*) - KANSAS - Fairly widespread. Prevalence by county: Kiowa--20%, Pawnee--10%, Cheyenne--10%, and Morton--5%. (Sim).

SPECKLED LEAF BLOTCH (*Septoria tritici*) - MINNESOTA - Prevalence/severity on commercial wheat by county (1 field each) week ending July 21: Clay--100%/10-20% on middle leaves and trace on flag leaves [middough], Clearwater--100%/20% on middle leaves and 5% on flag leaves [early milk], Marshall--100%/10% on middle leaves and trace on flag leaves [three-fourths berry], Norman--100%/trace to 10% [early dough], Polk--100%/20% on middle leaves and trace on flag leaves [one-half berry], Red Lake--100% 20-30% [middough], Roseau--100%/10-15% [three-fourths berry], and Wadena--100%/25% on middle leaves and 5% on flag leaves [middough]. (Stromberg).

ERGOT (*Claviceps purpurea*) - MINNESOTA - Norman County--prevalence trace in 1 commercial wheat field [early dough] week ending July 21. (Stromberg).

SCAB (*Fusarium* spp.) severe in some nurseries and few commercial wheat fields in eastern NORTH DAKOTA and MINNESOTA July 12-25. (Roelfs, Long). MINNESOTA - Prevalence on commercial wheat by county (1 field each) week ending July 21: Norman--trace [early dough] and Wadena--2% [middough]. (Stromberg).

SYRINGAE BACTERIAL BLIGHT (*Pseudomonas syringae*) severe on leaves in southern MINNESOTA July 12-25 but due to advanced wheat growth, losses should be light. (Roelfs, Long). Prevalence/severity on commercial wheat by county (1 field each) week ending July 21: Clay--100%/40-60% on middle leaves and trace to 5% on flag leaves [middough], Clearwater--100%/20% on middle leaves and trace on flag leaves [early milky], Kittson--100%/10% [one-fourth berry], Marshall--100%/40% on middle leaves and trace to 3% on flag leaves [full berry], Norman--100%/25% on middle leaves and 5-10% on flag leaves [early dough], Polk--100%/20% on middle leaves and trace to 3% on flag leaves [one-half berry], and Red Lake--100%/50% on middle leaves and 20% on flag leaves [middough]. (Stromberg).

WHEAT STREAK MOSAIC VIRUS - KANSAS - Haskell and Finney Counties--tentatively identified from corn fields. (Sim).

INSECTS

ARMYWORM (Pseudaletia unipuncta) - MINNESOTA - All districts--larvae averaged below economic levels except in following counties: Polk and Mahnomen--larvae 6 per 0.09 sq m (sq ft) in few small grain fields, treated; Chippewa, Grant, Ottertail, and Swift--up to 12 per 0.09 sq m of lodged grain in scattered fields, about 300 ha (800 acres) treated; and Sibley--up to 50 per 0.09 sq m in 2 fields in Gibbon area, treated. Most larvae 3-3.8 cm (1-1.5 in) long and near pupation. (Sreenivasam).

WISCONSIN - West-central, north-central, east-central, and northeastern counties--damaging armyworm populations in lodged oats. Newly hatched to full grown larvae indicate adults will lay eggs for extended period. Buffalo, Lincoln, Oneida, Marathon, Taylor, Shawano, and St. Croix Counties--treatments applied. (Lovett).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEW YORK - Monroe County--larvae continued to infest wheat. Damage less than 5%. Spotty 40-50% infestations in 1 field. (Chomyn, Entz).

HESSIAN FLY (Mayetiola destructor) - SOUTH DAKOTA - West River area--infestations increased in State this year and limited survey showed some potential for infestation in this area on winter wheat. Harding County--infested fields found near Murdo, Kadoka, Martin, and Rapid City and in northwestern area. (Walgenbach). NORTH DAKOTA - Hebron area north to Golden Valley, Mercer County, south as far as Mott, Hettinger County, west up to State Highway 8, and east up to Almont, Morton County--heavy on Hard Red Spring wheat research plots, lodging 8-10%. (McBride).

TURF, PASTURES, RANGELAND

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Jackson County--became problem in many grass pastures (mostly Coastal Bermudagrass) during mid-July. Destroyed untreated pastures. (Arnold).

FALSE CHINCH BUG (Nysius raphanus) - UTAH - Salt Lake, Utah, Box Elder, Carbon, and Cache Counties--mostly this species still very heavy, heaviest of several years. (Rose et al.).

FORAGE LEGUMES

DISEASES

SUMMER BLACK STEM (Cercospora zebrina) - KANSAS - Appeared most widespread alfalfa disease. Prevalence on alfalfa [height in cm (in)] by county: Mitchell--80% [66 cm (26 in)], Phillips--10% [15 cm (6 in)], and Kiowa--trace [25 cm (10 in)]. (Sim).

ALFALFA RUST (Uromyces striatus var. medicaginis) - KANSAS - First of season. Mitchell County--prevalence about 40%/severity light on second growth of 1 alfalfa field. (Sim).

INSECTS

WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praefica) - NEVADA - Humboldt County--larvae, one-fourth grown, caused light to moderate damage to 20 ha (50 acres) of 200+ ha (500+ acres) of seed alfalfa at Jungo. (Stitt).

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - INDIANA - Knox County--larvae, about 1 cm (0.4 in) long, up to 7 per 10 sweeps of alfalfa [12 cm (4.7 in) tall] in 1 field. Unusually heavy. (Meyer).

ALFALFA CATERPILLAR (Colias eurytheme) - COLORADO - Crowley County--0-100 per 100 sweeps in alfalfa. (Schweissing).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Ranges (and averages) per sweep of seed alfalfa by county: Churchill--up to 300 (100) on 80.9 ha (200 acres) in Dixie Valley (Munk); Lander--1-110 (22) on 32 ha (80 acres) and 6-17 (11) in other fields at Reverse Rivers; Humboldt--this species and PEA APHID (Acyrtosiphon pisum), 50% each, 0-40 (20) on 200+ ha (500+ acres) at Junco. (Stitt).

POTATO LEAFHOPPER (Empoasca fabae) - OHIO - Statewide--heavy in some uncut fields. Erie County--adults 16.5 per sweep in 38-cm (15-in) tall alfalfa field. Delaware County--averaged 2.1 in 38-cm (15-in) tall alfalfa. (Drees). INDIANA - Probably statewide--approached or exceeded economic levels on regrowth alfalfa. (Meyer). WISCONSIN - Marathon, Trempealeau, and Buffalo Counties--ranged 0-1 per sweep in forage. Sauk and Grant Counties--ranged 3 per sweep. (Lovett).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - WISCONSIN - Buffalo to Trempealeau Counties--nymphs 7 per sweep; Iowa, Grant, and Sauk Counties--much lighter. (Lovett).

SAY STINK BUG (Chlorochroa sayi) - NEVADA - Humboldt County--adults averaged 1-2 per sweep on seed alfalfa at Orovada. (Bechtel).

LYGUS BUGS (Lygus spp.) - NEVADA - Churchill County--adults averaged 20 per sweep in untreated seed alfalfa at Dixie Valley. (Munke). COLORADO - Crowley County--0-500 per 100 sweeps of alfalfa. (Schweissing). ARIZONA - Nymphs and adults per 100 sweeps of alfalfa by county: Maricopa--50 and 250; Pinal--20 and 20, and Yuma--300 and 700. (Prooks et al.).

GRASSHOPPERS - OHIO - Delaware County--nymphs 8.9 per sweep of 38-cm (15-in) tall alfalfa. Heaviest sweep count on alfalfa of past 2 seasons. (Drees).

SOYBEANS

DISEASES

SOYBEAN BROWN SPOT (Septoria glycines) - ILLINOIS - Prevalence/severity on soybeans [beginning bloom unless stated otherwise] by county (1 commercial field each) week of July 17: St. Clair--99%/1-3%, Fayette--99%/1-3%, Williamson--99%/3-6%, Macon--99%/1-3% [full bloom], Madison--99%/1-3%, Coles--99%/3-6%, Perry--99%/1-3% [pods 0.5 cm], Christian--99%/1-3%, Washington--99%/6-12% [7 nodes formed], and Champaign (1 monitoring plot)--99%/6-12% [full bloom]. (Jordan).

INDIANA - Soybean brown spot prevalence/severity on soybeans [flower below uppermost node unless stated otherwise] by county: Tippecanoe--70%/5%, White--trace/trace, Jasper--10%/2% [1 flower any node], Porter--2%/1% [pod 0.5 cm], La Porte--0/0, St. Joseph--18%/3%, Marshall--0/0, Fulton--15%/1% [1 flower any node], Cass--50%/5% [pod 0.5 cm], Carroll--3%/trace, Howard--23%/2%, and Clinton--26%/1% [pod 0.5 cm]; averaged 18%/2% in 12 sites. (Schall).

OHIO - Soybean brown spot prevalence/severity on soybeans by county (1 field each) July 21: Brown--99%/25% on first trifoliolate [1 flower any node], Butler-- [3 nodes], Clinton--99%/50% on lower unifoliolate [3 nodes], Darke--99%/50% on first trifoliolate [flower below uppermost node], Logan--99%/20% on first trifoliolate [1 flower any node], and Mercer--50%/trace on unifoliolates [3 nodes]. (Hite).

PHYLLOSTICTA LEAF SPOT (*Phyllosticta sojaecola*) - IOWA - Prevalence/severity on soybeans [fourth trifoliolate to flower] by county July 15-28: Grundy--80%/5-40%, Buchanan--30%/3-10%, and Benton--5%/trace to 3%. (Williams). ILLINOIS - Prevalence severity on soybeans [beginning bloom unless stated otherwise] by county (1 commercial field each) week of July 17: Macon--trace/trace [full bloom], Madison--trace/1%, Christian--trace/trace to 1%, Washington--trace/1% [7 nodes formed], Fayette--trace/trace, Williamson--trace/trace to 1%, and Champaign (1 monitoring plot)--trace/trace. (Jordan).

INDIANA - *Phyllosticta* leaf spot prevalence/severity on soybeans [flower below uppermost node unless stated otherwise] by county: Porter [pod 0.5 cm], La Porte, St. Joseph, Fulton [1 flower any node], Cass [pod 0.5 cm], Howard, and Clinton--0/0; Tippecanoe--trace/trace; White--10%/3%; Jasper--1%/2% [1 flower any node]; Marshall--25%/trace; and Carroll--17%/trace; averaged 4%/trace in 12 sites. (Schall).

SOYBEAN DOWNY MILDEW (*Peronospora manshurica*) - ILLINOIS - Prevalence/severity on soybeans by county (1 commercial field each) week of July 17: Perry--99%/6-12% [pod 0.5 cm]; Champaign and Williamson--trace/trace [beginning bloom]. (Jordan).

INDIANA - Soybean downy mildew prevalence/severity on soybeans [flower below uppermost node unless stated otherwise] by county: Tippecanoe, White, Jasper [1 flower any node], Porter [pod 0.5 cm], La Porte, St. Joseph, Cass [pod 0.5 cm], Carroll, and Howard--0/0; Marshall and Clinton--trace/trace; and Fulton--30%/1% [1 flower any node]; averaged 3%/trace in 12 sites. (Schall).

PHYTOPHTHORA ROOT AND STEM ROT (*Phytophthora megasperma* var. *sojae*) - MISSOURI - Boone and Chariton Counties--prevalence 10-20% in 1 commercial soybean [first flower to flowering] field, cultivar Amsoy 71 in Boone County. (Foudin).

RHIZOCTONIA ROOT AND STEM ROT (*Rhizoctonia solani*) - IOWA - Prevalence on soybeans [fourth trifoliolate to flower] by county July 15-28: Franklin and Hardin--3-5%. (Williams).

CHARCOAL ROT (*Macrophomina phaseolina*) - KANSAS - Wilson County--prevalence 40% on soybeans. (Sim).

SOYBEAN BACTERIAL BLIGHT (*Pseudomonas glycinea*) - ILLINOIS - Prevalence/severity on soybeans by county week of July 17: One commercial field each, Macon--50%/1% [full bloom] and Coles--99%/2-5% [beginning bloom]; Champaign (1 monitoring plot)--30%/trace [beginning bloom]. (Jordan).

INDIANA - Soybean bacterial blight prevalence/severity on soybeans [flower below uppermost node unless stated otherwise] by county: Tippecanoe--1%/2%, White--99%/8%, Jasper--35%/1% [1 flower any node], Porter--95%/1% [pod 0.5 cm], La Porte--1%/trace, St. Joseph--16%/trace, Marshall--3%/trace, Fulton--8%/trace [1 flower any node], Cass--35%/1% [pod 0.5 cm], Carroll--5%/trace, Howard--63%/1%, and Clinton--30%/1%; averaged 33%/1% in 12 sites. (Schall).

OHIO - Soybean bacterial blight prevalence/severity by county (1 field each) week ending July 21: Champaign--99%/0-9% [1 flower any node], Darke--40%/5% [flower below uppermost node], Logan--50%/10% [1 flower any node], and Preble--1%/trace [3 nodes]. (Ellett, Schmitthenner).

BACTERIAL PUSTULE (Xanthomonas phaseoli var. sojense) - ILLINOIS - Prevalence/severity on soybeans [beginning bloom] by county (1 commercial field each) week of July 17: St. Clair--trace/trace and Coles--99%/2-5%. (Jordan). IOWA - Prevalence/severity on soybeans [fourth trifoliolate to flowering] by county July 15-23: Hardin and Franklin--40%/trace to 3%, Grundy--40%/trace, and Linn and Benton--99%/trace. (Williams).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Number of newly infested soybean fields found in fields surveyed by county week ending July 21: Bedford--2 of 25, Cannon--2 of 27, Cheatham--2 of 25, Davidson--0 of 1, Dickenson--0 of 4, Robertson--4 of 57, and Rutherford--1 of 12. (White).

SOYBEAN MOSAIC POTYVIRUS - ILLINOIS - One commercial soybean field each, Madison and Coles [beginning bloom] and Perry [pod 0.5 cm], and 1 monitoring plot, Champaign [full bloom] Counties--symptoms on few scattered soybean plants week of July 17. (Jordan).

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - More soybean fields infested, and heavier populations for July than past 2 years. Fields with heaviest infestations 15% defoliated. (Hellman, Pinto).

CORN EARWORM (Heliothis zea) - MISSISSIPPI - Delta counties--larvae and damage light on soybeans [early pod set]. (Lambert).

GRASSHOPPERS - ILLINOIS - Saline County--damage severe to first 14 rows of soybeans in field adjacent to roadside grass area. (Black).

PEANUTS

INSECTS

CORN EARWORM (Heliothis zea) - FLORIDA - Jackson County--increased slightly on peanuts at Greenwood but still well below threshold levels. (Tappan).

COTTON

INSECTS

BOLL WEEVIL (Anthonomus grandis grandis) - MISSISSIPPI - Statewide--damage continued light on cotton in Tippah, Tate, Yalobusha, Webster, Holmes, Itawamba, Pontotoc, Montgomery, Monroe, Alcorn, and Sharkey Counties--punctured squares 0-14%. (Anderson). TENNESSEE--damaged 1-3% of squares in 1 cotton field. (Locke).

BOLLWORMS (Heliothis spp.) - ARIZONA - BOLLWORM (H. zea) eggs and larvae per 100 cotton plants by county: Maricopa--2-6 and 3-25, Pinal--16-17 and 0-1 per 100 terminals, and Yuma--80 and 15, Graham--very light. (Pilling et al.). OKLAHOMA - Tillman, Jefferson, and Bryan Counties--H. zea egg averages per 100 cotton terminals: 1 in 2 fields, 8 in 2 fields, and 8 in 4 fields, respectively. (Arnold).

MISSISSIPPI - Many areas--Heliothis spp. egg laying increased. Percent larval infestation and acreage by county: Alcorn--6%, 101 ha (250 acres); Monroe--3%, 1,619 ha (4,000 acres); Quitman--4%, 1,214 ha (3,000 acres); Pontotoc--6%, 16 ha (40 acres); Itawamba--2%, 202 ha (500 acres); Holmes--1-15%, 1,214 ha; Webster--6%, 24 ha (60 acres); Yalobusha--1%, 1,921 ha (4,500 acres); Tate--2%, 405.6 ha (1,200 acres); Tippah--3-5%, 404.7 ha (1,000 acres); and Sharkey--10%, 80.9 ha (200 acres). (Anderson). SOUTH CAROLINA - H. zea and TOBACCO BUDWORM (H. virescens) eggs on cotton increased from 30 to 100+ per 100 plants. (Douglass).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Oktibbeha County--egg masses began to appear on cotton. (Hogg).

TOBACCO

INSECTS

NOCTUID MOTHS (Heliothis spp.) - TENNESSEE - Trousdale, Smith, Sumner, Wilson, and Macon Counties--larvae 0-167 per 0.4 ha (acre), all above control levels in 5 of 28 tobacco fields surveyed. (Gregory). NORTH CAROLINA - H. virescens counts decreased on Burley tobacco, reduced by parasitism and pupating larvae. (Southern).

SPHINGID MOTHS (Manduca spp.) - NORTH CAROLINA - Central and northern Coastal Plain areas--TOBACCO HORNWORM (M. sexta) still a problem in some flue-cured tobacco fields, expected to remain stable next few days. Parasitism heavy. (Southern). TENNESSEE - Manduca sp. larvae 0-2,167 per 0.4 ha (acre) at or above control levels in 21 of 28 tobacco fields surveyed. (White). KENTUCKY - Adair County--M. quinquemaculata larvae on 15% of tobacco plants in 1 field; all stages present, several parasitized. (Sloderbeck).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - NORTH CAROLINA - Coastal Plain area--buildup on flue-cured tobacco reached threshold in few fields. (Southern).

GREEN PEACH APHID (Myzus persicae) - NORTH CAROLINA - Decreased but still problem in late-planted, flue-cured tobacco fields. (Southern).

SUGAR BEETS

INSECTS

BEET WEBWORM (Loxostege sticticalis) - COLORADO - Prowers County--10-20 per 100 sweeps of sugar beets. (Schweissing).

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - Prowers County--100-1,000 per 100 sweeps of sugar beets. (Schweissing).

MISCELLANEOUS FIELD CROPS

INSECTS

BANDED SUNFLOWER MOTH (Phalonia hospes) - MINNESOTA - Marshall and Polk Counties--first of season. Larvae 0.64-1 cm (0.25-0.5 in) long and began to feed on outer edges of sunflower blossoms. Damage not economic. (Sreenivasam).

A CECIDOMYIID MIDGE (Contarinia schulzi) - MINNESOTA - Southwestern Marshall and northwestern Polk Counties--damage in some sunflower fields up to 75% in first 20 rows, decreased to 10% beyond the fiftieth row. (Sreenivasam).

POTATOES, TOMATOES, PEPPERS

DISEASES

BET CURLY TOP VIRUS - NEW MEXICO - Dona Ana County--light in tomato fields at Vado and Canutillo. (Stefano).

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NEW YORK - Capital District--larvae and adults on eggplants, tomatoes, and potatoes. (Cuniglio).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Washington, Clackamas, and Marion Counties--economic on 93.1 of 513.0 ha (230 of 1,280 acres) of potatoes; ranged 1-2 to 11-12 per 0.3 row m (row ft). (Collier).

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Sussex County--first egg masses of season on peppers, averaged 2 per 10 plants. (Burbutis, Kelsey).

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Fresno County--200 per trap per week in commercial tomato fields at Parler. (Dunnegan).

BET LEAFHOPPER (Circulifer tenellus) - COLORADO - Pueblo and Otero Counties--20-50 per 100 sweeps of tomatoes. (Schweissing).

COLE CROPS

INSECTS

CABBAGE LOOPER (Trichoplusia ni) - NEW YORK - Central area--larvae appeared in cabbage fields. Monroe County--adults in 5 of 8 fields. Adults started to appear in pheromone traps. (Willson).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Ontario, Wayne, Yates, Orleans, and Monroe Counties--eggs 52 and larvae 19 per 100 vegetable plants. (Hansen).

CABBAGE MAGGOT (Hyalemya brassicae) - NEW YORK - Ontario, Wayne, Yates, Orleans, and Monroe Counties--average catches decreased, as much as 29.9 in Orleans County. Eggs laid and feeding on roots underway. Third flight expected in mid to late August. (Hansen).

CUCURBITS

DISEASES

CUBENSIS DOWNY MILDEW (Pseudoperonospora cubensis) - MARYLAND - Lower shore area--first economic occurrence on commercial cantaloupes. (Hellman, Pinto).

INSECTS

SQUASH VINE BORER (Melittia satyriniformis) - TEXAS - New county record. Bexar County--6 adults collected on squash at residence at San Antonio, July 12, 1977, by N.M. Moritze. Determined by R.L. Hodgdon. (Jackman).

GENERAL VEGETABLES

DISEASES

BLOSSOM BLIGHT (Choanephora cucurbitarum) - TENNESSEE - Davidson County--found on okra, usually restricted to cucurbits. (White).

INSECTS

DIAMONDBACK MOTH (Plutella xylostella) - NEW YORK - Ontario, Wayne, Yates, Orleans, and Monroe Counties--larvae light, 10 per 100 vegetable plants. (Hansen).

VEGETABLE LEAFMINER (Liriomyza sativae) - OHIO - First of season. Huron County--young larvae formed serpentine mines; affected 1 in 30 celery plants. (Simonet).

POTATO APHID (Macrosiphum euphorbiae) - OHIO - Huron County--heavy on young celery plants in several large commercial plantings; conventional controls ineffective. (Postema et al.).

ONION THRIPS (Thrips tabaci) - COLORADO - Crowley County--0-12 per onion plant. (Schweissing).

DECIDUOUS FRUITS AND NUTS

DISEASES

PEACH SCAB (Cladosporium carpophilum) - KANSAS - Sedgwick County--severe in some peach orchards, made some fruits unmarketable. (Sim).

STONE FRUIT BACTERIAL SPOT (Xanthomonas pruni) - KANSAS - Sedgwick County--severe in some peach orchards, leaf loss 20-30%. (Sim).

INSECTS

PEACH TWIG BORER (Anarsia lineatella) - CALIFORNIA - Fresno County--larvae, 2nd instar, infested about 25% of 2 ha (5 acres) of peaches at Clovis. (Dunnegan).

PEACHTREE BORER (Synanthedon exitiosa) - OHIO - Statewide--this species and LESSER PEACHTREE BORER (S. pictipes) caused great concern to peach growers. Ottawa County--damaged to 40-100% of trees and orchards. (Drees, Bradfield).

CODLING MOTH (Laspeyresia pomonella) - CALIFORNIA - Fresno County--larvae, 2nd and 3rd instars, in commercial plums, also fed on almond nuts in commercial plantings at Sanger. (Dunnegan).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Adult trap counts on fruit for week by county: Western Hennepin County--21 and Winnebago--7. (Sreenivasam).

PEAR PSYLLA (Psylla pyricola) - UTAH - Utah and Davis Counties--severe in pear orchards. (Horne, Bond).

PLUM RUST MITE (Aculus fockeui) - OREGON - Western Washington County--5-7 per 6 sq cm (sq in) of leaf undersurface, leaf curling extensive on Parson, Brooks, Milton Early, and Italian prunes. (Collins).

CITRUS

INSECTS

CITRUS SNOW SCALE (Unaspis citri) - FLORIDA - Lower ridge and east coast citrus districts--heavy enough on citrus to require treatments in numerous groves where parasite releases lacking or insufficient to provide natural control. (Brooks).

ORNAMENTALS

INSECTS

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - FLORIDA - New county and host records for State. Levy County--adults infested stems of few native Rosmarinus officinalis (rosemary) plants near Bronson, June 31, 1978. Collected by F.J. McHenry. Determined by A.B. Hamon. (Mead).

FOREST AND SHADE TREES

DISEASES

DUTCH ELM DISEASE (Ceratocystis ulmi) - CALIFORNIA - New host record for State. Santa Clara County--naturally infected Ulmus parvifolia (Chinese elm) found at Palo Alto, June 30, 1978, by Ross and Mak (initials not given). Determined by C. Krass. (Hasbrouck).

INSECTS

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEVADA - New county record. Esmeralda County--collected from pheromone trap at Fish Lake Valley, July 13, 1978, by R.B. Dufour. Determined by R.C. Bechtel. (Bechtel).

NORTH DAKOTA - New county records. Dickey County--smaller European elm bark beetle adults collected from multilure pheromone sticky board trap on black walnut tree at Oakes by G. Elhard and C.G. Scholl, July 26, 1978. Determined by R.B. Carlson. McLean County--single adult collected from American elm near Washburn on July 26. Collected and determined by W.J. Brandvik. (Carlson et al.).

A CECIDOMYIID MIDGE (Dasineura gleditschiae) - CALIFORNIA - New county record. Sonoma County--larvae found on 10 Gleditsia spp. (Sunburst locust) at Santa Rosa, July 14, 1978, by J.D. Westoby. Determined by K.S. Corwin. (Westoby).

MAN AND ANIMALS

INSECTS

MOSQUITOES - OHIO - New county records. Morrow County--95 Aedes sollicitans and 25 A. dorsalis adults taken in bite collections at Mt. Gilead and Cardington, July 7-8, 1978, by D. Randall. Determined by R. Restifo and E. Peterson. (Berry).

HORN FLY (Haematobia irritans) - NEBRASKA - Dawson and Lincoln Counties--averaged 300+ per head on untreated cattle in river pastures. (Boxler).

HOUSEHOLDS AND STRUCTURES

INSECTS

AN ANOBIID BEETLE (Hemicoelus carinatus) - WISCONSIN - New State record. Walworth County--adults emerged from old pine subflooring near East Troy, June 27, 1978. Collected by J. Palzkill. Determined by R.E. White. (Lovett).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (Tetrastichus julis) - Recoveries of 20+% parasitism of Oulema melanopus (cereal leaf beetle) larvae from oats (each parasitism rate for 1 field unless otherwise stated) by State and county May 31 to July 7. INDIANA - Clark--38% in Washington Township; Fayette--38% in Harrison Township; Floyd--64% in Franklin Township; Harrison--22% in Webster Township; La Grange--27% and 60% in Van Buren Township; LaPorte--59% in Galena Township, 52% and 52% in Pleasant Township, and 25% in Noble Township; Marshall--73% and 80% in German Township; Monroe--30% in Van Buren Township and 40% in Richmond Township; Porter--36% in Porter Township and 100% in Washington Township; St. Joseph--73% in Harris Township and 64% in Penn Township; Huntington--100% in 4 fields and 67% in 1 field in Jackson Township, 60%, 100%, and 67% in Clearcreek Township; and Whitley--67%, 80%, and 100% in Jefferson Township. (T.L. Burger).

OHIO - Belmont County--T. julis 30% in Goshen Township; Champaign--75% in Wayne Township; Columbiana--43% in Butler Township; Crawford--98% in Vernon Township, 100% in Liberty Township, 94% in Whetston Township, Knox--91% in Wayne Township, 89% in Pike Township, and 100% in Miller Township; Mahoning--92% in Jackson Township; Monroe--83% in Wayne Township; Stark--32%, 61%, and 62% in Nimishillen Township. New county record for Clermont--parasitism of cereal leaf beetle 9% in oat field in Jackson Township. Collected by R. Sutton, May 15, 1978. Determined by V.E. Montgomery. (T.L. Burger).

MICHIGAN - Newaygo--T. julis 100% and 100% in Norwich Township, 100% and 80% in Goodwell Township, 100% and 40% in Wilcox Township, 100% and 100% in Martin Township, and 38% in Home Township. (T.L. Burger). VIRGINIA - Madison--67% in Rabidan Magisterial District and Warren--47% in North River Magisterial District. (T.L. Burger). WEST VIRGINIA - Morgan--33% in Bath Magisterial District. (T.L. Burger).

NEW JERSEY - Hunterdon--T. julis 63% in Clinton Township, 70% and 90% in Tewksbury Township, 69% and 54% in Rariton Township, and 36% in East Amwell Township; Mercer--64% and 24% in Hopewell Township; Burlington--67% in North Hanover Township; and Warren--51% in Hope Township, 73% in Lopatcong Township, 67% in Pohatcong Township, 67% in White Township, 88% in Independence Township, 100% in 6 fields and 33% in 2 fields in Franklin Township, 100%, 100%, and 67% in Harmony Township. (T.L. Burger).

PENNSYLVANIA - Bedford--T. julis 91% in Monroe Township and 100% in South Woodbury Township; Berks--100% in Greenwich Township; Blair--71% in Tyrone Township, 54% in Catharine Township, and 97% in Huston Township; Cambria--96% in Croyle Township; Clarion--95% in Knox Township and 92% in Washington Township; Clearfield--88% in Bloom Township; Columbia--89% in Locust Township; Erie--90% in Elk Creek Township and 100% in Washington Township; Fayette--96% in Franklin Township; Franklin--100% in Greene Township; Indiana--90% in Black Lick Township; Jefferson--100% in Eldred Township, 100% in Warsaw Township, and 93% in Union Township; Mercer--67% in French Creek Township and 100% in Mill Creek Township; Northampton--75% in East Allen Township and 100% in Moore Township; Somerset--100% in Stonycreek Township; Washington--72% in South Strabane Township; and Blair--100% in 4 fields, 50% in 2 fields, and 67% in 1 field in North Woodbury Township, and 50%, 100%, and 100% in Taylor Township. (T.L. Burger). NEW YORK - Westmoreland--67% in South Huntingdon Township and Genesee--56% in Leroy Township. (T.L. Burger).

AN ICHNEUMONID WASP (*Lemophagus curtus*) - INDIANA - New county record. Huntington County--parasitism of *Oulema melanopus* (cereal leaf beetle) larvae 17% in 1 oat field in Clearcreek Township, June 13, 1978. Collected by H. Bollinger. Determined by V.E. Montgomery. (T.L. Burger).

FEDERAL AND STATE PROGRAMS

DISEASES

BARLEY TRITICI STEM RUST (*Puccinia graminis* f.sp. *tritici*) trace on barley throughout western MINNESOTA and eastern SOUTH DAKOTA and NORTH DAKOTA, July 12-25. Trace to 5% on susceptible commercial varieties in nurseries at Rosemount, Minnesota. Trace on wild barley in North Dakota and southern Minnesota; severities moderate in eastern South Dakota. (Roelfs, Long).

OAT STEM RUST (*Puccinia graminis* f.sp. *avenae*) severities trace to 20% throughout commercial oat fields of north-central United States, July 12-25. Losses may occur in some late-planted fields in NORTH DAKOTA and northwestern MINNESOTA but will be much less than in 1977. Most commercial oat varieties susceptible and environmental conditions adequate for epidemic development. Initially infected area smaller in size, later in development, and reduced in intensity from 1977. Common on wild oats in SOUTH DAKOTA and southern Minnesota but only trace northward. Following races identified from collections received before July 25. (Roelfs, Long).

Area	No. of Collections	No. of Isolates of Oat Stem Rust Races				
		1	2	7	31	61
AK	1				1	
KS	4				6	6
LA	1				3	
NB	1				3	
OK	3				4	5
N.TX	37	4	17		48	37
S.TX	90	1		5	206	56

RYE STEM RUST (*Puccinia graminis* f.sp. *secalis*) light and scattered on rye [late dough] in MINNESOTA, July 12-25; leaves senesced. (Roelfs, Long).

WHEAT STEM RUST (*Puccinia graminis* f.sp. *tritici*) trace throughout spring wheat growing area as far north as Canadian border, July 12-25. No significant losses expected in commercial wheats due to resistant varieties. Severities 5-60% in trap plots of susceptible varieties, at MINNESOTA experiment stations. Following races identified from collections received before July 25. (Roelfs, Long).

Area	No. of Collections	No. of Isolates of Wheat Stem Races													
		11	15	17	29	56	113	151							
		RCR	TNM	TLM	TDM	HDL	HDB	HJC	MBC	RTQ	RKQ	RPQ	QCB	QFB	QSH
AZ	3		7		2										
KS	35		54		10				1	3	2			6	12
LA	6	2							5				5	1	
MN	1				3										
MO	1		2							1					
NE	5		12		3										
OK	9		9	1	4				1					2	1
N.TX	10		6		4				1					5	9
S.TX	10		5	1		3	1	2		3		5	10		

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - WISCONSIN - New county records. At Wind Lake, Racine County, and near Sharon, Rock County--collected from oats June 22, 1973, by R.S. Conrad. Determined by R.E. White. (Lovett).

GRASSHOPPERS - NEVADA - Melanoplus sanguinipes ranges (and averages) per 0.8 sq m (sq yd) by county: Lincoln--5-18 (12) on strips of rangeland about 0.40 km (0.25 mile) wide adjacent to highway and hay alfalfa south of Panaca on about 530 ha (1,300 acres); Humboldt--this species mostly and Oedaleonotus enigma enigma up to 40 (25-30) within 23 m (25 yd) of 60+ km (40+ miles) of highway, side roads, and fences from Paradise Hill to 24 km (15 miles) north of Orovada, some movement to alfalfa in localized area. (Kail et al.).

OKLAHOMA - Grasshopper status by county: Cimarron and Texas--light to heavy in corn and sorghum margins and very heavy on fruits and leaves of apricots in gardens; Kay--light in grasses; Nowata--light in crops, pastures, and gardens; Tulsa--light to moderate in fencerows and soybean margins; Wagoner--2 per 0.8 sq m (sq yd) in pastures, Melanoplus differentialis 4 per 0.8 sq m in watermelons; Garvin--light to moderate in crops and gardens; Bryan--heavy in gardens, light on roadsides, and mostly M. differentialis 3-8 per 0.8 sq m in small plots of sorghum, corn, and cotton; Atoka, Latimer, Le Flore, and Pittsburg--heavy in gardens and light on roadsides; and Haskell and Atoka--heavy on fruit of peaches. (Arnold).

KANSAS - Butler, Cowley, Chase, Riley, Wabaunsee, and Stevens Counties--first reports of second generation Melanoplus sanguinipes. Only small nymphs found, hatching expected for some time. Status by host and county. On native grasses: Eastern area--confirmed economic infestations on native rangeland in Wabaunsee County south of Maple Hill of mostly M. bivittatus, Ageneotettix deorum, and Memiria sp., economic in brome pasture with mostly A. deorum and M. sanguinipes adults, concentration of M. sanguinipes unusual in eastern area; Kiowa--8-20 per 0.8 sq m (sq yd) of rangeland in 1 area, mostly M. foedus, Trachyrhachys kiowa, and Opeia obscura. On corn: Northeastern area--moved into field borders from weedy margins, pastures, and bordering legumes, most damage light, stripped leaves from 32 rows and damaged ears in 1 field in Wabaunsee County between Dover and Willard by July 27, mostly M. differentialis; Brown, Doniphan, and Atchinson--border damage light in scattered fields; Sherman--foliar and ear damage on 45 rows in 1 field near Colby. On sorghum: Pottawatomie--some serious damage on plants [10 cm (4 in) tall] in 1 case near Onaga, treated, foliar damage moderate in second field of forage sorghum [1 m (4 ft); Wabaunsee--M. differentialis and M. bivittatus fed on heads in 1 field. On alfalfa: Brown and Atchinson--nymphs under control in recently treated fields. On red clover: Jackson, Brown, Doniphan, and Leavenworth--mostly M. femurrubrum and M. differentialis averaged 4-40 per 0.8 sq m (sq yd). On soybeans: Pottawatomie--defoliated up to 5 rows [15 cm (6 in) tall] in 1 field near Onaga. (Bell et al.).

NEBRASKA - Statewide--most grasshopper species adults now. Northwest and southwest districts--migration increased into field crops. Northeast, east, and southeast districts--majority of grasshoppers still concentrated in road ditches; movement into border 5-10 rows of corn in Platte County. (Hagen et al.). SOUTH DAKOTA - West River area--heavy in many areas where winter wheat to be planted this fall. (Walgenbach).

NORTH DAKOTA - Grasshopper adult cropland survey began. Counts by county: Dickey (32 stops)--marginal counts 1-19 per sq m (fewer than 1 up to 16 per sq yd) and averaged 1.5 per sq m (1 per sq yd), field counts 1-4 per sq m (fewer than 1-3 per sq yd) and averaged 1 per sq m (less than 1 per sq yd); La Moure

(23 stops)--marginal counts of 1-19 per sq m (fewer than 1-16 per sq yd) and averaged 2.4 per sq m (2 per sq yd), field counts of 1 per 2.4 per sq m (fewer than 1 up to 2 per sq yd) and averaged 1 per sq m (fewer than 1 per sq yd). Melanoplus bivittatus and M. sanguinipes dominant with M. dawsoni, M. packardii, and M. femurrubrum present. (Scholl).

GYPSY MOTH (Lymantria dispar) - NORTH CAROLINA - Carteret County--total of 13 adults collected in sexure traps to date. (Planer). WEST VIRGINIA - Jefferson County--3 adults in Shannondale area. (Miller).

JAPANESE BEETLE (Popillia japonica) - OHIO - Wayne County--damaged foliage of small fruit such as raspberries and grapes. Also found on plum trees. Completely skeletonized soybean leaves. Erie County--very few swept from 76-cm (30-in) soybeans, fed on corn silk. Ottawa County--no signs noted. Central area--heavy. (Drees).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Percent infested cotton bolls by county: Maricopa--0-12%, Pinal--0.5-4.5%, Yuma--4-12%, and Graham--0-40%. (Pilling et al.).

RANGE CATERPILLAR (Hemileuca oliviae) - OKLAHOMA - Southwestern Cimarron County--larvae, mostly 6th instar, heavy with counts of 5-50 per 0.8 sq m (sq yd) common and counts of 30-45 per 0.8 sq m in some areas. (Arnold).

SCREWORM (Cochliomyia hominivorax) - Total of 197 cases reported from continental United States July 9-15 as follows: Texas 36, New Mexico 47, Arizona 114. (Meadows). Total of 326 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 466 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 109,126,100 as follows: Texas 66,069,900, New Mexico 15,599,150, Arizona 25,457,050. (Meadows). Total of 168,282,500 sterile flies released within Barrier of Mexico. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - VEGETABLE LEAFMINER (Lirioniza sativae) heavy on 2.0 ha (5 acres) of older watermelon near harvest at Kahuku, Oahu; heavily mined about 50-75% of leaves on 0.4 ha (acre) and 90+% on another 1.6 ha (4 acres). (Nagamine, L. Nakahara).

Fruits and Nuts - BROAD MITE (Polyphagotarsonemus latus) infestations and damage heavy on 2.4 ha (6 acres) of passionfruit at Punaluu, Oahu; stunted and malformed 75+% of terminals. (Nagamine, L. Nakahara).

Alfalfa - BLACK CUTWORM (Agrotis ipsilon) larvae, 1-5 per 0.09 sq m (sq ft), and damage heavy on 2.0 ha (5 acres) of newly planted alfalfa at Laie, Oahu; required reseedling. (Nagamine, L. Nakahara).

Forest and Shade Trees - Infestations and damage of a PSYLLID (Leptynoptera sulfurea) heavy on 300-400 kamani trees at Kualoa, Oahu; outer edges of leaves curled under on 80-90% of terminals. (Beardsley et al.).

DETECTION

NEW STATE RECORDS

DISEASES

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - IOWA - Muscatine County. (p. 407).

MAIZE CHLOROTIC MOTTLE VIRUS - NEBRASKA - Harlan County. (p. 408).

INSECTS

AN ANOBIID BEETLE (Hemicolus carinatus) - WISCONSIN - Walworth County. (p. 420).

NEW COUNTY RECORDS

DISEASES

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - IOWA - Clinton. (p. 407).

MAIZE CHLOROTIC MOTTLE VIRUS - NEBRASKA - Franklin. (p. 408).

INSECTS

A CECIDOMYIID MIDGE (Dasineura gleditchiae) - CALIFORNIA - Sonoma. (p. 420).

CEREAL LEAF BEETLE (Oulema melanopus) - WISCONSIN - Racine and Rock. (p. 423).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - FLORIDA - Levy. (p. 420).

A EULOPHID WASP (Tetrastichus julis) - OHIO - Clermont. (p. 421).

AN ICHNEUMONID WASP (Lemophagus curtus) - INDIANA - Huntington. (p. 422).

A MOSQUITO (Aedes sollicitans) - OHIO - Morrow. (p. 420).

A MOSQUITO (Aedes dorsalis) - OHIO - Morrow. (p. 420).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEVADA - Esmeralda;
NORTH DAKOTA - Dickey and McLean (p. 420).

SQUASH VINE BORER (Melittia satyriniformis) - TEXAS - Bexar. (p. 418).

A TABANID FLY (Goniops chrysocoma) - WEST VIRGINIA - Hampshire County--1 adult male in blacklight trap near Grace, June 12, 1978. Collected and determined by C.C. Coffman. (Coffman).

A WALKINGSTICK (Megaphasma dentricrus) - OKLAHOMA - Le Flore County--adult male collected in carport July 22, 1978. Collected by J. Massey. Determined by D.C. Arnold. (Arnold).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - TEXAS - Deaf Smith. (p. 410).

Pest Interceptions of Quarantine Significance at Ports of Entry

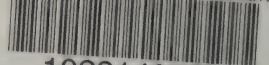
Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Monilinia fructigena</u> (Aderh. & Ruhl.) Brown Rot Det. M. Shorter	imperfect	on <u>Prunus</u> fruit from baggage	Hungary	Dulles	VA
<u>Anthonomus</u> sp. a weevil Det. D.R. Whitehead	adult	with <u>Mascagnia</u> seeds from baggage	Mexico	San Diego	CA
<u>Cryptoblabes gnidiella</u> (Milliere) a pyralid moth Det. D.M. Weisman	larval	on <u>Plumeria</u> in <u>leis</u> from cargo	Hawaii	Honolulu	CA
<u>Ips sexdentatus</u> (Boerner) a scolytid beetle Det. J.M. Kingsolver	adult	in crating with marble	Italy	Tampa	FL
<u>Lampides boeticus</u> (Linnaeus) bean butterfly Det. R. Kunishi	larval	in <u>Canavalia</u> from baggage	Hawaii	Honolulu	CA
<u>Rhynchites</u> sp. a weevil Det. D.M. Anderson	larval	in cherries from baggage	Greece	Kennedy Airport	NY
<u>Marsipococcus proteae</u> (Brain) a coccid scale Det. S. Nakahara	adult	<u>Protea</u> cuttings from cargo	South Africa	Honolulu	HI
<u>Trogoderma granarium</u> Evertts khapra beetle Det. F. Krim	larval	with bales of sheep- skins	Sudan	New York	USA

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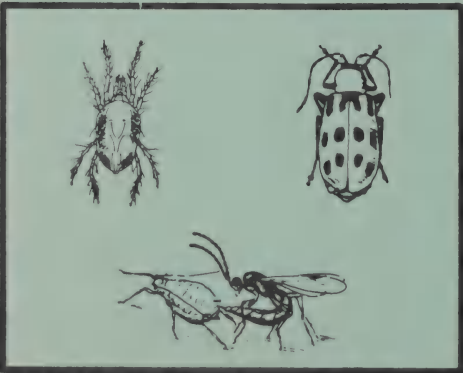
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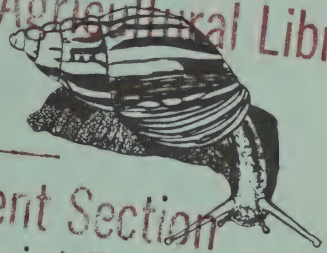
August 11, 1978

Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Infestations and larvae of first generation EUROPEAN CORN BORER on corn in Illinois much heavier than in 1977; damage expected to be heavy to late-planted corn. Second adult flight in Wisconsin heaviest in years; main egg laying expected in early August. (p. 431-432). Larvae expected to be heavy on vegetables in parts of southeastern North Carolina. (p. 437).

GREENBUG increased sharply on sorghum in parts of southwestern Kansas. (p. 433).

Severe WHEAT STREAK MOSAIC VIRUS losses in some spring wheat in southwestern North Dakota. (p. 434).

BOLLWORM above control levels on cotton in Tennessee. (p. 436).

Detection

A WEEVIL is new for Wisconsin. (p. 437).

For new county records see page 440.

Special Report

Pink Bollworm Quarantines. Map. Centerfold.

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

CONTENTS

Corn, Sorghum, Sugarcane		Tobacco	
Diseases.....	431	Insects.....	436
Insects.....	431	Potatoes, Tomatoes, Peppers	
Small Grains		Diseases.....	437
Diseases.....	433	General Vegetables	
Insects.....	434	Insects.....	437
Turf, Pastures, Rangeland		Deciduous Fruits and Nuts	
Insects.....	434	Diseases.....	437
Forage Legumes		Insects.....	437
Insects.....	434	Small Fruits	
Soybeans		Insects.....	437
Diseases.....	435	Forest and Shade Trees	
Insects.....	435	Insects.....	437
Cotton		Man and Animals	
Insects.....	436	Insects.....	438
Beneficial Organisms and Their Enemies			
Insects.....	438		
Federal and State Programs			
Diseases.....	438		
Insects.....	439		
Hawaii Pest Report.....	440		
Detection.....	440		
Corrections.....	440		
Light Trap Collections.....	441		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	443		
Pink Bollworm Quarantines. Map. Centerfold.			

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON SMUT (*Ustilago maydis*) - MISSOURI - Jefferson, Ste. Genevieve, Perry, Cape Girardeau, Scott, Mississippi, New Madrid, Pemiscot, and Stoddard Counties--prevalence 1-3% on corn ears [dent] in commercial fields. (Foudin).

MAIZE DWARF MOSAIC POTYVIRUSES - MISSOURI - Pemiscot County--prevalence 5-8%/severity light to moderate on corn [dent] in variety trial plots at Delta center. (Foudin).

MAIZE CHLOROTIC DWARF VIRUS - MISSOURI - Pemiscot County--prevalence about 6%/severity light to severe on corn [dent] in variety trial plots at Delta center. (Foudin).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - NEBRASKA - Eastern area--adults increased, few eggs laid due to abnormally cool nights. (Witkowski).

MINNESOTA - European corn borer larvae per 100 corn plants, predominant instar, and percent of infested plants per 100 [average height in cm (in)] by district: Northwest--10, 4th, and 3% [203 (80)]; west-central--34, 5th, and 21% [236 (93)]; southwest--34, 5th, and 28% [218 (86)]; south-central--27, 4th, and 28% [262 (103)]; and southeast--19, 5th, and 19% [224 (88)]. Larvae continued slow decrease. Pupae fewer than normal in corn plants; mostly empty tunnels indicate larvae moved out, possibly to pupate, but will most likely die. Expected slight increase noted in light traps. (Sreenivasam).

ILLINOIS - First generation European corn borer survey completed. Percent corn infested and larvae per 100 plants (versus same data for 1977) by district: Northwest--15.8%, 11.9 (9.2%, 2.3); west--29.1%, 39.0 (4.4%, 1.5); central--7.9%, 3.8 (0.8%, 0.3); east--7.1%, 3.5 (1.6%, 0.7); west-southwest--30.0%, 21.8 (5.2%, 3.1); east-southeast--10.3%, 8.2 (9.1%, 7.7); southwest--24.3%, 15.6 (3.4%, 1.0); and southeast--28.2%, 36.8 (6.6%, 2.2). State averages 18.9%, 23.8 (4.8%, 2.1). Statewide--first generation larvae heavier than in 1977, particularly in west district. Damage expected to be heavy to late-planted corn. Kankakee County--adults heavy in roadside grass; 1 egg mass found during examination of 25 corn plants in adjacent field. (Black).

KENTUCKY - Fayette County--damage from second generation European corn borer light. Few eggs and some early instar feeding; eggs and damage not exceeding economic levels. (Sloderbeck).

WISCONSIN - Second European corn borer flight heavy at several blacklight trapping sites, early egg laying expected immediately. Egg laying expected to be serious by August 10. Dane and Columbia Counties--3rd and 4th instar larvae infested 15% of some sweet corn [not tasseled]; 5th instars and pupae in most older fields. Several larvae per plant infested almost all plants in early sweet corn fields heavily infested with Proso millet; apparently, adults in Proso millet during the day moved to nearest corn for egg laying at night. Heavy number of pupae indicates heaviest second adult flight in several years expected. (Lovett).

NEW YORK - Central area--first generation European corn borer flight nearly completed; damaged 0-47% (average 16%) of cornstalks or tassels in 8 sites. (Willson). Western area--symptoms on 75-100% of early corn. (Herendeen). Second generation adult flight increased on Long Island (Willson), and began in Hudson Valley. (Straub).

MARYLAND - Eastern Shore area and southern counties--European corn borer egg laying heavy. Eastern Shore area--egg masses on 20% of field corn and up to 50% of sweet corn. Adults heavy in blacklight traps in many areas; daily averages by county: Frederick--69 at Walkersville; Cecil--91 at Earleville; Kent--118 at Kennedyville; Queen Annes--157 at Crumpton and 127 at Price; Caroline--69 at Henderson; Dorchester--200 at Linkwood; Wicomico--52 at Delmar; and Worcester--112 at Bishopville. (Hellman, Pinto).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - KANSAS - Status on corn by county: Stanton--infested 30% of plants in 1 field, 80% pupae, 10% emerged, and no eggs; Stevens--pupae but no larvae and hatched eggs trace in 3 fields near Hugoton (Mock); and Kiowa--4 small larvae per 100 plants. (Orr).

ARMYWORM (Pseudaletia unipuncta) - NEBRASKA - Antelope and Holt Counties--half-grown larvae up to 10 per plant in 5 corn fields. Larvae scattered throughout field and concentrated in grassy weed and/or volunteer corn areas; some damage to adjacent corn. (Witkowski). Buffalo County--larvae up to 5 per plant and 7 per 0.09 sq m (sq ft) in 7 corn fields; treatments applied. (Andersen). Hamilton and Kearney Counties--more infestations reported, larvae fed mainly on grassy weeds in fields. (Hagen).

ILLINOIS - Ogle County--armyworm larvae full grown. Damage moderate in 1 grassy corn field, particularly in outer 12 rows. (Black). WISCONSIN - Northeastern area--new infestations still found on corn as far north as Marinette, Forest, and Florence Counties. Marathon County--infested weed-free but water-stunted 16-ha (40-acre) field. Most larvae parasitized by Apanteles militaris (a braconid wasp) and Winthemia quadripustulata (a tachinid fly). (Lovett).

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Infestations still light to moderate in late corn and sorghum, scattered infestations on up to 80% of plants. Adults developed from mid-July larval population. (Hunt). KENTUCKY - Larval status by county: Bath--damaged 50-75% of stalks in corn field [late whorl] (Christensen, Wells); Allen and Hart--damaged late-planted corn (Scheibner, Christensen); Fayette--larvae 1-3+ cm (0.5-1+ in) long on 30-40% of plants in small patch of sweet corn [late whorl] (Parr); Washington--damaged few corn fields, infestations 18% and 35% in 2 fields (Greenwell, Hamilton); and Todd--no new damage. (Leibee).

VIRGINIA - Nottoway County--fall armyworm larvae infested 80-85% of late-planted corn [waist-high]. Damage usually starts in this area and is most severe on late-planted corn. (Allen). MARYLAND - Eastern Shore area--infestation spotty in border rows of corn. Pupation underway. (Hellman, Pinto). NEW YORK - Yates and Ontario Counties--first adults in blacklight traps Upstate (Chapman, Lienk); Tompkins County--first adult in pheromone trap August 1 (Willson).

CORN EARWORM (Heliöthis zea) - ARKANSAS - Craighead and Clay Counties--larvae up to 5 per grain sorghum head in some fields, heavier where blooming completed. (Kimbrough). VIRGINIA - Percent infestations on corn (compared with infestations in 1977) by area: Tidewater Region--larvae infested 18.3% of 725 ears in 29 fields (not reported); south of James River--27.2% of ears (37.2%); Middle Peninsula--19.1% (56.1%); and Northern Neck--8.8% (22%). Most larvae small. (Allen).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - NEBRASKA - Lincoln County--7 egg masses found in 40 corn fields surveyed. (Campbell). Holt County--adult activity increased in light traps. (Logan).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - WESTERN CORN ROOTWORM (D. virgifera) adults on corn by county: Stevens--very light in 3 fields (Mock); Ford (1 field and Kiowa (2 fields)--none found; and northeastern area--averaged 2-9 per plant [all past susceptible silk]. (Bonczkowski).

NEBRASKA - Diabrotica spp. per corn plant by county: Buffalo--averaged 5 in 7 fields (Andersen); and Lincoln--up to 2 in 40 fields (Campbell). Gravid females in all fields surveyed. (Miller). NORTH DAKOTA - Ransom County--D. virgifera adults up to 12 (averaged 1.4) per corn plant on 100 plants in 1 field. (Scholl).

WISCONSIN - Counts by county: Southern--NORTHERN CORN ROOTWORM (D. longicornis) and D. virgifera increased as emergence peaked; South-central and southwestern--averaged 1-3 per corn plant in most fields, lightest in late-planted fields, expected to change as silks and older fields dry and tougher; Columbia--D. virgifera adults fed on leaves and whorls of late sweet corn. (Lovett).

INDIANA - New county record for Orange County--D. virgifera adults collected from corn on State Highway 62 east of Millersburg, August 3, 1978, by J. Dill. Determined by D. Leva. (Meyer). Tippecanoe County--adults 222 (1,347 in 1977) on 10 sticky traps in untreated corn field. Central district--populations appeared lighter than in 1977, probably due to later planting of corn. Northwest district--populations approached 1977 levels but appeared more erratic based on casual observations. West-central district--treatment for damage to silks rare. (Leva et al.). NEW YORK - Cayuga County--many newly emerged D. longicornis adult. (Willson).

GREENBUG (Schizaphis graminum) - KANSAS - Counts per sorghum plant by county: Southwestern area--increased rapidly on sorghum [mostly headed or heading]; Finney, Kearny, Grant, and Stanton--averaged 700-900, up to 3,000 found; Stevens--lady beetle adults and pupae heavy in heavily infested field, no parasitism (Mock); greenbug should increase rapidly in these counties (Brooks); Ford--increased sharply from last period, averaged 90-150 in 2 fields (Orr, Brooks); and Thomas--averaged 3,000 on susceptible varieties and 1,000 on resistant varieties in research plots near Colby; parasitism trace (Harvey).

NEBRASKA - Eastern areas--greenbug flight during past 14 days. Saunders and Rock Counties--damaged sorghum. (White, Crandall).

CORN LEAF APHID (Rhopalosiphum maidis) - CALIFORNIA - Butte County--nymphs and adults infested 100% of 8.1 ha (20 acres) of milo at Gridley. (Pooler). ILLINOIS - Northern one-half area--light, fewer than 50 per corn tassel on up to 100% of corn [not yet or recently tasseled]. Aphids completely covered tassels on some plants in fields infested less than 20%. (Black). WISCONSIN - Southern and western counties--colonies of 500+ aphids on 10% of corn plants in many fields, known vector of MAIZE DWARF MOSAIC POTYVIRUSES. (Lovett).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Harvey County--adults and nymphs on sorghum. Dickinson County--severely damaged some sorghum fields; thin stand and dry weather increased problems. (Baurenfeind, Nuttelman). MISSISSIPPI - Pike County--nymphs and adults light to moderate on 40.5 ha (100 acres) of grain sorghum [head], and Lincoln County--light on 20 ha (50 acres) of millet. (Anderson).

SMALL GRAINS

DISEASES

WHEAT LEAF RUST (Puccinia recondita f.sp. tritici) - NORTH DAKOTA - Statewide--severities trace to 10% on spring wheat, mostly cultivar Waldron [milk to dough]. (Jons).

OAT CROWN RUST (Puccinia coronata var. avenae) - NORTH DAKOTA - Stutsman County--prevalence 100%/severity 60-70% in 2 commercial oat fields July 24-28. (Jons).

ERGOT (Claviceps purpurea) - NORTH DAKOTA - Billings, Logan, Stutsman, La Moure, Cavalier, and Williams Counties--trace in spring wheat [dough]; Pembina County--trace in 2 commercial barley fields July 24-28. (Jons).

SEPTORIA COMPLEX (Septoria spp.) - NORTH DAKOTA - Prevalence/severity on leaves of spring wheat [milk to dough] by county July 24-28: Cass, Walsh, Cavalier, Towner, and La Moure--trace/trace. (Jons).

SCAB (Fusarium spp.) - NORTH DAKOTA - Prevalence/severity on wheat heads by county July 24-28: Cass--5-20%/1-20%, Traill--1-10%/1-10%, Pembina--trace to 5%/1-5%, Cavalier--trace to 2%/1-5%, Towner--trace to 5%/1-5%, Billings--trace to 5%/1-2%, and Grand Forks--1-10%/1-10%. (Jons).

WHEAT STREAK MOSAIC VIRUS - NORTH DAKOTA - Southwestern area--severe in spring wheat fields, losses 75-100% in some fields. Bowman County--few fields plowed July 27-28. (Jons).

INSECTS

ARMYWORM (Pseudaletia unipuncta) - WISCONSIN - Most areas--damage to small grains decreased, new infestations still found. Losses by county: St. Croix--50% in several fields; Racine, Calumet, and Dodge--heavy in some areas; Buffalo, Sheboygan, Florence, and Forest--damage reported; and Price--no significant problems to date. (Lovett).

TURF, PASTURES, RANGELAND

INSECTS

ARMYWORM (Pseudaletia unipuncta) - MAINE - Waldo and Knox Counties--severely damaged grasses in 3 areas, migration to corn possible, larvae in 6th or 7th instar. (Gall).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - UTAH - Damage by county: Salt Lake--hundreds of lawns at Salt Lake City (Harmston, Knowlton), and Cache--severely damaged lawns at River Heights (Thatcher).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - INDIANA - Johnson County--larvae 2 per sweep of alfalfa [nearly all in bud]. (Meyer).

WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praefica) - CALIFORNIA - Fresno County--larvae, 2nd and 3rd instars, 16 per 25 sweeps of alfalfa in Mendota area. (Dunnegan).

POTATO LEAFHOPPER (Empoasca fabae) - INDIANA - Central and northern districts--economic or heavier in most forage legume fields beginning regrowth. (Abrams et al.). WISCONSIN - Southern and central areas--averaged 1-2 per sweep of alfalfa, up to 10 per sweep in some mature fields in southern area. Wet, cool weather did not favor harvest of alfalfa allowing more nymphs to mature than normal. (Lovett).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Pershing County--heavy, 50+ per sweep of seed alfalfa in Lovelock area, field treated. (Munk).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Pershing County--decreased on seed alfalfa in Lovelock area, averaged 250 per sweep in 1 field. (Munk).

TARNISHED PLANT BUG (Lygus lineolaris) - WISCONSIN - Statewide--this species and ALFALFA PLANT BUG (Adelphocoris lineolatus) heavy compared with past years in many alfalfa fields. Generally heaviest in fields now in blossom; 10-20 per sweep common, all stages evident. (Lovett).

SOYBEANS

DISEASES

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - MISSOURI - Jefferson, Ste. Genevieve, Perry, Cape Girardeau, Scott, Mississippi, New Madrid, Pemiscot, and Stoddard Counties--prevalence 3-5% with 1 or 2 leaves infected on soybeans [first flower to pod]. (Foudin).

SOYBEAN BROWN SPOT (Septoria glycines) - MISSOURI - Jefferson, Ste. Genevieve, Perry, Cape Girardeau, Scott, Mississippi, New Madrid, Pemiscot, and Stoddard Counties--prevalence trace to 10% on late-planted soybeans [first flower to pod]. (Foudin).

BROWN STEM ROT (Phialophora gregata) - WISCONSIN - Walworth County--beginning symptoms found in 2 soybean fields. (Lovett).

INSECTS

CORN EARWORM (Heliothis zea) - MISSISSIPPI - Southern delta counties--larvae light on soybeans [early pod], no economic levels. (Anderson). ARKANSAS - Cross County--larvae unusually heavy in some soybean fields, fed on young pods. (Barnes). Poinsett County--very small larvae about 1 per terminal in 1 field. (Siler). NORTH CAROLINA - Coastal Plain--adults laid eggs in soybeans throughout area. Robeson County--2nd instar larvae in 2 fields [open canopy]. Of 50 fields in Fayetteville, Clinton, and Lumberton areas, none at threshold. Beneficials very prevalent, moisture level high, and large percentage of canopies will be closed August 4-10. (Williford).

MEXICAN BEAN BEETLE (Epilachna varivestis) - KENTUCKY - Trimble County--adults mated and began to produce second generation. Adults, egg masses, larvae, and pupae per 0.3 row m (row ft) of soybeans [bloom]: 4.3, 0.1, 0.5, and 0.4 in 1 field, and 7.3, 0.1, 1.0, and 0.0 in second field. (Yeargan). INDIANA - Central district south of Indianapolis--mostly new adults about 1 per sweep, with heaviest counts near Gosport, Owen County, and Amity, Johnson County. Populations not economic on soybeans but increase expected with fully grown larvae and pupae present. Randolph County--small populations in soybeans, farthest north for this area. (Richard et al.).

GRASSHOPPERS - ILLINOIS - Northern one-half area--heavy, up to 60 per 0.8 sq m (sq yd) in grassy areas but mostly 10-15 per 0.8 sq m, damaged some soybeans. (Black).

COTTON

INSECTS

BOLL WEEVIL (*Anthonomus grandis grandis*) - MISSISSIPPI - Southern hill sections--increased on cotton, square damage up to 75% in some fields and averaged about 20% in infested fields. Northern hill sections--increase began. Percent punctured squares and infested ha (acres) by county: Alcorn--5%, 142 (350); Lafayette--3%, 607.0 (1,500); Tippah--2%, 101 (250); Yalobusha--2%, 2,023 (5,000); Tate--0%, 485.6 (1,200); Calhoun--5% (up to 40%), 1,214 (3,000); Monroe--3%, 1,214; Montgomery--4-6% (up to 18%), 1,327 (3,278); Itawamba--1%, 202 (500); Holmes--5-10%, 607.0; Madison--5%, 1,012 (2,500); Lowndes--10%, 121 (300); Yazoo--15%, 121; Copiah--14%, 30 (75); Franklin--25%, 80.9 (200); and Lincoln--60%, 202. (Anderson). TENNESSEE - Infested areas--punctured squares 1-3%. Weather conditions do not favor increase. (Locke).

BOLLWORMS (*Heliothis* spp.) - ARIZONA - BOLLWORM (*H. zea*) eggs and larvae on cotton by county: Maricopa--2-25 and 3-10 per 100 terminals, Pinal--14-21 and 1-2 per 100 terminals, Graham--not reported and 2 per 100 squares, and Yuma--3-6 and 1 per terminal. (McCall et al.). ARKANSAS - Southeastern area--TOBACCO BUDWORM (*H. virescens*) and *H. zea* larvae up to 2 per 0.3 row m (row ft) of cotton from eggs laid in blooms. (Wall).

MISSISSIPPI - *Heliothis* spp. egg laying increased in northern area and decreased in southern and central areas. South delta--larval pressure heavy on cotton in many fields, small larvae up to 30% infestation. Average percent larval infestation and ha (acres) sampled by county: Alcorn--5%, 142 (350); Lafayette--3%, 607.0 (1,500); Tippah--3%, 101 (250); Yalobusha--1%, 2,023 (5,000); Tate--1-3%, 485.6 (1,200); Calhoun--4%, 1,214 (3,000); Montgomery--3%, 1,327 (3,278); Itawamba--2%, 202 (500); Holmes--10-25%, 607.0; Madison--3%, 1,012 (2,500); Carroll--6%, 364 (900); Lowndes--5%, 121 (300); Yazoo--4%, 405 (1,000); Copiah--8%, 30 (75); and Franklin--2%, 80.9 (200). (Anderson).

TENNESSEE - *H. zea* above control levels in many cotton fields. Eggs 1-8% per 100 terminals. Western area--sharp increases expected. Fayette, Hardeman, Haywood, Lake, Lincoln, Shelby, McNairy, and Tipton Counties--bollworm emergency declared since July 12. (Locke). SOUTH CAROLINA - Sumter, Calhoun, and surrounding counties--*H. zea* eggs 40-200 per 100 cotton plants. (Douglass, Johnson).

TOBACCO

INSECTS

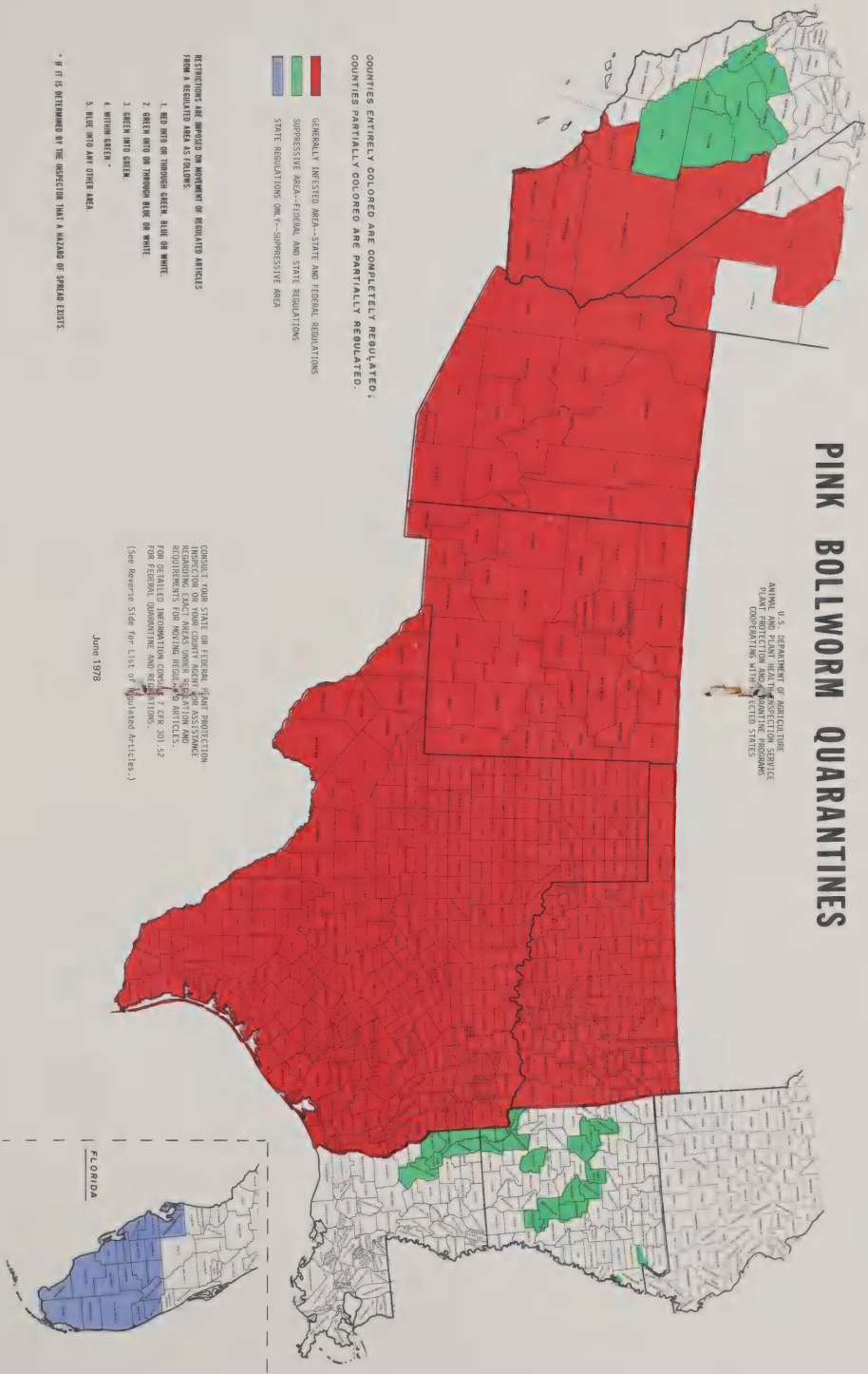
SPHINGID MOTHS (*Manduca* spp.) - TENNESSEE - Trousdale, Smith, Wilson, and Macon Counties--larvae 0-2,467 per 0.4 ha (acre), 16 of 22 tobacco fields at or above control level. (Gregory). NORTH CAROLINA - TOBACCO HORNWORM (*M. sexta*) status on tobacco by county: Lenoir--71 of 328 fields above threshold, average infestation 6.5%; Bladen--10 of 93 fields at threshold; and Martin and Washington--populations increased. (Pleasants et al.).

NOCTUID MOTHS (*Heliothis* spp.) - TENNESSEE - Trousdale, Smith, Wilson, and Macon Counties--larvae 0-176 per 0.4 ha (acre), 2 of 22 fields at or above control levels. (Gregory).

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - NORTH CAROLINA - Lenoir, Martin, and Wilson Counties--unusually heavy in scattered tobacco fields. (Harper, Pleasants).

PINK BOLLWORM QUARANTINES

U. S. DEPARTMENT OF AGRICULTURE
 ANIMAL AND PLANT HEALTH SERVICE
 PLANT PROTECTION AND QUARANTINE PROGRAMS
 COOPERATING WITH SELECTED STATES



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

- █ GENERALLY INFESTED AREA--STATE AND FEDERAL REGULATIONS
- █ SUPPRESSIVE AREA--FEDERAL AND STATE REGULATIONS
- █ STATE REGULATIONS ONLY--SUPPRESSIVE AREA

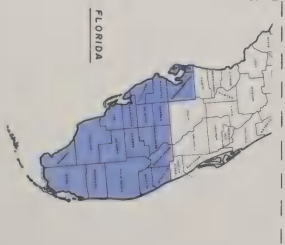
REGIONS ARE DIVIDED ON BASIS OF REGULATED ARTICLES FROM A REGULATED AREA AS FOLLOWS:

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

* IF IT IS DETERMINED BY THE INSPECTOR THAT A HAZARD OR SYMPTOM EXISTS

CONSULT YOUR STATE OR FEDERAL PLANT PROTECTION INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE IN DETERMINING THE REGULATED ARTICLES AND THE REQUIREMENTS FOR MOVING REGULATED ARTICLES. FOR RELATED INFORMATION CONSULT 7 CFR 301.52 FOR FEDERAL QUARANTINE AND REGULATIONS. (See Reverse Side for List of Regulated Articles.)

June 1978



2. Seed cotton.
3. Cottonseed.
4. Cottonseed hulls.
5. Cotton lint.

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

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

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

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

Samples of cotton linters of the usual trade size are exempt. Samples may be assembled in a single package for shipment.
7. Cotton waste produced at cotton gins, cottonseed oil mills, and cotton textile mills.

Lint cleaner waste is exempt if compressed to a minimum of 22 pounds per cubic foot.
8. Cotton gin trash.
9. Used bagging and other used wrappers for cotton.
10. Used cotton harvesting equipment and used cotton ginning and cotton oil mill equipment.
11. Okra and kenaf, including all parts of such plants except canned or frozen okra.

Edible okra is exempt if produced during the period December 1 to May 15 inclusive, except that okra consigned to California is exempt only if produced during the period of January 1 to March 15 inclusive.
12. Any other products, articles, or means of conveyance of any character whatsoever, not covered by the above, when it is determined by an inspector that they present a hazard of spread of the pink bollworm and the person in possession

POTATOES, TOMATOES, PEPPERS

DISEASES

TOMATO BACTERIAL CANKER (Corynebacterium michiganense) - CALIFORNIA - San Diego County--infested 80.9-ha (200-acre) field of tomatoes at Carlsbad, 5-10% of field dead. Problem complicated by a ROOT KNOT NEMATODE (Meloidogyne sp.). (Esparza).

BET CURLY TOP VIRUS - NEW MEXICO - Dona Ana County--caused chlorosis, stunting, and stiffening of leaves, light on tomatoes at Hatch week of July 28. (Stefano).

GENERAL VEGETABLES

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH CAROLINA - Carteret, Sampson, Pender, Robeson, and Duplin Counties--field observation and light trap collections averaging 100+ per night indicated larval pressure expected to continue on peppers, peas, and many other vegetables. (Sorensen).

CABBAGE LOOPER (Trichoplusia ni) - NEW YORK - Orange County--first adult in pheromone traps in Tettuce field. (Straub).

A SPIDER MITE (Paraplonobia myops) - CALIFORNIA - San Joaquin County--nymphal and adult damage heavy on stems of young asparagus in 24-ha (60-acre) field at Stockton. (Mercer, Brown).

DECIDUOUS FRUITS AND NUTS

DISEASES

STONE FRUIT BROWN ROT (Monilinia fructicola) - MARYLAND - Washington County--serious spotting and decay in peach orchards. (Hellman, Pinto).

INSECTS

PEACH TWIG BORER (Anarsia lineatella) - UTAH - Box Elder County--adults unusually heavy in pheromone traps in peach orchards. (Davis, Karren). COLORADO - Delta County--first fruit infestation, 1-2 per 100 where early controls not applied. (Bulla).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NEW YORK - Hudson Valley--severe leaf scorch in pear orchards, 2 motile stages per leaf. (Weires).

SMALL FRUITS

INSECTS

GRAPE PHYLLOXERA (Daktulosphaira vitifoliae) - MARYLAND - Washington County--heavy in 0.8-ha (2-acre) vineyard, controls applied. Some foliar damage but no significant yield loss predicted. (Hellman, Pinto).

FOREST AND SHADE TREES

INSECTS

A WEEVIL (Magdalis gentilis) - WISCONSIN - New State record. Wood County--adults fed on Scotch pine needles at Lindsay, June 17, 1978. Collected by D. Helgerson. Determined by D.R. Whitehead. (Lovett).

A THRIPS (Taeniothrips pini) - NORTH CAROLINA - New county record. Jackson County--adults collected from natural Abies fraseri (Fraser fir) on Richland Balsam Mountain, July 25, 1978. Collected by W.T. Huxster and J.K. Perry. Determined by D.L. Stephan. (Hunt).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NORTH DAKOTA - New county records. Mercer County--adults collected from multilure pheromone sticky board trap on American elm near Hazen, July 31, 1978. Williams County--adults collected from multilure pheromone sticky board trap on American elm (city not reported) August 1. Collected and determined by W.J. Brandvik. (Brandvik).

TWOLINED CHESTNUT BORER (Agrilus bilineatus) - WISCONSIN - Dane County--dead oaks in significant numbers. Partial top-kill or limb mortality on some trees. (Lovett).

FALL WEBWORM (Hyphantria cunea) - MISSISSIPPI - Warren County--feeding by this species and SYCAMORE TUSSOCK MOTH (Halisidota harrisii) caused 40-70% defoliation to small plantings of sycamore trees. Less defoliation on larger plantings. (Solomon).

SATIN MOTH (Leucoma salicis) - WASHINGTON - Okanogan County--heavily infested 16-20 ha (40-50 acres) of aspen at Havillah, some trees completely defoliated. (Servin, Youngs).

POPLAR TENTMAKER (Ichthyura inclusa) - MISSISSIPPI - Washington County south to Warren County--larvae heavily defoliated 607 ha (1,500 acres) of cottonwood on plantations along Mississippi River. Heaviest defoliation about 75-100% in Washington County. (Solomon).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - NEBRASKA - Dawson and Lancaster Counties--averaged 300+ per head on untreated cattle in river pastures. (Campbell).

FACE FLY (Musca autumnalis) - NEBRASKA - Dawson and Lincoln Counties--averaged 11 per face on untreated cattle. (Campbell).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

ALFALFA LEAF-CUTTING BEE (Megachile pacifica) - IDAHO - Canyon County--second brood began to emerge last week of July. (Waters).

FEDERAL AND STATE PROGRAMS

DISEASES

OAT STEM RUST (Puccinia graminis f.sp. avenae) - NORTH DAKOTA - Stutsman County--prevalence trace/severity trace in 1 commercial oat field July 24-28. (Jons).

WHEAT STEM RUST (Puccinia graminis f.sp. tritici) - NORTH DAKOTA - Prevalence/severity on winter wheat by county July 24-28: Williams--1%/1% on 'Ecklund' and 100%/1-10% on 'Sundance' at experiment station at Williston, and McKenzie--100%/5% on commercial winter wheat [ripe]. (Jons).

INSECTS

GRASSHOPPERS - KANSAS - Status by county: Jefferson--substantial foliar damage on border rows in 8 of 10 corn fields (Hilbert); Osage--averaged 8 per 0.8 sq m (sq yd) in weedy margin of corn field with some damage to border rows, averaged 3 per 0.8 sq m of alfalfa fieldwide, major species Melanoplus differentialis, M. bivittatus, and M. sanguinipes (White); Stevens, Finney, Kearny, Stanton, and Grant--M. sanguinipes nymphs (mostly 1st instars) common along field margins; Sherman and Cheyenne--averaged 8-10 per 0.8 sq m in sugar beets and 4-6 in pinto beans, some noticeable damage (Sanden); and Riley, Atchison, Leavenworth, and Brown--Entomophthora sp. (an insect fungus) incidence light past 21 days in M. differentialis and M. bivittatus adults and larger nymphs. (Bell et al.).

NEBRASKA - Northwest, southwest, north, central, northeast, and east districts--grasshopper adults continued to move into corn, alfalfa, sorghum, field beans, and gardens in parts of these areas. (Hagen et al.).

NORTH DAKOTA - Grasshopper adult cropland survey continued. Marginal averages by county: Ransom (22 stops)--3 per sq m (2.4 per sq yd), and Richland (36 stops) and Sargent (27 stops)--4 per sq m (3 per sq yd). Field margin averages for above counties 1 per sq m (less than 1 per sq yd). Melanoplus sanguinipes and M. bivittatus with M. dawsoni, M. packardii, and M. femurrubrum present. (Schott).

MINNESOTA - Wilkin County--grasshoppers still economic in scattered corn fields and margins. Melanoplus femurrubrum, mostly 2nd and 3rd instars, 10-20 per 0.8 sq m (sq yd) in margins and 4-6 per 0.8 sq m in fields. M. bivittatus up to 25 per 0.8 sq m on some roadsides and field margins and up to 10 per 0.8 sq m in some fields. South-central and southeast districts--0-1 per 0.8 sq m in alfalfa fields, 8-10 in margins, and up to 20 per 0.8 sq m on some roadsides. Most common species M. femurrubrum and M. bivittatus. No threat to field crops as enough lush green vegetation available in roadsides. (Sreenivasam).

GYPSY MOTH (Lymantria dispar) - WEST VIRGINIA - Jefferson County--10 males recovered from 9 pheromone traps in Shannondale-Appalachian Trail area. (Miller). Berkeley County--19 males recovered from 16 pheromone traps (1 multiple of 4) in portion of county north of Martinsburg. (Tustin).

NEW HAMPSHIRE - Merrimack County--gypsy moth females laid eggs at infestation site at Canterbury, particularly at periphery of present infestation. Little or no egg laying in center of infested area where bacterial disease destroyed larval population in July. Carroll and Strafford Counties--1 adult concentration each at Conway and New Durham. (Sorge et al.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Counts per sweep of cotton by county: Maricopa--3-30% of bolls infested, Pinal--3-4 larvae in 100 blooms and 1-10 larvae per 100 bolls, Graham--13% of bolls infested, and Yuma--2-23% of bolls infested. (McCall et al.).

SCREWWORM (Cochliomyia hominivorax) - Total of 219 cases reported from continental United States July 16-22 as follows: Texas 18, New Mexico 31, Arizona 167, California 3. (Meadows). Total of 293 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 238 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 135,962,850 as follows: Texas 69,329,650, New Mexico 23,064,000, Arizona 42,993,200, California 576,000. (Meadows). Total of 108,533,750 sterile flies released within Barrier of Mexico. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - MELON FLY (Dacus cucurbitae) damage heavy on 0.4 ha (acre) of month-old watermelon (80-90% of plants with 1-3 vine terminals per plant destroyed) and on 0.10 ha (0.25 acre) of cucumber (yield loss 90+) in upper Hoolehua, Molokai. LEAFMINER FLIES (Liriomyza spp.) infestations and damage severe on 0.4 ha of mature watermelons (heavily sprayed for melon fly control) at upper Hoolehua; yield loss about 75%. (Nagamine, L. Nakahara).

DETECTION

NEW STATE RECORD

INSECTS

A WEEVIL (Magdalis gentilis) - WISCONSIN - Wood County. (p. 437).

NEW COUNTY RECORDS

INSECTS

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NORTH DAKOTA - Mercer and Williams. (p. 438).

A THRIPS (Taeniothrips pini) - NORTH CAROLINA - Jackson. (p. 438).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - INDIANA - Orange. (p. 433).

CORRECTIONS

CPPR 3(29):373 - NEW JERSEY - New State record. Diaparsis n.sp. parasitism ... larvae 72% ... should read larvae 2%.

CPPR 3(30):398 - SCREWORM (Cochliomyia hominivorax) - ...Total of 841 cases reported in Mexico south of Barrier Zone ... should read Total of 954 cases reported in Mexico south of Barrier Zone. (Williams, Smith).

LIGHT TRAP COLLECTIONS

Temperature °C	Precipitation mm	Type of trap	Moths (Black light)		M. zea (bollworm)	Larproxia pomonella (codling moth)	Lospheg commitalis (apple worm)	Lospheg pratis (grape worm)	Lospheg sticticalis (beet worm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera estigma (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (cabbage looper)	Cross
			0 = abundant 1 = moderate 2 = scarce 3 = very scarce 4 = trace	5 = none														
PENNSYLVANIA (Regions) Central 7/29-8/2 West 7/29-8/2		BL BL	6											7				
TEXAS College Station 7/26-8/1		BL	0	0	23									6				
WEST VIRGINIA (Counties) Monroe 7/31 Putnam 7/29-8/1		BL BL	1							1				7				
WISCONSIN Evansville 7/25-31 Mazomanie 7/27-8/2		BL BL	0		0							279	0	38				1
					0							111		2				

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
 Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Cercospora</u> sp. a fungus Det. F.G. Pollack	imperfect	on leaves of <u>Echinodorus</u> plants	Singapore	Los Angeles	MO
<u>Pestalotiopsis</u> sp. a fungus Det. F.G. Pollack	imperfect	on leaves of <u>Tillandsia</u> plants	Mexico	Brownsville	TX
<u>Ceratitis capitata</u> (Wiedemann) Mediterranean fruit fly Det. F.G. Pollack	larva	in mangoes from baggage	Hawaii	Hilo	CA
<u>Hylurgops palliatus</u> (Gyllenhal) a scolytid beetle Det. E.J. Ford	adult pupal	in wood crates of aluminum sheeting	France	Baltimore	MD
<u>Hypera fasciculata</u> (Herbst) a weevil Det. D.R. Whitehead	adult	on exterior of container van	Italy	Savannah	TX
<u>Omphisa anastomosalis</u> (Guenee) sweetpotato vine borer Det. R. Kunishi	larva	in sweet potatoes from baggage	Hawaii	Honolulu	TX
<u>Opogona sacchari</u> (Bojer) a tineid moth Det. D.M. Weisman	larva	in Heliconia cut flowers from cargo	Netherlands	Boston	USA
<u>Helicella cretica</u> a helicid snail Det. R. Munkittrick	adult	on lift vans of household goods	Greece	Houston	ID

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Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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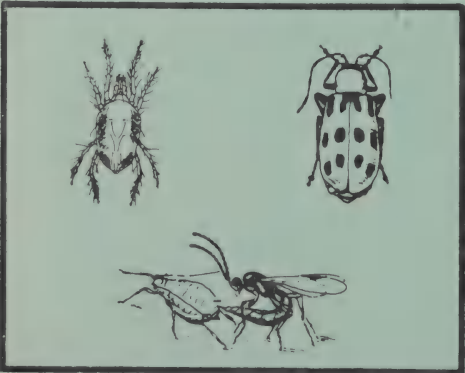
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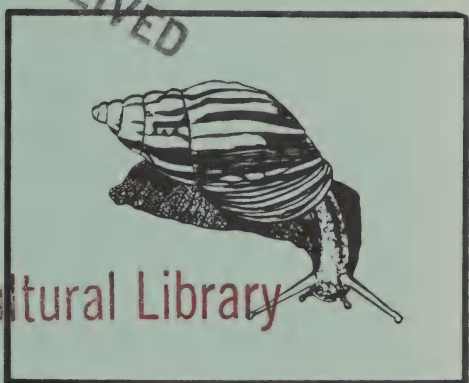
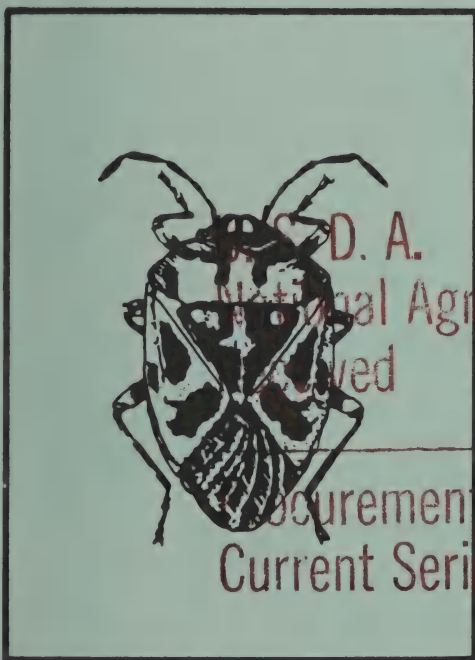
Vol. 3 No. 33

August 18, 1978

Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR
New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER flights peaked in southern parts of Kansas and Iowa. (p. 449-450).

FALL ARMYWORM heavy on late sorghum in northern parts of Kansas and at or above threshold in parts of North Carolina. (p. 450).

HESSIAN FLY infestations heavier on spring wheat in Kansas than in many years. Moderate to severe on spring wheat in parts of northern districts of South Dakota. (p. 453).

OAT CROWN RUST more severe than in recent years on oats in northern areas. (p. 451-452).

Detection

For new county and island records see page 464.

Reports for this issue are for the week ending August 11 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane	Tobacco
Diseases.....447	Insects.....458
Insects.....449	
Small Grains	Cole Crops
Diseases.....451	Insects.....458
Insects.....453	General Vegetables
Turf, Pastures, Rangeland	Insects.....458
Insects.....453	Deciduous Fruits and Nuts
Forage Legumes	Insects.....458
Diseases.....453	Citrus
Insects.....454	Insects.....459
Soybeans	Forest and Shade Trees
Diseases.....454	Insects.....459
Insects.....456	Man and Animals
Peanuts	Insects.....459
Insects.....457	
Cotton	
Insects.....457	
Beneficial Organisms and Their Enemies	
Insects.....459	
Federal and State Programs	
Diseases.....460	
Insects.....462	
Hawaii Pest Report.....463	
Detection.....464	
Corrections.....464	
Light Trap Collections.....465	
Pest Interceptions of Quarantine Significance at Ports of Entry.....467	

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON SMUT (*Ustilago maydis*) - KANSAS - Stevens, Haskell, and Stanton Counties--prevalence 10-12% on corn in several fields damaged by hail week of August 4. Barton County--prevalence trace on corn in 1 field. Northeastern area--currently most common corn disease. Prevalence on corn by county: Pottawatomie--trace, Riley--trace, Nemaha--trace, Brown--trace, and Osage--1%. (Sim). MISSOURI - Cass, Bates, Vernon, Jasper, Newton, McDonald, Barry, and Lawrence Counties--prevalence less than 1%/severity very light on corn [dent]. (Foudin).

NEBRASKA - Eastern and northeastern areas--common smut present in corn fields [silk to blister], trace in most fields. (Poe). MINNESOTA - Prevalence on dent corn by county (1 field each) July 25-31: Olmsted--3% [full tassel]; Mower--8% [early silk]; Martin--5% [mid-silk]; and Rock--trace [mid-silk]. Renville County--prevalence trace in commercial sweet corn [10 leaf] field August 2-7. (Stromberg).

ILLINOIS - Vermilion [silk emerged]; Clark, Crawford, and Wayne [16 leaves emerged]; and Saline [blister] Counties (1 commercial field each)--common smut prevalence trace to 1% on corn week of July 24. Prevalence [and growth stage] on corn in 1 commercial field each by county week of July 31: Henry--1% [dough]; Kendall--trace [silk emerged]; Ford--2% [blister]; McDonough--trace [blister]; Kane--trace [silk emerged]; Logan--3% [dough]; Bureau--1% [blister]; Tazewell--trace [dough]; McLean--2% [blister]; Knox--trace [dough]; and Livingston--1% [blister]. (Jordan).

MICHIGAN - Prevalence of common smut on corn by county week ending August 4: Kalamazoo--trace [16 leaves], Washtenaw--5% [14 leaves], Wayne--trace [16 leaves], Macomb--trace [16 leaves], Kent--trace [silk emerged], Montcalm--trace [silk emerged], Saginaw--trace [blister], and Tuscola--trace [silk]. (Singh).

COMMON MAIZE RUST (*Puccinia sorghi*) - KANSAS - Stevens, Haskell, and Stanton Counties--prevalence trace on corn in several fields week of August 4. (Sim). NEBRASKA - Cedar County--prevalence trace in some corn fields [silk to blister]. (Poe). SOUTH DAKOTA - Grant County--First of season. Trace in 1 dent corn field [silk]. (Jons).

MINNESOTA - First of season. Common maize rust prevalence/severity on dent corn [early silk unless stated otherwise] by county (1 field each) July 15-31: Mower--90%/trace; Freeborn--75%/trace; Faribault--80%/trace [late silk]; Jackson--trace/trace [mid-tassel], only 2 pustules per 100 plants; Rock--30%/trace; Pipestone--trace/trace [mid-tassel], only 2 pustules per 100 plants; and Goodhue on sweet corn variety Stylepack--100%/10-20% [early tassel]. August 2-7: Renville--100%/trace to 10% in 1 commercial sweet corn field [10 leaves], and Stevens--100%/trace in field corn [tassel] monitoring plot. (Stromberg).

ILLINOIS - Vermilion [silk emerged], Clark, Crawford, and Wayne [16 leaves emerged], and Saline [blister] Counties (1 commercial field each)--common maize rust prevalence trace/severity trace on corn week of July 24. Prevalence/severity on corn [blister unless stated otherwise] by county (1 commercial field each) week of July 31: Henry--trace/trace [dough]; Kendall--99%/trace [silk emerged]; Ford--trace/trace; McDonough--trace/trace; Kane--99%/1% [silk emerged]; Logan--trace/trace [dough]; Bureau--trace/trace; Tazewell--trace/trace [dough]; McLean--trace/trace; Knox--trace/trace [dough]; and Livingston--99%/trace. (Jordan).

MICHIGAN - Prevalence/severity of common maize rust on corn by county week ending August 4: Genesee--trace [silk], Shiawassee--trace [12 leaves], and Sanilac--5%/1% [silk] on lower leaves. (Singh).

SOUTHERN RUST (Puccinia polysora) - MISSOURI - Barry and Lawrence Counties--prevalence 15-20%/severity ranged from less than 1% of total leaf area affected (trace) to about 5% on corn [dent]. This amount of southern rust unusual in State. (Foudin).

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - ILLINOIS - Clark County--prevalence 99%/severity 1-5% on corn [16 leaves emerged] in 1 commercial field week of July 24. Week of July 31, prevalence/severity by county (1 commercial field each): Henry--99%/3% [dough]; Kendall--99%/1% [silk emerged]; Ford--99%/1% [blister]; and Livingston--99%/1% [blister]. (Jordan).

CRAZY TOP (Sclerophthora macrospora) - KANSAS - First of season. Morris and Pottawatomie Counties--prevalence trace on corn (1 field each) week of August 4. Osage County--current prevalence 1% on corn in 1 field. Disease distributed evenly across field. Coffey County--trace on sorghum in 1 field. (Sim).

SORGHUM DOWNY MILDEW (Sclerospora sorghi) - KANSAS - Pottawatomie County--on sorghum in 1 field week of August 4. (Sim).

CORN BROWN SPOT (Physoderma maydis) - KANSAS - First of season. Shawnee County--on corn in 1 site week of August 4. (Sim). NEBRASKA - Eastern and northeastern areas--prevalence trace to 10% near center of some center-pivot irrigated corn fields [silk to blister] July 26 to August 4. (Poe).

HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) - ILLINOIS - Asexual prevalence/severity on corn [blister unless stated otherwise] in 1 commercial field each by county week of July 31: Henry--trace/trace [dough]; Kendall--trace/trace [silk emerged]; Ford--50%/1%; Kane--trace/trace [silk emerged]; Logan--50%/trace [dough]; Bureau--90%/1%; McLean--90%/2%; and Livingston--50%/1%. (Jordan).

SOUTHERN LEAF BLIGHT (Helminthosporium maydis) - ILLINOIS - Prevalence/severity on corn [16 leaves emerged unless stated otherwise] by county (1 commercial field each) week of July 24: Wayne--trace/trace, Crawford--trace/trace, and Vermilion--99%/3-6% [silk emerged]. (Jordan).

CORN EYESPOT (Kabatiella zeae) - MICHIGAN - Prevalence/severity on corn by county week ending August 4: Kalamazoo--trace [16 leaves], Calhoun--25%/1% [12 leaves], Washtenaw--5%/1% [14 leaves], and Wayne--15%/10% [16 leaves]. (Singh).

SOOTY STRIPE (Ramulispora sorghi) - KANSAS - First of season. Franklin and Osage Counties--prevalence 20-60% in several corn fields. (Sim).

STEWART'S WILT (Erwinia stewartii) - MISSOURI - Cass, Bates, Vernon, Jasper, Newton, McDonald, Barry, and Lawrence Counties--symptom prevalence 40-100% of corn [dent] surveyed/severity ranged single spots to 25% of total leaf area affected. (Foudin). ILLINOIS - Knox [dough] and Livingston [blister] Counties--prevalence trace/severity 1-3% on corn in commercial fields week of July 31. (Jordan).

HOLCJS SPOT (Pseudomonas syringae) - SOUTH DAKOTA - Prevalence/severity on dent corn [tassel] by county (1 field each): Spink--50%/1-2%, Hamlin--80%/trace to 2%, Brookings--80%/1-2%, Deuel--10%/trace to 1%, and Grant--trace/trace. (Jons).

MINNESOTA - Prevalence/severity of holcus spot on dent corn [mid-silk unless stated otherwise] by county (1 field each) July 25-31: Olmsted--90%/trace to 10% [full tassel]; Mower--60%/trace [early silk]; Freeborn--90%/trace to 5%; Faribault--100%/trace to 3% [late silk]; Martin--100%/5-20%; Jackson--100%/trace to 5% [mid-tassel]; Rock--100%/10-20%; Pipestone--100%/trace to 5% [mid-tassel]; Murray--100%/trace to 10%; and Redwood (monitoring plots)--100%/5-20% mainly on mid-leaves [late silk]. Stevens County--prevalence 100%/severity trace to 10% on corn [tassel] in 1 monitoring plot at Morris, August 2-7. (Stromberg).

BACTERIAL PUSTULE (Xanthomonas phaseoli var. sojense) - KANSAS - Central and south-central areas--most common soybean disease; prevalence on soybeans by county week of August 4: Saline--10%, McPherson--80%, and Sumner--70%. (Sim).

SORGHUM BACTERIAL STREAK (Xanthomonas holcicola) - KANSAS - Stanton County--on sorghum in 1 field week of August 4. (Sim).

BACTERIAL STRIPE (Pseudomonas andropogoni) - KANSAS - Saline County--on sorghum in 1 field week of August 4. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - KANSAS - Still most widespread sorghum disease. Prevalence on sorghum by county week of August 4: Saline, Rice and Sumner--trace; Stafford--trace to 5%; and Coffey--red leaf trace. (Sim). MINNESOTA - Goodhue County--prevalent on 15 plants per 0.4 ha (acre) in 2 commercial sweet corn [10-12 leaf] fields of variety Commander. Fields heavily infested with CORN LEAF APHID (Rhopalosiphum maidis). Stevens County--maize dwarf mosaic potyvirus B prevalence 5% (8 plants) on border rows of 1 sweet corn [12-leaf] monitoring plot at Morris, August 2-7. (Stromberg).

WISCONSIN - Green Lake, Columbia, and Dane Counties--maize dwarf mosaic potyviruses infected several fields of late-planted sweet corn. (Lovett). MISSOURI - Cass, Bates, Vernon, Jasper, Newton, McDonald, Barry, and Lawrence Counties--prevalence less than 1% on corn [dent] in commercial fields; symptoms very light. (Foudin).

MAIZE CHLOROTIC MOTTLE VIRUS - MISSOURI - Cass, Bates, Vernon, Jasper, Newton, McDonald, Barry, and Lawrence Counties--prevalence less than 1% (trace)/ symptoms severe on corn [dent] surveyed. Almost all infected plants in end rows or border rows. (Foudin).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Stafford County--second generation larvae 1-1.2 per corn plant in untreated areas of 2 fields and 0.2 and 0.6 per plant in treated areas. Shawnee and Douglas Counties--small larvae light in corn ears. (Bonczkowski). Ford County--light trap catches indicated flights peaked at Dodge City July 29 to August 2 at 400-476 per night, then decreased to 80-170 per night August 3-8. Catches seemed to have peaked in late July at Pratt with up to 608 per night July 30. Kiowa County--peaked in late July and early August at Greensburg, counts very low. Garden City, Finney County, Haviland, Kiowa County, St. John, Stafford County, and Hiawatha, Brown County--also decreased in light traps. (Bell).

NEBRASKA - Southern area--European corn borer light trap catches still relatively light, but averaged 1,000+ per night in 1 trap in Holt County. Pierce County--fresh egg masses on 26% of plants in 1 corn field. (Witkowski et al.). Lancaster County--fresh egg masses on 20% of plants in corn fields and 2nd instar larvae on 5% of plants. (Miller).

IOWA - Statewide--second-generation European corn borer adult flight occurred few days later than expected. Southern area--blacklight trap catches indicate peak flight occurred. Boone County--19, 9, and 12 egg masses per 100 plants in 3 corn fields on August 4. Counts from same fields were 53, 49, and 37, respectively, August 10. Southern and central areas--treatments applied. (Townsend).

MINNESOTA - European corn borers per 100 corn plants, predominant instar, and number of infested corn plants per 100 [average height in cm (in)] in 64 fields of field corn in 12 counties by district: Northwest 8, 4th, and 26 [208 (82)]; southwest--27, pupae, and 33, [221 (87)]; and south-central--30, pupae, and 34, [221 (87)]. Populations stable except in northwest district. Adults in light traps about same. Southeast district--egg masses indicated beginning of 2nd generation. (Sreenivasam).

ALABAMA - Northern area--European corn borer still heavy in most corn in Sand Mountain. (Smith). DELAWARE - Southern area--early second generation larvae entered stalks, flights and egg laying decreased. New Castle County--flights still heavy. (Burbutis, Kelsey). MAINE - Central area--infested up to 10% of corn plants. Kennebec County--2 adults in blacklight trap on farm. (Gall).

ARMYWORM (Pseudaletia unipuncta) - NEBRASKA - Lincoln County--2nd to 4th instar larvae infested 9% of plants in 1 corn field. Larvae fed on leaves and silk in border areas and areas with concentrations of grassy weeds. (Campbell). Holt and Antelope Counties--damage light. (Witkowski). Saunders and Fillmore Counties--trace in grassy weed areas of corn fields. (Raun). Thayer County--larvae, about one-third grown, averaged 9 per 0.8 sq m (sq yd) in 2 fields in areas with grassy weeds. Dawson and Dundy Counties--larvae feeding in silks, averaged 1 on up to 30% of corn ears. Larvae averaged 1 per 0.8 sq m on ground. (Raun). ILLINOIS - Statewide--one-half to full-grown larvae fed in corn silks. (Black).

CORN EARWORM (Heliothis zea) - NEW MEXICO - Lea County--larvae damaged corn, some controls applied. (Staff). KANSAS - Rice County--small larvae trace in sorghum heads [bloom]. (Salsbury).

FALL ARMYWORM (Spodoptera frugiperda) - KANSAS - Washington and Marshall Counties--heavy in late sorghum whorls in small localized areas in fields. (Bonczkowski). NEBRASKA - Lancaster County--3rd and 4th instar larvae damaged 2% of plants, averaged 0.33 per damaged plant in 1 sorghum field. (Miller). NORTH CAROLINA - Piedmont and Coastal Plain areas--infestations at or above threshold in 50% of late corn and sorghum fields. Sampson County--80-90% of plants infested on 18 ha (45 acres) of late corn; similar reports in Duplin, Jones, Union, Rowan, Stokes, and Granville Counties. (Jackson et al.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - COLORADO - Yuma County--infestations economic in some corn fields with up to 10 hatching egg masses per 50 plants. Controls applied in some fields. (Hantsbarger). NEBRASKA - Dundy County--larvae up to 1.5 per ear on 20% of corn plants surveyed. (Raun).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Lancaster County--adults 1 and 4.3 per plant in 2 corn fields, respectively. (Miller). MINNESOTA - Average number of beetles per 0.4 ha (acre), number of corn fields surveyed, percent of NORTHERN CORN ROOTWORM (D. longicornis) and percent lodged plants by county: Douglas--17,365, 3, 73%, and less than 1%; Swift--16,725, 4, 77%, and less than 1%; Big Stone--8,357, 3, 86%, and less than 1%; Stevens--5,485, 3, 67%, and less than 1%; Goodhue--28,514, 5, 92%, and 0%; Wabasha--44,610, 5, 91%, and less than 1%; Winona--23,571, 5, 95%, and 0%; Fillmore--27,026, 4, 72%, and 0%; Mower--35,877, 5, 95%, and 14%; and Houston--62,397, 5, 86%, and less than 1%. (Sreenivasam).

MARYLAND - Statewide--Diabrotica longicornis adults increased on fresh corn silks. (Hellman, Pinto).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Eddy County--damaged grain sorghum. (Staff). KANSAS - Ellis County--first of season. Light in sorghum heads. (Harvey).

GREENBUG (Schizaphis graminum) - KANSAS - Southwestern area--few localized heavy infestations in sorghum; treatments applied. (Mock, Lengkeek). Riley, Washington, Marshall, Nemaha, Pottawatomie, Jackson, Jefferson, Shawnee, Douglas, Leavenworth, Johnson, and Wabaunsee Counties--trace on sorghum. Lady beetles heavy in fields, some parasitism noted. (Bonczkowski). NEBRASKA - Lancaster County--adults ranged 153-667 (averaged 373) per plant in 3 sorghum [flag leaf to early head] fields, damage ranged from 2 lower leaves killed to isolated reddened areas on leaves. Parasitism by Lysiphlebus testaceipes (an aphidiid wasp) 3-70% (averaged 26%). (Miller).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Riley, Washington, Marshall, Nemaha, Pottawatomie, Jackson, Jefferson, Shawnee, Leavenworth, Douglas, Johnson, and Wabaunsee Counties--nymphs often heavy throughout sorghum fields, some adults present. (Bonczkowski).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NEBRASKA - Frontier and Red Willow Counties--colonies of this species and BANKS GRASS MITE (Oligonychus pratensis) above ears in 2 corn fields. (Campbell). Northeastern Dawson County--well established on lower leaves and small colonies on leaves above ear; scattered small colonies on corn in southeastern area. Dundy County--treatment recommended for 3 fields, populations increased in other fields in area. (Raun).

BANKS GRASS MITE (Oligonychus pratensis) - MISSOURI - New county record. Barton County--collected from sorghum at Liberal on July 27, 1978, by C. Jones. Determined by S. Thewke. (Thomas).

SMALL GRAINS

DISEASES

Small grain harvest progressed rapidly in northern Great Plain States July 26 to August 8. Scattered fields of winter wheat and barley harvested as far north as Canadian border. Yields and quality varied greatly with disease and insect damage, but in general crop conditions good. (Roelfs, Long).

WHEAT LEAF RUST (Puccinia recondita f.sp. tritici) widespread but variable in severity throughout winter wheat region July 26 to August 8. In general, amount of leaf rust about the same as in 1977. Losses light. Rust widely distributed throughout spring wheat area; losses will be trace due to widespread use of resistant cultivars. (Roelfs, Long).

MONTANA - Sheridan and Roosevelt Counties--wheat leaf rust prevalence trace to 99%/severity trace to 2% on spring wheat [milk to dough]. (Jones). SOUTH DAKOTA - Northeastern area--trace on leaves still green in most commercial spring wheat fields [dough], week of August 3. (Jons).

OAT CROWN RUST (Puccinia coronata var. avenae) more severe in 1978 than in recent years throughout northern United States oat-growing areas. Severities of 80% and, in some fields, losses of 5-10% will occur in western MINNESOTA and eastern NORTH DAKOTA commercial fields. In many fields, oat stem sheath black due to telia development. (Roelfs, Long).

NEBRASKA - Pierce County--oat crown rust prevalence 10%/severity trace on some late-planted oats [milk] July 26 to August 4. (Poe). SOUTH DAKOTA - Prevalence/severity in commercial oat fields [milk to dough] by county (2 fields) August 1-4: Roberts, Marshall, Brown, Spink, Clark, Hamlin, Grant, Deuel, and Brookings--99%/60-80%. Substantial yield losses likely in late-seeded fields [milk]. (Jons).

RYE LEAF RUST (Puccinia recondita f.sp. secalis) trace on rye nationwide, losses will be light and local. (Roelfs, Long).

BARLEY LEAF RUST (Puccinia hordei) - MINNESOTA - Severities generally trace in commercial barley fields resulting in little loss. (Roelfs, Long).

HELMINTHOSPORIUM LEAF BLOTCH (Pyrenophora (Helminthosporium) avenae) - NEBRASKA - Pierce County--asexual prevalence 40%/severity 10% on some late-planted oats [milk] July 26 to August 4. (Poe).

TAN SPOT (Pyrenophora trichostoma) - SOUTH DAKOTA - Prevalence/severity in spring wheat fields [dough] by county August 1-4: Roberts--99%/5-10%, Marshall--99%/5-20%, Brown--99%/5-10%, Clark--99%/5-30%, and Grant--99%/5-10%. (Jons).

SPOT BLOTCH (Cochliobolus (Helminthosporium) sativus) - MINNESOTA - Wilkin County--asexual prevalence 100%/severity 40% in 2 commercial barley fields [joint] August 2-7. (Stromberg).

TAKE-ALL (Gaeumannomyces graminis var. tritici) - MINNESOTA - Renville [middough] and Polk [early dough] Counties (1 commercial field each of ERA wheat)--prevalent in scattered small pockets throughout fields August 2-7. (Stromberg).

BARLEY POWDERY MILDEW (Erysiphe graminis f.sp. hordei) - MINNESOTA - Wilkin County--prevalence 100%/severity 10% in 2 commercial barley fields [joint] August 2-7. (Stromberg).

LOOSE SMUT (Ustilago tritici) - MICHIGAN - Kalamazoo and Newaygo Counties--prevalence trace on wheat week ending August 4. (Singh).

OAT LOOSE SMUT (Ustilago avenae) - NEBRASKA - Pierce County--prevalence trace to 2% on some late-planted oats [milk] July 26 to August 4. (Poe). SOUTH DAKOTA - Marshall County--prevalence 3% in 1 oat field [milk] and Roberts County--prevalence trace in 1 oat field, August 1. (Jons).

ERGOT (Claviceps purpurea) - SOUTH DAKOTA - Marshall, Brown, Spink, Roberts, Grant, and Clark Counties--trace in commercial spring wheat [dough] fields. Hamlin County--trace in 1 commercial barley field [ripe] week of August 3. (Jons).

SEPTORIA COMPLEX (Septoria spp.) - SOUTH DAKOTA - Prevalence/severity of Septoria sp. on leaves of spring wheat [dough] in commercial fields by county August 1-4: Roberts--50%/trace to 2%, Marshall--50%/1-2%, Brown--25-50%/trace to 2%, Clark--60%/1-5%, and Deuel--trace/trace. (Jons).

MINNESOTA - Prevalence/severity of SPECKLED LEAF BLOTCH (Septoria tritici) on flag leaves of wheat by county August 2-7: Stevens--100%/25-30% [middough], Polk--100%/15% on ERA wheat [early dough], and Norman--100%/20% [early dough]. (Stromberg).

SCAB (Fusarium spp.) - SOUTH DAKOTA - Prevalence/severity on spring wheat heads by county (2 fields each) August 1-4: Marshall--trace to 25%/5-99%; Brown--1-25%/1-50%; Clark--20%/1-10%; Brookings--1-20%/5-99%, 20%/5-100% in 1 winter

wheat field; Deuel--10%/1-50%; Grant--5-10%/1-50%; and Roberts--1-10%/1-90%. (Jons). MINNESOTA - Stevens County--prevalence 10% on wheat [middough] August 2-7. (Stromberg). MICHIGAN - Prevalence on wheat [ripe] by county week ending August 4: Kalamazoo--1-2%, Calhoun--3-5%, Muskegon--45-50%, and Newaygo--20-25%. (Singh).

FUSARIUM FOOT ROT (*Fusarium* spp.) - MINNESOTA - Prevalence on wheat by county August 2-7: Stevens--trace [middough], and Norman--trace [early dough]. (Stromberg).

WHEAT LEAF NECROSIS (*Pseudomonas syringae*) - MINNESOTA - Prevalence/severity on wheat [early dough] by county: Polk--100%/5% (variety ERA) on flag leaf, and Norman--100%/20% on flag leaf, August 2-7. (Stromberg).

BARLEY YELLOW DWARF LUTEOVIRUS - MINNESOTA - Wilkin County--infected 100% of 2 commercial barley fields [joint]; plants severely stunted and yellowed August 2-7. (Stromberg).

INSECTS

HESSIAN FLY (*Mayetiola destructor*) - KANSAS - Statewide--spring survey showed overall wheat infestations averaged 4% tillers infested in 1978, up sharply from 1% in 1977, and higher than in many years. Areas with serious infestations included north-central district and parts of northeast and northwest districts. (Hatchett, Brooks). SOUTH DAKOTA - Brown, Edmunds, Faulk, McPherson, Spink, Clark, Codrington, Day, Marshall, Roberts, Grant, and Potter Counties--infestations moderate to severe on about 313,000 ha (775,000 acres) of spring wheat, light to moderate on remaining approximate 0.49 million ha (1.2 million acres) of spring wheat. Pennington, Perkins, Bennett, Jackson, and Jones Counties--infested winter wheat. (Walgenbach).

RICE WATER WEEVIL (*Lissorhoptrus oryzophilus*) - ARKANSAS - Cross County--very unusual infestation in relatively late-planted rice field under continuous flood. First generation adults (from overwintered adults) concentrated in field. Large larvae averaged 20 per 50 cc (3.1 cu in) soil core samples, pupae also noted. Above-ground plant parts seemed healthy. (Tugwell et al.).

TURF, PASTURES, RANGELAND

INSECTS

AN ARMORED SCALE (*Chortinaspis subchortina*) - FLORIDA - New county record. Martin County--adults moderate on roadside grass at Stuart, July 14, 1978. Collected by E.W. Campbell. Determined by A.B. Hamon. (Mead).

FORAGE LEGUMES

DISEASES

SUMMER BLACK STEM (*Cercospora zebrina*) - KANSAS - Still most widespread alfalfa disease. Southwest, south-central, and east-central districts--prevalence trace on alfalfa week of August 4. (Sim).

LEPTOSPHERULINA LEAF SPOT (*Leptosphaerulina briosiana*) - KANSAS - Nemaha County--prevalence of this disease and SPRING BLACK STEM (*Phoma medicaginis*) trace to 30% in several alfalfa fields, some defoliation. (Sim).

SOUTHERN ANTHRACNOSE (*Colletotrichum trifolii*) - KANSAS - Clay County--first of season on alfalfa. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - WISCONSIN - Southwestern, west-central, and northwestern areas--larvae 1-7 per 10 sweeps in most alfalfa. Grant County--larvae 2 per sweep, unusually heavy. Adults fewer than 1 per sweep in most fields. (Lovett).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae per 100 sweeps of alfalfa by county: Maricopa--45-50, Gila--28, and Yuma--80-100. (McCall et al.).

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Southern Coastal Plain area--infested Coastal Bermudagrass hay fields. Duplin County--treatments applied to 10-ha (25-acre) field. Moore County--larvae 5 (threshold) per 0.09 sq m (sq ft) on 6.1-ha (15-acre) field. (Sampson, Hunt).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Maricopa County--larvae 60 and adults 200 per 100 sweeps of alfalfa. (McCall et al.).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - West-central and northwestern areas--1-3 per sweep in alfalfa. Dunn County--averaged 6 per sweep in 1 field. (Lovett). OHIO - Counts per sweep of alfalfa [height] by county: Preble--0.7 [36 cm (14 in)], Butler--1 [48 cm (19 in)], and Greene--0 [38 cm (15 in)]. (Drees).

LYGUS BUGS (Lygus spp.) - ARIZONA - Nymphs and adults per 100 sweeps of alfalfa by county: Maricopa--30 and 50, and Gila--6 and 10. (McCall et al.).

SAY STINK BUG (Chlorochroa sayi) - UTAH - Millard County--populations threat to alfalfa seed crop, increased as specimens moved from maturing small grain fields. (Haskell, Karren).

GRASSHOPPERS - WISCONSIN - Pepin County--heavy in several forage fields in light soil. (Lovett).

SOYBEANS

DISEASES

SOYBEAN BROWN SPOT (Septoria glycines) - KANSAS - Coffey County--on soybeans in 1 field week of August 4. (Sim). MISSOURI - Cass, Bates, Vernon, Jasper, Newton, McDonald, Barry, and Lawrence Counties--prevalence 25-75%/severity trace to 5% on soybeans [3 nodes to full pod]. (Foudin).

ILLINOIS - Prevalence/severity of soybean brown spot on soybeans [pod 0.5 cm unless stated otherwise] by county (1 field each) week of July 24: In commercial fields, Vermilion--99%/1-3% [full bloom], Clark--99%/6-12% [full bloom], Crawford--99%/6-12% [beginning bloom], and Wayne--99%/3-6% [beginning bloom]; in monitoring plots, Saline--99%/1-3%, Jackson--99%/3-6%, St. Clair--99%/12-15%, and Fayette--99%/3-6%. Week of July 31: In commercial fields, Henry--99%/15% [pod 2 cm], Ford--99%/15-20% [pod 2 cm], Kane--99%/20%, McLean--99%/6% [seed development], Kendall--99%/12%, Knox--99%/30-35% [pod 2 cm], and Tazewell--99%/25% [pod 2 cm]; in monitoring plots, Logan--99%/25%, McDonough--99%/30% [pod 2 cm], Bureau--99%/25% [pod 0.5 cm], De Kalb--99%/25%, and Livingston--99%/25%. (Jordan).

MICHIGAN - Prevalence/severity of soybean brown spot on soybeans [flowering unless stated otherwise] by county week ending August 4: Kalamazoo--trace, Washtenaw--1%/trace, Wayne--5%/1%, Macomb--1%/1%, Genesee--80%/5% on lower leaves, Shiawassee--5%/1%, Muskegon--45%/2% [pod], Montcalm--5%/3%, Saginaw--65-70%/1-3% on lower leaves [seed development], and Tuscola--5%/trace. (Singh).

PHYTOPHTHORA ROOT AND STEM ROT (*Phytophthora megasperma* var. *sojae*) - MINNESOTA - Prevalence by county July 25-31: Faribault--1-2% on soybeans [full bloom] in low spots in 1 field and Martin--scattered plants throughout field of variety Corsoy [early pod set]. Renville County--prevalent in soybeans [early pod set] in large area associated with low spot at end of field 15 x 30.5 m (50 x 100 ft) August 2-7. (Stromberg).

ILLINOIS - *Phytophthora* root and stem rot infected some scattered soybean plants in 1 commercial field in Kendall County [pod 0.5 cm] and in monitoring plots in Livingston [pod 0.5 cm], Logan [pod 0.5 cm], and McDonough [pods 2 cm] Counties week of July 31. (Jordan). MICHIGAN - Prevalence on soybeans [flowering unless stated otherwise] by county week ending August 4: Calhoun--trace, Macomb--trace, Genesee--trace [1 flower], Shiawassee--trace [1 flower], and Saginaw--trace [seed development]. (Singh).

PHYLLOSTICTA LEAF SPOT (*Phyllosticta sojaecola*) - ILLINOIS - Prevalence/severity on soybeans [pod 0.5 cm unless stated otherwise] by county (1 field each) week of July 24: In commercial fields, Crawford--trace/trace to 1% [beginning bloom], and Wayne--trace/1% [beginning bloom]. In monitoring plots, Saline--1%/1-3%, Jackson--trace/trace to 1%, and Fayette--trace/trace. Week of July 31: In commercial fields, Henry--trace/trace [pod 2 cm], Kane--trace/trace, and McLean--1%/2% [seed development]. In monitoring plots, Logan--trace/trace and Bureau--trace/trace. (Jordan).

SOYBEAN DOWNY MILDEW (*Peronospora manshurica*) - ILLINOIS - Prevalence/severity [pod 0.5 cm unless stated otherwise] on soybeans (1 field each) by county week of July 31: In commercial fields, Henry--trace/trace [pod 2 cm], Ford--99%/2-5% [pod 2 cm], Kane--trace/trace, and Tazewell--99%/1% [pod 2 cm]. In monitoring plots, Logan--50%/1%, McDonough--30%/1% [pod 2 cm], Bureau--30%/3%, De Kalb--trace/trace, and Livingston--trace/trace. Week of July 24: In commercial fields, Vermilion--trace/trace [full bloom], Clark--99%/1-3% [full bloom], and Wayne--trace/trace [beginning bloom]; in monitoring plots, Saline--trace/trace, Jackson--trace/trace, St. Clair--90%/1-3%, and Fayette--trace/trace. (Jordan).

WISCONSIN - Wood County--soybean downy mildew infected some soybean fields. (Lovett). MICHIGAN - Prevalence/severity on soybeans by county week ending August 4: Calhoun--trace [flowering], Shiawassee--1%/trace [flowering], Montcalm--5%/3% [flowering] in irrigated field, and Saginaw--trace [seed development]. (Singh).

SOYBEAN STEM CANKER (*Diaporthe phaseolorum* var. *caulivora*) - ILLINOIS - Crawford County [beginning bloom] in 1 commercial field and St. Clair County [pod 0.5 cm] in 1 monitoring plot--prevalent on few scattered soybean plants week of July 24. Few scattered soybean plants [pod 0.5 cm unless stated otherwise] in commercial fields (1 field each) in following counties infected week of July 31: Henry [pod 2 cm], Kane, and Kendall. Prevalence in monitoring plots by county: McDonough--3% [pod 2 cm], Bureau--1% [pod 0.5 cm], De Kalb--1% [pod 0.5 cm], and Livingston--3% [pod 0.5 cm]. (Jordan).

SOYBEAN BACTERIAL BLIGHT (*Pseudomonas glycinea*) - NEBRASKA - Eastern and north-eastern counties--prevalence trace to 30%/severity 5-10% on soybeans [7/8 to full-bloom]. Infection much lighter than usual for time of year. (Poe). MISSOURI - Cass, Bates, Vernon, Jasper, Newton, McDonald, Barry, and Lawrence Counties--prevalence 15-30% on soybeans [3 nodes to full pod] with 3-5 leaves infected. (Foudin).

ILLINOIS - Prevalence/severity of soybean bacterial blight on soybeans [pod 0.5 cm unless stated otherwise] by county (1 field each) week of July 24: In commercial fields, Vermilion--70%/1-3% [full bloom] and Crawford--trace/trace [beginning bloom]; in monitoring plots, Saline--trace/trace to 3%, Jackson--trace/trace to 1%, and St. Clair--trace/trace to 6%. (Jordan). Week of July 31: In commercial fields, Henry--99%/20% [pod 2 cm], Ford--99%/15-20% [pod 2 cm], Kane--99%/25%, McLean--99%/10% [seed development], Kendall--99%/35%, Knox--99%/20% [pod 2 cm], and Tazewell--99%/1% [pod 2 cm]. In monitoring plots, Logan--75%/3%, McDonough--99%/12% [pod 2 cm], Bureau--99%/12%, De Kalb--99%/15%, and Livingston--99%/10%. (Jordan).

MINNESOTA - Soybean bacterial blight prevalence/severity on soybeans [early pod set unless stated otherwise] by county (1 field each) July 25-31: Mower--100%/5-10% [full bloom], Freeborn--100%/trace to 3%, Faribault--100%/trace to 5%, Jackson--100%/trace to 5%, Rock--100%/3%, Pipestone--100%/2% [full bloom], and Murray--100%/trace to 5% [full bloom]. (Stromberg).

MICHIGAN - Prevalence/severity of soybean bacterial blight on soybeans [flowering unless stated otherwise] by county week ending August 4: Kalamazoo--trace, Calhoun--trace, Washtenaw--trace, Wayne--trace, Macomb--2%/1% [flowering below uppermost node], Genesee--trace [1 flower], Kent--trace [seed full size], Saginaw--trace [seed development], and Tuscola--trace [flowering below uppermost node]. (Singh).

BACTERIAL PUSTULE (*Xanthomonas phaseoli* var. *sojense*) - NEBRASKA - Dakota County-prevalence trace in some soybean [7/8 to full-bloom] fields July 26 to August 4. (Poe). ILLINOIS - Prevalence/severity [pod 0.5 cm unless stated otherwise] on soybeans in monitoring plots (1 each) by county week of July 31: Logan--1%/trace, McDonough--1%/trace [pod 2 cm], Bureau--50%/12%, De Kalb--1%/trace, and Livingston--1%/1%. (Jordan). KANSAS - Northeastern area--most common soybean disease. Widespread over area, but many fields seemed to be free of infection. Prevalence on soybeans by county: Osage--75%, Jefferson--5%, Nemaha--trace, and Brown--trace to 100%. (Sim).

SOYBEAN MOSAIC POTYVIRUSES - MISSOURI - Cass, Bates, Vernon, Jasper, Newton, McDonald, Barry, and Lawrence Counties--prevalence trace to 2% on soybeans [3 nodes to full pod] in commercial fields. (Foudin). ILLINOIS - Saline, Jackson, and St. Clair Counties--symptoms on few scattered soybean plants [pod 0.5 cm] in monitoring plots week of July 24. (Jordan). MICHIGAN - Prevalence on soybeans by county week ending August 4: Kalamazoo--5% [flowering], Calhoun--trace [flowering], Washtenaw--1% [flowering below uppermost node], Kent--1% [seed development], and Muskegon--trace [pod development]. (Singh).

TOBACCO RINGSPOT NEPOVIRUS - MICHIGAN - Prevalence of bud blight on soybeans [flowering unless stated otherwise] by county week ending August 4: Kalamazoo--trace, Calhoun--trace, Washtenaw--trace [flowering below uppermost node], and Sanilac--trace. (Singh).

INSECTS

CORN EARWORM (*Heliothis zea*) - MISSISSIPPI - South Delta counties--larvae increased, not economic on soybeans [pod]. (Anderson). SOUTH CAROLINA - Coastal Plain--increased to 4-5 per 0.3 row m (row ft) of soybeans in some areas. (Griffin).

NORTH CAROLINA - Wilson, Greene, Halifax, Johnston, and Wayne Counties--2nd instar corn earworm larvae in scattered soybean [open canopy] fields in 30-field survey. Eggs still being laid. (Jackson).

BLACK CUTWORM (Agrotis ipsilon) - MISSOURI - Southwestern area--heavy on soybeans following wheat. Treatment applied to part of field; 28 ha (70 acres) lost due to feeding. (Thomas).

MEXICAN BEAN BEETLE (Epilachna varivestis) - OHIO - Scioto County--larvae, 3 to 6 mm (0.1 to 0.2 in) long, 1.3 per sweep and adults 0.3 per sweep of soybeans. This species, JAPANESE BEETLE (Popillia japonica), and BEAN LEAF BEETLE (Cerotoma trifurcata) damaged 100% of soybeans foliage in fields. Preble and Warren Counties--few adults and larvae in soybean fields. (Drees).

PEANUTS

INSECTS

POTATO LEAFHOPPER (Empoasca fabae) - NORTH CAROLINA - Martin and Washington Counties--of 404.7 ha (1,000 acres) of peanuts, 40.4 ha (100 acres) at threshold. Threshold 25% of plants with hopper burn. (Pleasants).

COTTON

INSECTS

BOLLWORMS (Heliothis spp.) - ARIZONA - BOLLWORM (H. zea) counts on cotton by county: Maricopa--eggs 30-200 and larvae 2-50 per 100 terminals; Pinal--larvae 35 and eggs 100 per 100 terminals; Mohave--eggs and larvae light; and Yuma--larvae 2-3 and eggs 10 per terminal. (Pilling et al.). NEW MEXICO - Eddy County--new eggs on cotton terminals in Artesia area. (Staff).

MISSISSIPPI - Southern and central areas--Heliothis spp. egg laying increased on cotton, 20-60 eggs per 100 terminals. Northern area--egg laying increased in river bottoms. Average larval infestation and acreage by county: Tate--4%, 607.0 ha (1,500 acres); Tippah--3%, 101 ha (250 acres); Alcorn--6%, 142 ha (350 acres); Yalobusha--3%, 2,023 ha (5,000 acres); Prentiss--2%, 80.9 ha (200 acres); Itawamba--5%, 202 ha (500 acres); Pontotoc--10%, 60.7 ha (150 acres); Montgomery--3%, 348 ha (860 acres); Quitman--10%, 1,416 ha (3,500 acres); Webster--6%, 24 ha (60 acres); Lowndes--2%, 121 ha (300 acres); Jones--1%, 142 ha; Lincoln--5%, 202 ha; and Franklin--2%, 40.5 ha (100 acres). (Hamer).

ALABAMA - Central area--new Heliothis spp. adult flights underway. Autauga County--infestations heavy, up to 50% on cotton squares. All larval instars present, egg masses ranged 50-200+ per 100 terminals. (Smith, Conley). Statewide--populations generally increased. (Cobb).

BOLL WEEVIL (Anthonomus grandis grandis) - MISSISSIPPI - Most areas--generally below economic levels on cotton. Southern hill section--area of heaviest damage. Central and northern hill sections--damage increased. Percent punctured squares and acreage by county: Tate--0%, 607.0 ha (1,500 acres); Tippah--2%, 101 ha (250 acres); Alcorn--1%, 142 ha (350 acres); Yalobusha--3%, 2,023 ha (5,000 acres); Prentiss--4%, 80.9 ha (200 acres); Itawamba--2%, 202 ha (500 acres); Montgomery--2-18%, 348 ha (860 acres); Webster--3%, 24 ha (60 acres); Lowndes--25%, 121 ha (300 acres); Jones--20%, 142 ha; Lincoln--20%, 202 ha; Lawrence--15%, 34 ha (85 acres); and Franklin--1%, 40.5 ha (100 acres). (Hamer).

ALABAMA - Statewide--boll weevil infestations on cotton spotty. (Smith). Northern area--second field generation emergence expected. (Freeman). Marengo County--young adults moderate, fed in blooms and squares. (Smith). SOUTH CAROLINA - Barnwell County--light on cotton, 6-8% square damage. (Johnson).

COTTON LEAFPERFORATOR (Bucculatrix thurberiella) - ARIZONA - Counts on cotton by county: Maricopa--extremely heavy in spots, Pinal--larvae 40-2,000 per sweep in spots, and Yuma--1-2 per terminal. (Pilling et al.).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Statewide--infestations still light and scattered on cotton. Covington County--infestations moderate. (Linder). SOUTH CAROLINA - Aiken, Calhoun, and Sumter Counties--light to moderate in some cotton fields. (Kissam).

LYGUS BUGS (Lygus spp.) - ARIZONA - Counts per 100 sweeps of cotton by county: Maricopa--nymphs 8-20 and adults 10, and Yuma--adults 5-10. (Pilling et al.).

TOBACCO

INSECTS

TOBACCO HORNWORM (Manduca sexta) - NORTH CAROLINA - Lenoir County--70 of 256 tobacco fields at threshold. Bladen County--18 of 111 fields at threshold. Wake County--12 of 72 fields at threshold. Martin County--none of 56 fields at threshold. (Harper et al.). OHIO - Lawrence and Gallia Counties--larvae, 4th and 5th instar, and eggs on tobacco ["knee high" to flowering]. Almost all larvae parasitized by Apanteles congregatus (a braconid wasp). Feeding damage on 5.5% of 110 tobacco plants in 1 Gallia County planting; other planting not as severely affected. New damage will appear after new eggs hatch and second generation larvae feed. (Drees, Bradfield).

COLE CROPS

INSECTS

CABBAGE LOOPER (Trichoplusia ni) - WISCONSIN - Columbia and Washington Counties--adults increased in pheromone traps at Arlington and Hartford, respectively. Dane and Columbia Counties--larvae heavy on cabbage. (Lovett). NEW YORK - Upstate area--adults increased in pheromone traps. Monroe County--larvae increased to about 1 per 5 plants in cabbage fields. (Willson et al.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Monroe County--egg laying increased in cabbage fields. Averaged 3-4 per 20 plants in most fields; 21 per 20 plants in 1 field. (Chomyn et al.).

GENERAL VEGETABLES

INSECTS

GRANULATE CUTWORM (Feltia subterranea) - MISSISSIPPI - Calhoun County--larvae, 3rd to 5th instar, damaged about 30-40% of sweetpotato roots in 16-ha (40-acre) field 14 days from harvest. Land in pasture last season. (Brook).

DECIDUOUS FRUITS AND NUTS

INSECTS

FALL WEBWORM (Hyphantria cunea) - OREGON - Marion County--larvae heavy in Salem area. Large tents on extremely wide range of broad leaved dooryard shade and fruit trees. Heaviest on Juglans spp., particularly black walnut; some trees will be completely defoliated within next few weeks. (Penrose).

FILBERTWORM (Melissopus latiferreanus) - OREGON - Polk County--increased adult activity due to very hot weather August 4-9; 74 adults taken in blacklight trap in abandoned filbert orchard in Eola Hills. (Penrose).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Yamhill County--trapping indicated emergence peaked in Dundee area August 6. Totals for 7 traps August 1: 5, August 2: 8, August 3: 4, August 4: 21, August 5: 36, August 6: 192, August 7: 71, August 8: 25, August 9: 29, and August 10: 11. (Larson).

CITRUS

INSECTS

CITRUS RUST MITE (Phyllocoptruta oleivora) - FLORIDA - Population peaked on citrus; peak below that of 1977. (Townsend).

FOREST AND SHADE TREES

INSECTS

PALES WEEVIL (Hylobius pales) - MARYLAND - Worcester, Wicomico, and Somerset Counties--caused extensive damage in some loblolly pine plantations. (Hellman, Pinto).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - NEBRASKA - Dawson and Lincoln Counties--averaged 330+ per head on untreated cattle in river pastures. (Campbell). MISSOURI - Central area--averaged 110 per side in 1 herd. North-central area--80-100 per side in 1 herd. (Hall). WISCONSIN - Southern counties--10-50 per side common on dairy cattle. (Lovett). INDIANA - Averages per side in 2 herds (15 head each) of mixed breed cattle by county: Grant--10 and Dubois--57. Grant County herd moved, may have affected fly counts. (Williams). FLORIDA - Alachua County--averaged 326 per head in small beef herd at Newberry. (Boyd).

FACE FLY (Musca autumnalis) - NEBRASKA - Dawson and Lincoln Counties--averaged 12 per face on untreated cattle. (Campbell). MISSOURI - Central area--averaged 5 per head in 1 herd. North-central area--averaged 10 per head in 1 herd. (Hall). INDIANA - Average per animal in 2 herds (15 head each of mixed breed cattle) by county: Grant--11.8 and Dubois--15.4. Grant County herd moved, may have affected fly counts. (Williams).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (Diaparsis n.sp.) - KENTUCKY - New county record. Lewis County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 6% in oat field near Tollesboro, June 16, 1978. Collected L. Conn. Determined by V.E. Montgomery. Recoveries of 20+% parasitism of Oulema melanopus (cereal leaf beetle) larvae from individual oat fields by State and county May 25 to June 29. MICHIGAN - Berrien County--23%, 56%, and 43% in Bertrand Township (3 fields), and 21% in Weesaw Township. INDIANA - St. Joseph County--86% in Warren Township. (T.L. Burger).

AN ICHNEUMONID WASP (Lemophagus curtus) - INDIANA - New county record. Huntington County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 17% in oat field in Clear Creek Township, June 13, 1978. Collected by H. Bollinger. Determined by V.E. Montgomery. (T.L. Burger).

A EULOPHID WASP (Tetrastichus julis) - INDIANA - Recoveries of 20+% parasitism of Oulema melanopus (cereal leaf beetle) larvae from individual oat fields (unless stated otherwise) by State and county May 30 to June 29. INDIANA - Franklin County--25% in Bath Township; 100%, 39%, 40%, and 31% in Springfield Township (4 fields); and 20% in White Water Township. KENTUCKY - Mercer County--23% near Harrisburg and 33% near Burgin. MICHIGAN - Berrien County--40%, 60%, and 81% in Bertrand Township (3 fields); 60%, 48%, and 23% in Galien Township (3 fields); and 36% in Weesaw Township. OHIO - Fayette County--25% and 33% in Paint Township and 100%, 30%, and 29% in Jefferson Township. (T.L. Burger).

OHIO - New county record. Clermont County--parasitism by T. julis of Oulema melanopus (cereal leaf beetle) larvae 9% in oat field in Jackson Township May 15, 1978. Collected by R. Sutton. Determined by V.E. Montgomery. NEW YORK - New county record. Washington County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 33% in oat field near Cambridge, June 16, 1978. Collected by G. Angalet. Determined by R. Dysart. (T.L. Burger).

FEDERAL AND STATE PROGRAMS

DISEASES

BARLEY TRITICI STEM RUST (Puccinia graminis f.sp. tritici) trace in commercial barley throughout northern Great Plains, July 26 to August 8. Severities trace to 10% in barley plots. Heavier than in past 2 years, but losses only minor. (Roelfs, Long). MONTANA - Roosevelt County--prevalence 30%/severity trace to 1% in 1 commercial barley field. (Jons).

OAT STEM RUST (Puccinia graminis f.sp. avenae) found in most commercial oat fields in the northern Great Plains July 26 to August 8. Severities trace to 40%; losses will occur in some late-planted fields in the DAKOTAS and western MINNESOTA. Environmental conditions not as favorable as in 1978, initial inoculum arrived about 7 days later. Losses will be less than in 1977. Yield and

Area	No. of Collec- tions	Percent of Isolates of Each Oat Stem Rust Race				
		1	2	7	31	61
AK	1				100	
IA	5				100	
KS	4				50	50
LA	1				100	
MN	9				75	25
MO	2				100	
OK	3				44	56
SC	1				100	
SD	2				100	
N TX	37	4	16		46	34
S TX	90	*		2	76	21
WI	1				100	
1978 To date	156	1	4	1	70	24
1977 Totals	756		1		95	3
1976 Totals	386		2		66	28

* Less than 0.6%

quality reduced by oat stem rust in some harvested oat seed due to hot weather in early July as well as oat crown and stem rust, *Septoria*, leaf blight, and other diseases during critical stage of plant development.

Race 31 most prevalent oat stem rust race in 1978. Most of identified collections from TEXAS; most collections from the DAKOTAS, IOWA, MINNESOTA, and WISCONSIN received within past 21 days still being identified. In 1978, races 77 and 78 not found in Texas as they were in 1976 and 1977. Races on previous page identified from collections received before August 7. (Roelfs, Long).

MONTANA - Roosevelt County--oat stem rust prevalence 10%/severity trace in oats [milk]. (Jons). SOUTH DAKOTA - Roberts County--trace in 1 oat field. (Jons). NORTH DAKOTA - Prevalence/severity in oats [milk unless stated otherwise]: Walsh--40%/1% [dough], Cavalier--1%/trace, Rolette--trace/trace. (Jons).

RYE STEM RUST (*Puccinia graminis* f.sp. *secalis*) trace on rye nationwide, but losses will be light and local. (Roelfs, Long).

WHEAT STEM RUST (*Puccinia graminis* f.sp. *tritici*) severities none to 5% in commercial wheat fields of northern Great Plains. Severities trace to 80% in same area on susceptible varieties in winter and spring wheat nurseries. In 1978, trap plots of a susceptible winter wheat variety planted throughout the South, revealed overwintering of stem rust only at Baton Rouge, LOUISIANA. Little stem rust observed this year, as in 1976, in southeastern States, probably due to little overwintering inoculum and dry conditions in early spring that limited stem rust development. Lightest in years in TEXAS due to a cold winter followed by a dry spring. Traces common in commercial fields throughout OKLAHOMA and KANSAS, and 40% severities on susceptible cultivars in Kansas and NEBRASKA plots. For the first time since 1969, stem rust observed in plots near Mesa, ARIZONA.

Preliminary results of wheat stem rust survey shown in following table. Race 15-TNM most commonly identified race (48%) in 1978 compared with 53% in 1977, and 72% in 1976. Race 15-TDM (13% in 1978, 10% in 1976) replaced QSH (11% in 1977, 3% in 1976) as second most commonly identified race. Rank and frequency of races could shift as more collections identified from spring wheat. No new races sufficiently virulent to be hazardous to small grains detected in 1978. Following races identified from collections received before August 7. (Roelfs, Long).

Area	No. of Collections	Percent of Isolates of Most Common Wheat Stem Races																						
		11	15	17	29	56	113	151	RCR	TNM	TLM	TDM	HDL	HDB	HJC	MBC	RTQ	RKQ	RPQ	QCB	QFB	QSH		
AZ	3		78		22																			
KS	36		62		11					1	3	2										7	13	
LA	6	.16													38						38	8		
MN	1				100																			
MO	1		67																					
NE	5		80		20																			
OK	11		33	4	26										4							7	19	
N TX	17		48		15										2								13	22
S TX	10		17	3		10	3	7								10						17	33	
1978 To date	90		1	48	1	13	1	*	1	3	3	1	3	7	6	11								
1977 Totals	445		1	53	1	7	*									3	3	1	5	6	17			
1976 Totals	671		*	72	3	10	*	*							*	1	1		3	3	3			

* Less than 0.6%.

SOUTH DAKOTA - Brookings County--wheat stem rust prevalence 50%/severity trace to 20% on few green stems in 1 winter wheat field [ripe] August 3. (Jons).
MONTANA - Roosevelt County--prevalence trace in 1 spring wheat field [early dough]. (Jons).

INSECTS

GRASSHOPPERS - OREGON - Wasco, Jefferson, Wheeler, and Grant Counties--adult surveys in July and early August revealed 8 or more per 0.8 sq m (sq yd). Two heaviest infestations on National Forest lands between Mt. Vernon and Logdell in Grant County with 12-50 per 0.8 sq m and in Antelope area of southeastern Wasco County. Small "hot spots" in northwestern Grant County and north-central Wheeler County. (Mellott).

NEW MEXICO - Chaves County--grasshopper infestations economic on rangeland northeast and south of Roswell. Lea County--8 or more per 0.8 sq m (sq yd) north and southwest of Lovington. (Staff). COLORADO - Cooperative spraying of rangeland and cropland completed for following counties: Prowers--188,567 ha (465,960 acres); Baca--75,271.6 ha (186,000 acres); Kiowa--4,856.2 ha (12,000 acres); Bent--29,340 ha (72,500 acres); Weld--22,662 ha (56,000 acres); Logan--13,557 ha (33,500 acres); and Cheyenne--7,608.1 ha (18,800 acres). (Fronk).

KANSAS - Nemaha and Jackson Counties--mostly Melanoplus differentialis caused heavy defoliation along borders of some corn fields, up to 30 per 0.8 sq m (sq yd) in field margins. (Bonczkowski). Douglas and Franklin Counties--isolated cases. (Hilbert, White). Douglas County--ears did not develop on seriously damaged outer rows in corn fields and some ears showed extensive feeding damage. (Hilbert).

NORTH DAKOTA - Bowman (19 stops), Dunn (16 stops), and McKenzie (28 stops) Counties--grasshopper field counts 1-7 per sq m (fewer than 1 up to 6 per sq yd), averaged 1 per sq m (less than 1 per sq yd); marginal counts 1-10 per sq m (fewer than 1 up to 8 per sq yd), averaged 1 per sq m (less than 1 per sq yd). Adams (7 stops) and Hettinger (9 stops) Counties--field counts 1-7 per sq m (fewer than 1 up to 6 per sq yd), averaged 1 per sq m (less than 1 per sq yd); marginal counts 1-7 per sq m (fewer than 1 up to 6 per sq yd), averaged 2.4 per sq m (2 per sq yd).

Morton County (28 stops)--grasshopper field counts 1-29 per sq m (fewer than 1 up to 24 per sq yd), averaged 3 per sq m (2.7 per sq yd); marginal counts 1-25 per sq m (fewer than 1 up to 21 per sq yd), averaged 4 per sq m (3.7 per sq yd). Dominant species Melanoplus bivittatus, M. differentialis, M. packardii, and M. sanguinipes. Some alfalfa damaged.

Grant County (22 stops)--grasshopper field and marginal counts 1-14 per sq m (fewer than 1 up to 12 per sq yd), averaged 2 per sq m (1.5 per sq yd) in fields and 4 per sq m (3 per sq yd) in margins. Mostly M. bivittatus, M. packardii, and M. differentialis.

Slope County (22 stops)--grasshopper field counts 1-18 per sq m (fewer than 1 up to 15 per sq yd), averaged 2 per sq m (1.4 per sq yd); marginal counts 1-30 per sq m (fewer than 1 up to 25 per sq yd), averaged 6 per sq m (4.8 per sq yd). Dominant species M. bivittatus, M. packardii, and M. sanguinipes. Entomophthora grylli (an insect fungus) evident at several stops. Crop damage evident, leaves completely stripped in some wheat fields. Applied controls ineffective. Cass (23 stops) and Traill (11 stops) Counties--field counts 1-8 per sq m (fewer than 1 up to 7), averaged 2 per sq m (1.9 per sq yd); marginal counts 1-10 per sq m (fewer than 1 up to 8 per sq yd), averaged 3 per sq m (2.7 per sq yd). (Brandvik, Scholl).

MINNESOTA - Melanoplus spp. adult surveys underway, 30 counties and 118 alfalfa fields and field margins surveyed as of August 9. Northwest district--still fewer than 1 per 0.8 sq m (sq yd) in fields and field margins. West-central district--1-3 per 0.8 sq m in fields and 5-9 per 0.8 sq m in field margins. Central district--fewer than 1 per 0.8 sq m in fields and 3-5 per 0.8 sq m in field margins. Southwestern, south-central, and southeastern districts--still fewer than 1 per 0.8 sq m. (Sreenivasam).

GYPSY MOTH (Lymantria dispar) - WASHINGTON - King County--adults 15 in pheromone traps in east Seattle and Renton areas and 1 at Mercer Island. (Emery). WEST VIRGINIA - Jefferson County--7 adult males recovered in Shannondale-Appalachian Trail area and 13 males recovered from other areas in pheromone traps. Morgan County--1 adult male recovered from pheromone trap near Cherry Run. (Tustin).

JAPANESE BEETLE (Popillia japonica) - OHIO - Scioto County--heavy on soybeans (Drees, Bradford). Wayne County--still heavily infested roses, grapes, and raspberries. (Williams).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Percent of bolls infested by county: Maricopa--0-20%, Mohave--5-8%, and Yuma--4-25%. (Pilling et al.).

HAWAII PEST REPORT

General Vegetables - WESTERN FLOWER THRIPS (Frankliniella occidentalis) infestations (all stages) and damage heavy on 0.8 ha (2 acres) of Manoa lettuce and 100 pots of chrysanthemums at Hawaii Kai, Oahu. More than 50% of lettuce leaves trimmed off due to feeding. Spotted wilt-like symptoms observed on some lettuce in fields. (Nagamine, L. Nakahara). Infestations of LEAFMINER FLIES (Liriomyza spp.) moderate to heavy on 0.61 ha (1.5 acres) of cucumber and 0.10 ha (0.25 acre) of tomato at Waianae, Oahu. Infestations moderate to heavy on pole beans and greenhouse tomato at Kona, Hawaii Island, and on 0.8 ha (2 acres) of watermelon at Kapoho. Plantings at Kona heavily sprayed. (Lai et al.). CARMINE SPIDER MITE (Tetranychus cinnabarinus) infestations heavy on 0.10 ha (0.25 acre) of soybeans and cucumbers at Waianae. (Lai, Murai). TOMATO PINWORM (Keiferia lycopersicella) infestations heavy on commercial tomato and eggplant at Anahola, Kauai. (Sugawa, Yoshioka).

Fruits and Nuts - New island record. STEVENS LEAFHOPPER (Empoasca stevensi) damage moderate to young leaves of 1-2 m (4-6 ft) papaya on 4.0 ha (10 acres) at Moloaa, Kauai. Collected by D. Ikehara on March 9, 1978. Determined by L. Nakahara. Young leaves noticeably chlorotic and feeding marks visible on petioles. All stages commonly present near growing tips of plants. (Haramoto et al.).

DETECTION

NEW COUNTY AND ISLAND RECORDS

- AN ARMORED SCALE (Chortinaspis subchortina) - Florida - Martin. (p. 453).
BANKS GRASS MITE (Oligonychus pratensis) - MISSOURI - Barton. (p. 451).
A EULOPHID WASP (Tetrastichus julis) - NEW YORK - Washington; OHIO - Clermont. (p. 460).
AN ICHNEUMONID WASP (Diaparsis n.sp.) - KENTUCKY - Lewis. (p. 459).
AN ICHNEUMONID WASP (Lemophagus curtus) - INDIANA - Huntington. (p. 460).
STEVENS LEAFHOPPER (Empoasca stevensi) - HAWAII - Kauai. (p. 463).

CORRECTIONS

- CPPR 3(31):408 - CORN EYESPOT (Kabatiella zaeae)...strain of oats... should read strain of corn.

LIGHT TRAP COLLECTIONS

	Temperature °C	Time of Trap	Recip- type	Type of Trap	BL	83	67	88	Lepidoptera (moth)	Lycophila complexa	Lycophila rattalis	Lycophila rattalis	Lycophila siccetella	Manduca quincunclearia	Manduca hornworm	Manduca sexta	Doripora nubilalis	Doripora american corn borer	Pieris raucosa	Pseudoteia cuneata	Spodoptera unipuncta	Spodoptera exigua	Spodoptera (all) armyworm	Spodoptera orthogoria	Triphaena m	Crops									
																											1	2	3	4	5	6	7	8	9
ARIZONA Mesa 8/6					BL	83	67	88													999			4	56										
FLORIDA Gainesville 8/4-9					BL	1	24	26													1	1	75	7	4										
INDIANA (Counties) Randolph 7/27-8/2					BL	5	37	0															0	4											
Tippecanoe 7/27-8/2					BL	20	18																7	13											
KANSAS Haviland 8/10					BL			42															0	3											
Pratt 8/3-4, 5, 6-7					BL			6															0	3											
KENTUCKY Lexington 8/4-8					BL	4	10	0															0	131	0										
MICHIGAN Berrien 8/1-7					BL	4																	4	2											
Lenawee 7/30-8/6					BL	1																	6	6											
MINNESOTA Moose Lake 8/2-8					BL	16																	12	6											
Fergus Falls 8/2-8	10-33	13.2			BL	16																	21	6											
Worthington 8/2-8	12-26				BL	16																	14	6											
MISSISSIPPI Stoneville 8/4-10	19-36	63			BL	17	22	517															31	50	946										
NEBRASKA Aurora 8/1-6					BL	39		6																22											
Clay Center 8/3-9					BL	6		2																3											
NORTH DAKOTA Bismarck 8/8					BL																														
Williston 8/2, 4, 9					BL																														
OHIO (Counties) Huron 8/2-9					BL	5	0																0	7											
Wayne 8/3-11					3BL	13	23																10	3											

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Phyllosticta ixorae Rangel</u> a fungus Det. F.G. Pollack	imperfect	on leaves of <u>Ixora</u> plants	Singapore	Honolulu	HI
<u>Dialeurolonga elongata (Dozier)</u> a whitefly Det. S. Nakahara	pupal	on leaves of <u>Murraya koenigii</u>	India	Kennedy Airport	MI
<u>Gnatholea eburifera Thomson</u> a cerambycid beetle Det. D.M. Anderson	larval	in wood crates of handicrafts	Thailand	Charleston	SC
<u>Ostrinia sp.</u> a pyralid moth Det. D.M. Weisman	larval	in seeds of <u>Zea mays</u>	Korea	Hawaii	CA
<u>Pyrrhodium sanguineum (Linnaeus)</u> a cerambycid beetle Det. D.M. Anderson	larval	in wooden frames	France	Philadelphia	----
<u>Sirex noctilio (Fabricius)</u> a siricid wasp Det. D.R. Smith	adult	in crates of machinery	West Germany	Greenville	NC
<u>Helicella derbentina (Andrzejowski)</u> a helcid snail Det. R. Munkittrick	juvenile	on exterior of container	Turkey	Savannah	TX
<u>Otala vermiculata Müller</u> a helcid snail Det. R. Munkittrick	adult	on military household goods	Greece	Jacksonville	FL

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Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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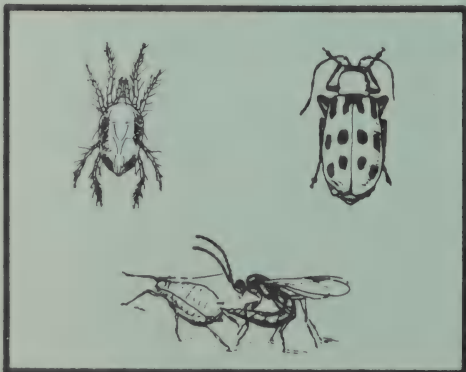


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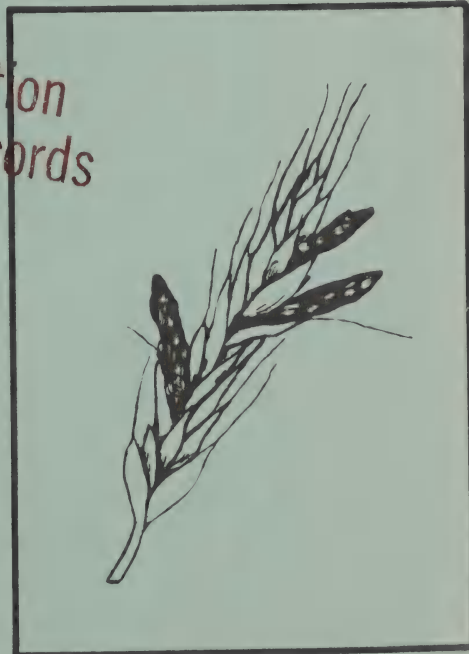
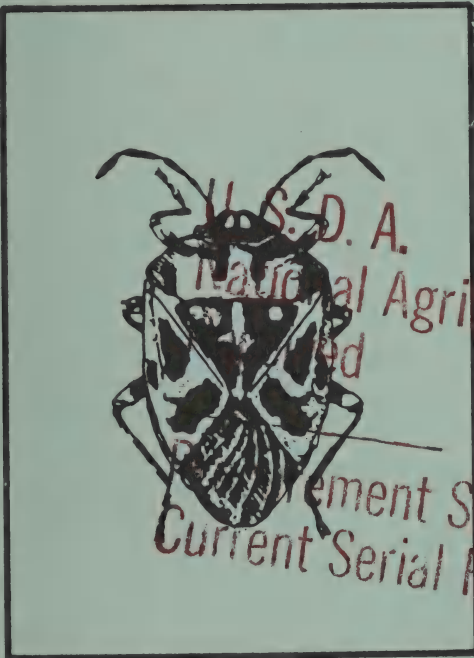
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER increased significantly in southern Minnesota, strong potential for heavy second generation. Second generation damage in south-central Michigan may not be as extensive as previously indicated. (p. 474).

CORN EARWORM heavy enough in northeastern Virginia to cause problems in sweet corn. (p. 474).

CORN ROOTWORM damage expected to affect corn yield in south-central New York. (p. 475).

Detection

- SUGARCANE APHID is new for Continental United States. (p. 475).

For new county records see page 486.

Reports in this issue are for the week ending August 18 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Tobacco	
Diseases.....	471	Insects.....	481
Insects.....	473	Miscellaneous Field Crops	
Small Grains		Diseases.....	481
Diseases.....	476	Cucurbits	
Turf, Pastures, Rangeland		Insects.....	482
Insects.....	476	General Vegetables	
Forage Legumes		Insects.....	482
Diseases.....	476	Deciduous Fruits and Nuts	
Insects.....	477	Diseases.....	482
Soybeans		Insects.....	482
Diseases.....	477	Ornamentals	
Insects.....	479	Insects.....	482
Peanuts		Forest and Shade Trees	
Insects.....	480	Insects.....	484
Cotton		Man and Animals	
Insects.....	480	Insects.....	484
Beneficial Organisms and Their Enemies			
Insects.....	484		
Federal and State Programs			
Insects.....	484		
Hawaii Pest Report.....	485		
Detection.....	486		
Light Trap Collections.....	487		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	489		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON SMUT (*Ustilago maydis*) - MISSOURI - North-central area--very light on corn [late milk to dough], less than 1% of ears infected. (Foudin). SOUTH DAKOTA - Roberts, Grant, Codington, Deuel, Brookings, Moody, Lincoln, Union, Turner, Kingsbury, Clark, Day, and Marshall Counties--prevalence trace on dent corn [blister to dough]. (Jons). NORTH DAKOTA - Cass, Richland, Sargent, Dickey, and Ransom Counties--prevalence trace on dent corn [blister to dough]. (Jons).

MINNESOTA - Benton County--common smut prevalence trace in dent corn [early silk] in commercial field August 7-11. (Stromberg). ILLINOIS - Prevalence on corn [blister unless stated otherwise] by county (1 field each) week of August 7: In commercial fields, Vermilion--2%; Iroquois--1%; Will--4% [silk emerged]; Ogle--1%; Carroll--4%; La Salle--7% [dent]; Peoria--1%; Marshall--1% [dent]; Hancock--1% [silk emerged]; Adams--1%; Morgan--3%; and Sangamon--1% [dent]. In monitoring plots, Logan--3% and De Kalb--1%. (Jordan).

INDIANA - Common smut prevalence on corn ears [blister unless stated otherwise] by county August 6-12: Montgomery, Parke, Clay, Owen, Gibson, Warrick [dough], Dubois [silk emerged], and Morgan--0%/0%; Daviess [dough]--1%; Knox--2%; Posey [dough]--2%; and Lawrence [dough]--1%; averaged 1% in 12 sites. (Schall). TENNESSEE - Central and western areas--prevalence on field corn 2-10% in 3 plots. (White).

GRAMINICOLA ANTHRACNOSE (*Colletotrichum graminicola*) - ILLINOIS - Prevalence/severity on corn [blister unless stated otherwise] by county (1 field each) week of August 7: In commercial fields, Vermilion--99%/3-6%; Iroquois--99%/1-3%; Sangamon--99%/1-3% [dent]; Peoria--99%/trace; Carroll--99%/1-3%; Will--99%/3-6% [silk emerged]; and Hancock--99%/trace [silk emerged]. In monitoring plots, Logan--99%/3-6% and De Kalb--25%/trace to 1%. (Jordan).

INDIANA - Graminicola anthracnose prevalence/severity on lower senescent corn leaves [blister unless stated otherwise] accompanied by genetic lesions and/or SOUTHERN LEAF BLIGHT (*Helminthosporium maydis*) by county August 6-12: Parke, Clay, Daviess [dough], Knox, Gibson, Posey [dough], Lawrence [dough], and Morgan--0%/0%; Montgomery--22%/trace; Owen--12%/trace; Warrick [dough]--5%/trace; and Dubois [silk emerged]--4%/trace; averaged 7%/trace in 12 sites. (Schall).

OHIO - Graminicola anthracnose prevalence/severity to leaves on lower one-third of corn plants [blister unless stated otherwise] by county (1 field each) week ending August 11: Brown--30%/10%, Clinton--50%/10% [silk emerged], and Scioto--50%/10%; most severe damage on lowermost intact leaves. (Hite).

COMMON MAIZE RUST (*Puccinia sorghi*) - SOUTH DAKOTA - Roberts, Grant, Codington, Deuel, Brookings, Moody, Lincoln, Union, Turner, Kingsbury, Clark, Day, and Marshall Counties--prevalence trace on dent corn [blister to dough]. (Jons). NORTH DAKOTA - Cass, Richland, Sargent, Dickey, and Ransom Counties--prevalence trace on dent corn [blister to dough]. (Jons). IOWA - Prevalence/severity on corn [blister] by county July 28 to August 11: Madison, Harrison, and Plymouth--trace/trace; and Sioux, O'Brien, and Clay--80-90%/trace to 3%. (Williams).

MINNESOTA - Common maize rust prevalence/severity in commercial sweet dent corn fields by county August 7-11. Dakota [mid to late silk]--90%/trace, Benton [early silk]--100%/trace to 5%, and Wright [mid-silk]--100%/trace to 5%. (Stromberg). ILLINOIS - Prevalence/severity on corn [blister unless stated otherwise] by county (1 field each) week of August 7: In commercial fields, Vermilion--1%/trace; Iroquois--trace/trace; Will--99%/1-3% [silk emerged]; Ogle--99%/1%; Carroll--99%/1-3%; La Salle--99%/trace [dent]; Peoria--99%/1-3%; Marshall--trace/trace [dent]; Hancock--trace/trace [silk emerged]; Adams--trace/trace; Morgan--trace/trace; and Sangamon--trace/trace [dent]. In monitoring plots, Logan--99%/1-3% and De Kalb--99%/trace. (Jordan).

INDIANA - Common maize rust prevalence/severity on corn [blister unless stated otherwise] by county August 6-12: Daviess [dough], Knox, Posey [dough], Warrick [dough], and Morgan--0%/0%; Montgomery--8%/trace; Parke--60%/trace; Clay--14%/trace; Owen--4%/trace; Gibson--1%/0%; Dubois [silk emerged]--trace/trace; and Lawrence [dough]--14%/trace; averaged 8%/trace in 12 sites. (Schall). OHIO - Prevalence/severity on corn by county (1 field each) week ending August 11: Clinton--1-5%/trace [silk emerged] and Scioto--100%/trace on certain [blister] selections in experimental plots. (Hite, Smith).

SOUTHERN RUST (Puccinia polysora) - MISSOURI - Boone County--infected 1 corn leaf on experiment station corn [late milk to dough] plots. (Foudin).

NORTHERN LEAF BLIGHT (Helminthosporium turcicum) - IOWA - Story, Polk, and Boone Counties--prevalence trace/severity trace to 3% on corn [blister] July 28 to August 11. (Williams). ILLINOIS - De Kalb County--prevalence 50%/severity 1% on corn [blister] in monitoring plot week of August 7. (Jordan).

SOUTHERN LEAF BLIGHT (Helminthosporium maydis) - ILLINOIS - Sangamon [dent] and Morgan [blister] Counties--prevalence trace/severity trace on corn in commercial fields week of August 7. (Jordan). INDIANA - Prevalence/severity on lower senescent leaves of corn [blister unless stated otherwise] with genetic lesions and/or GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) by county August 6-12: Montgomery, Owen, Daviess [dough], Gibson, Warrick [dough], and Lawrence [dough]--0%/0%; Parke--1%/trace; Clay--10%/trace; Knox--32%/1%; Posey [dough]--14%/trace; Dubois [silk emerged]--30%/trace; and Morgan--50%/trace; averaged 11%/trace in 12 sites. (Schall).

HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) - IOWA - Pottawattamie, Story, and Sioux Counties--asexual prevalence trace to 5%/severity trace on corn [blister] July 28 to August 11. (Williams). ILLINOIS - Asexual prevalence/severity on corn [blister unless stated otherwise] by county (1 field each) week of August 7: In commercial fields, Vermilion--99%/1%; Iroquois--75%/1%; Will--99%/1% [silk emerged]; Ogle--99%/1-3%; Carroll--99%/1%; La Salle--99%/1-3% [dent]; Hancock--50%/1% [silk emerged]; Adams--99%/1% [silk emerged]; Morgan--99%/3-6%; and Sangamon--99%/1-3% [dent]. In monitoring plots, DeKalb--50%/1% and Logan--25%/trace. (Jordan). INDIANA - Posey County--asexual prevalence 4%/severity trace on corn; averaged trace/trace in 12 sites, August 6-12. (Schall).

CRAZY TOP (Sclerophthora macrospora) - KANSAS - Jefferson County--prevalence trace in 1 popcorn field. (Sim).

SORGHUM DOWNY MILDEW (Sclerospora sorghi) - KANSAS - Statewide--more widespread than in recent years. Jefferson and Atchison Counties--prevalence on sorghum trace to 5%, local and systemic infections observed. Reported

in Edwards, Pawnee, Kiowa, Ford, Grant, Atchison, Jefferson, and Pottawatomie Counties. (Sim).

CORN BROWN SPOT (Physoderma maydis) - OHIO - Scioto County--prevalence trace/severity trace on leaves of experimental lines in corn [blister] breeding plots week ending August 11. (Hite, Ellett).

CORN EYESPOT (Kabatiella zeae) - IOWA - Prevalence/severity on corn [blister] by county July 28 to August 11: Plymouth--trace/trace, Story--5%/trace, and Jones--20%/3%. (Williams). MINNESOTA - Isanti, Mille Lacs, Benton, and Sherburne Counties--infected commercial sweet and dent corn in several areas. Prevalence/severity by county August 7-11: Isanti [late silk]--100%/trace to 30%, mid and lower leaves most severely infected and Benton [early silk]--100%/5-10%, mid-leaves most severely infected. (Stromberg).

HEAD SMUT (Sphacelotheca reiliana) - KANSAS - Southwestern area--in many sorghum fields, prevalence generally less than 1%. (Sim).

STEWART'S WILT (Erwinia stewartii) - MISSOURI - North-central area-very light on corn [late milk to dough], prevalence/severity close to zero. (Foudin). ILLINOIS - Iroquois [blister], Hancock [silk emerged], and La Salle [dent] Counties--prevalence trace/severity trace on corn week of August 7. (Jordan). INDIANA - Prevalence/severity on corn [blister unless stated otherwise] by county August 6-12: Montgomery, Parke, Owen, Daviess [dough], Dubois [silk emerged], and Morgan--0%/0%; Clay--2%/trace; and Lawrence--10%/trace; averaged 1%/trace in 12 sites. (Schall).

HOLCUS SPOT (Pseudomonas syringae) - IOWA - Prevalence/severity on corn [blister] by county July 28 to August 11: Harrison--10%/trace, O'Brien--30%/trace to 5%, and Story and Sioux--10%/trace to 5%. (Williams). SOUTH DAKOTA - Roberts, Grant, Codington, Deuel, Brookings, Moody, Lincoln, Union, Turner, Kingsbury, Clark, Day, and Marshall Counties--prevalence trace on dent corn [blister to dough]. (Jons).

NORTH DAKOTA - Cass, Richland, Sargent, Dickey, and Ransom Counties--holcus spot prevalence trace on dent corn [blister to dough]. (Jons). MINNESOTA - Dakota [mid to late silk] monitoring plots and Wright [mid-silk] commercial field Counties--prevalence 100%/severity trace to 5% in dent corn, August 7-11. (Stromberg).

SORGHUM BACTERIAL STREAK (Xanthomonas holcicola) - KANSAS - Southwestern area--most prevalent soybean disease. Ford County--seems most prevalent south and west of Dodge City. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - MISSOURI - Boone County--severe on late-planted sweet corn [late milk to dough]. (Foudin). MINNESOTA - Le Sueur County--prevalence 80% [tassel], 10% [8 leaf], and 20% [silk] in commercial sweet corn fields August 7-11. (Stromberg).

CORN LETHAL NECROSIS - KANSAS - Phillips County--continued to affect corn, has not spread from the Norton-Phillips County area this season. (Sim).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Percent cornstalks infested with second generation larvae and percent larvae bored into stalks by county: Douglas--80% [early dent], 65%; Brown--80% [late silk], 20% and 80% [early silk], 20%; and Republic--20% [early dent], 0%. (Hilbert). NEBRASKA - Hamilton County--adult activity increased.

Northeast crop district--European corn borer adult activity decreased. (Witkowski et al.). Northeast district--1 egg mass and/or larva per plant on up to 100% of corn plants, 50+% of eggs hatched. (Witkowski). Dawson County--egg masses on 10-30% of plants in 12 of 100 fields. Egg masses and/or 1st instar larvae on 100% of plants in 1 field. Dundy County--egg masses on up to 8% of plants in few of 99 fields. Saunders County--egg masses on scattered plants in 10 of 12 fields. Egg masses on 16% and 17% of plants in other 2 fields. (Raun).

MISSOURI - Northwestern Atchison County--European corn borer eggs, larvae, or pupae infested 80% of corn plants in 60 of 61 fields. (Roof). IOWA - Southern area--blacklight trap catches at Beaconsfield averaged 54 per night. Carroll County--3-4 egg masses per plant on late-planted corn. Egg masses 1-8 per 10 plants in several earlier-planted fields; 2nd and 3rd-instar larvae present. Webster County--1-7 egg masses per 10 plants; Story and Warren Counties--10 masses per 10 plants. Johnson County--1-5 larvae per plant. (Townsend, J.R. DeWitt).

MINNESOTA - Faribault County and Le Sueur, Le Sueur County--second generation European corn borer adults increased significantly in blacklight traps. Potential strong for heavy second generation. (Sreenivasam). WISCONSIN - Heaviest flights in many years at several blacklight trapping sites. Egg laying heavy in late corn fields, particularly sweet corn. Egg masses on about 50% of plants in some sweet corn fields. (Lovett). ALABAMA - Escambia County--light to moderate in many corn fields. (Lemons).

INDIANA - Central district--European corn borer larvae, 2nd and 3rd instars, in eartips in field corn south of Indianapolis. (Meyer). MICHIGAN - Clinton, Hillsdale, Montcalm, Ottawa, Saginaw, Shiawassee, and St. Clair Counties--second generation egg masses in 1-5% of corn plants. (Brenner et al.). Second generation damage may not be as extensive as indicated earlier. (Dudek). NEW YORK - Second-brood larvae in cornstalks, moved into ears. Upstate region--adults significantly increased in blacklight traps. (Willson).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - KANSAS - Stafford County--second generation infestations 20+% in 18% of 15 corn fields. (Orr). Haviland, Kiowa County, and Dodge City, Ford County--flights continued. (Bell).

ARMYWORM (Pseudaletia unipuncta) - NEBRASKA - Dawson, Dundy, and Lincoln Counties--scattered larval infestations still in corn fields, larvae confined most feeding activity to grassy weeds and silks of pollinated corn. (Gamble). NEW YORK - Western and northern regions--second generation caused problems to corn. (Muka).

CORN EARWORM (Heliothis zea) - NEW MEXICO - Dona Ana County--foliar and terminal growth damage severe in 3 corn fields 1 m (4 ft) tall south of Las Cruces. Tassels on many plants destroyed in boot. Up to 5 larvae, various instars, in developing ears in 8 fields in southern area. (Nielsen). MISSOURI - Southeastern area--larvae economic, 1 per 0.3 row m (row ft), in soybeans [blooming]. (Jones). VIRGINIA - Accomack County--adults 50, 65, and 40 per night August 12, 13, and 14, respectively, at Painter. Increased significantly over 4, 6, and 8 per night trapped few days earlier. Adults heavy enough to cause problems in highly susceptible crops such as sweet corn. (Allen).

FALL ARMYWORM (Spodoptera frugiperda) - NORTH CAROLINA - Piedmont and Coastal Plain areas--larvae continued to infest late-maturing corn and sorghum. Ear

and foliage infestations significantly reduced grain yield potential in 50% late-planted corn. Central and southern counties--most fall armyworms began pupation. Egg laying expected to intensify in coastal Bermudagrass, forage crops, any late corn or sorghum, and possibly in peanuts, cotton, and lawns. (Van Duyn, Hunt).

VIRGINIA - Eastern Shore--fall armyworm began to damage late-planted corn, may be as severe as in 1977. Accomack and Northampton Counties--heavily damaged late-planted sweet corn, snapbeans, and field corn. (Allen).

NEW YORK - Ulster County--larval activity in sweet corn increased rapidly. Some fields reached 15% action threshold for treatment. (Straub). Cayuga County--first signs of larval activity, larvae about 2nd instar. (Willson).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Dawson County--adults up to 6 (averaged 1.5) per plant in 100 corn fields [milk to dough]. (Raun).

MINNESOTA - Number of beetles per 0.4 ha (acre), number of corn fields surveyed, and percent of NORTHERN CORN ROOTWORM (D. longicornis) by district: West-central--18,087, 32, and 83%; central--25,078, 8, and 80%; east-central--6,214, 14, and 87%; southwest--35,663, 15, and 85%; south-central--35,252, 9, and 97%; and southeast--36,999, 29, and 88%. Lodged corn plants less than 1% in all districts, about same in 1977.

MISSOURI - New county records. Texas County--WESTERN CORN ROOTWORM (D. virgifera) taken on corn at Licking, August 8, 1978. Collected by J.L. Huggans. Washington and Ste. Genevieve Counties--D. virgifera collected on corn August 17, 1978, at Caledonia and Bloomsdale, respectively, by R.E. Munson. Both determined by W.S. Craig. Central and east-central areas--light on corn. Adults, mainly NORTHERN CORN ROOTWORM (D. longicornis) 8-57 per 100 plants. (Munson).

INDIANA - New county record. Bartholomew County--WESTERN CORN ROOTWORM (D. virgifera) adult in grain corn field near Taylorsville, August 13, 1978. Collected and determined by E.V. Vea. Tippecanoe County--total corn rootworm catch on 10 sticky traps in corn fields versus totals same period in 1977: D. virgifera 1,053 versus 459 and NORTHERN CORN ROOTWORM (D. longicornis) 835 versus 819. (Meyer).

NEW YORK - Tompkins and southern Cayuga Counties--Diabrotica spp. adults 10+ per plant in field corn. Lodging not readily apparent, adult feeding on silk extensive and expected to affect yields. Adult activity so heavy populations moved to field beans and sunflowers in large numbers. (Willson).

SUGARCANE APHID (Melanaphis sacchari (Zehntner)) - FLORIDA - New Continental United States record: Palm Beach County--apterous specimens collected on sugarcane at Belle Glade, July 3, 1977, and alate forms at Belle Glade during June 1978. Collected by W.G. Genung. Collection made in 1977 not identified, H.A. Denmark determined 1978 collection. Both collections confirmed by L.M. Russell. (Mead). This aphid also recorded from Angola, Asia, Brazil, China (Taiwan), Colombia, Ecuador, Egypt, Ethiopia, Haiti, Hawaii, India, Indonesia, Japan, Jamaica, the Middle East, Nigeria, Pakistan, Peru, Philippines, Sudan, Thailand, Trinidad and Tobago, Uganda, and Venezuela. (PPQ). New county records: Nymphs and adults common on sugarcane in all fields in Clewiston area, Hendry County, and Moore Haven area, Glades County, August 11, 1978. Collected and determined by T.E. Summers. Palm Beach, Hendry and Glades Counties--common throughout, up to 20 different large sugarcane properties infested; all stages present, no economic damage. At least 16 varieties of grasses observed as true hosts August 17. (Mead).

CORN LEAF APHID (Rhopalosiphum maidis) - WISCONSIN - Still heavy in some late grain and sweet corn fields. (Lovett). MAINE - Penobscot County--populations vary, damage severe due to poor moisture. Aphids left tassel area and clustered on leaves more than usual. Buildup in second field relatively light. Lady beetle larvae up to 5 per plant. (Gall).

GREENBUG (Schizaphis graminum) - COLORADO - Southeastern area--light in many sorghum fields. (Pruett, Hogan). KANSAS - Ford and Meade Counties--3,000-4,000 per sorghum plant with 3 dead lower leaves, above economic levels. Ford County--50% parasitism in 1 field (Salsbury). Ford, Kiowa, and Stafford Counties--averaged about 1,000 per plant, averaged 1 dead lower leaf; first parasitism 0.1-3% (Orr). Morris, Chase, Lyon, and Greenwood Counties--usually none to trace, averaged 25 per plant with 20% parasitism in 1 field in Lyon County. (Bell).

NEBRASKA - Saunders County--greenbugs averaged 350 per plant in 2 sorghum fields, no significant damage. Parasitism by Lysiphlebus testaceipes (an aphidiid wasp) averaged 14%. Lady beetles (Hippodamia spp.) heavy in both fields. (Raun).

SORGHUM MIDGE (Contarinia sorghicola) - MISSOURI - Southeastern area--increased to economic levels in late-planted sorghum. (Jones).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - NEBRASKA - Red Willow, Lincoln, and Keith Counties--established colonies of this species and BANKS GRASS MITE (Oligonychus pratensis) on lower leaves and moving up plants, not yet in corn ear zone. One large lower leaf of some plants killed. (Campbell). Dawson County--infested plants scattered throughout field in 95 of 100 corn fields. Small colonies at or above ear in 14 fields, 4 fields recommended for treatment. Dundy County--infested all 99 fields, 18 with colonies at or above ear; fields treated. (Raun). Scotts Bluff and Morrill Counties--colonies up to or above ear in 5 fields. Fields ranged from late pollination to middough. Treatment needed in 2 fields. (Hagan).

SMALL GRAINS

DISEASES

WHEAT LEAF RUST (Puccinia recondita f. sp. tritici) - MINNESOTA - Polk County--prevalence 100%/severity trace to 5% on flag leaves on ERA wheat [early dough] in commercial fields, August 2-4. ERA wheat should have adult plant resistance to current races of leaf rust. (Stromberg).

TURF, PASTURES, RANGELAND

INSECTS

A LEAF BEETLE (Chrysolina extorris) - CALIFORNIA - San Bernardino County--35 adults per 0.8 sq m (sq yd) in grass and weeds at Big Bear City. (Dixon, Helmsteller).

FORAGE LEGUMES

DISEASES

SUMMER BLACK STEM (Cercospora zebrina) - KANSAS - Pottawatomie County--on 100% of alfalfa plants in 1 field, some defoliation. Jefferson County--trace in 1 alfalfa field. (Sim).

LEPTOSPHERULINA LEAF SPOT (Leptosphaerulina briosiana) - KANSAS - Jefferson County--infected about 10% of alfalfa plants in 1 field. (Sim).

TEXAS ROOT ROT (Phymatotrichum omnivorum) - OKLAHOMA - Bryan County--destroyed alfalfa in 2-ha (5-acre) circular area in 16-ha (40-acre) field, August 11. (Conway et al.).

CLOVER RUST (Uromyces trifolii) - WISCONSIN - Waukesha and Jefferson Counties--heavy on red clover. (Lovett).

INSECTS

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Larvae per 100 sweeps of alfalfa by county: Graham--8; Pinal--19 and adults 27; and Yuma--240. (Brooks et al.). NEW MEXICO - Eddy County--this species and ARMYWORM (Pseudaletia unipuncta) heavy in alfalfa fields. (Campbell).

GARDEN WEBWORM (Achyra rantalis) - KANSAS - Douglas and Greenwood Counties--adults heavy and old damage serious in some alfalfa fields. (Hilbert, Bell).

BEE T ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae per 100 sweeps of alfalfa by county: Pinal--9 and Yuma--20. (Brooks et al.).

PEA APHID (Acyrtosiphon pisum) - UTAH - Millard County--very heavy in 1 alfalfa field at Deseret. (Haskell).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Southwestern, west-central, northwestern, and south-central areas--increased in alfalfa, 1-3 per sweep in west-central area. Shawano County--heavy in some poor quality alfalfa stands. (Lovett).

SAY STINK BUG (Chlorochroa sayi) - UTAH - Millard County--moderate in alfalfa seed fields. (Haskell).

LYGUS BUGS (Lygus spp.) - ARIZONA - Pinal County--nymphs 41 and adults 32 per 100 sweeps of alfalfa. (Brooks et al.).

GRASSHOPPERS - WISCONSIN - Shawano and Oconto Counties and west-central area--heavy on forages. (Lovett).

SOYBEANS

DISEASES

SOYBEAN BROWN SPOT (Septoria glycines) - MISSOURI - North-central area--light on soybeans [full pod], prevalence 80-100%/severity trace to 5%. (Foudin).

IOWA - Prevalence/severity on soybeans [pod filling] by county July 28 to August 11: Pottawattamie and Shelby--80%/5%, Guthrie--trace/trace, Sioux--90%/trace to 15%, and Cherokee and Buena Vista--20%/trace to 5%. (Williams).

INDIANA - Soybean brown spot prevalence/severity on soybeans [seed development unless stated otherwise] by county August 6-12: Montgomery [pod 2 cm]--43%/1%; Parke [pod 0.5 cm]--37%/1%; Clay [flower below uppermost node]--23%/1%; Owen [flower below uppermost node]--53%/1%; Daviess [7 nodes]--27%/1%; Knox, Gibson, and Lawrence--60%/1%; Posey [pod 0.5 cm]--15%/trace; Warrick--40%/1%; Dubois--90%/5%; Martin--37%/5%; and Morgan--trace/trace; averaged 42%/2% in 13 sites. (Schall).

ILLINOIS - Soybean brown spot prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field each) week of August 7: Morgan--99%/20% [pod 2 cm]; La Salle--99%/25%; Peoria--99%/20%; Will--99%/12-25% [pod 0.5 cm]; Adams--99%/12% [pod 0.5 cm]; Ogle--99%/30-35%; Vermilion--99%/25-30% [pod 2 cm]; Carroll--99%/25-30% [pod 2 cm]; Marshall--99%/12-25% [pod 2 cm]; Iroquois--99%/6-12% [pod 2 cm]; Hancock--99%/12-25% [pod 0.5 cm]; and Sangamon--99%/12-25%. (Jordan).

OHIO - Soybean brown spot prevalence/severity on lower trifoliolate leaves of soybeans [seed development unless stated otherwise] by county week ending August 11: Brown--99%/5-10%, Clinton--99%/5-10% [pod 2 cm], and Scioto--99%/5-10%. (Hite).

SOYBEAN DOWNY MILDEW (*Peronospora manshurica*) - KANSAS - First of season. Percent infested plants by county: Osage--5%, Atchison--10-90%, and Pottawatomie--40%. (Sim). IOWA - Prevalence/severity on soybeans [pod filling] by county July 28 to August 11: Guthrie, Shelby, and Pottawatomie--50-80%/3-10%; Cass and Adair--40%/3-10%. (Williams).

MISSOURI - North-central area--soybean downy mildew light on soybeans [full pod], prevalence 40-100%/severity trace to 3%. (Foudin). WISCONSIN - Milwaukee and Waukesha Counties--prevalence 3-60%/severity 1-5% on soybeans. Walworth County--light in 1 field on rank growth of lodged soybeans. (Lovett).

INDIANA - Soybean downy mildew prevalence/severity on soybeans [seed development unless stated otherwise] by county August 6-12: Owen [flower below uppermost node] and Lawrence--90%/1%; Knox and Warrick--99%/1%; Montgomery [pod 2 cm]--66%/1%; Parke [pod 0.5 cm]--40%/trace; Clay [flower below uppermost node]--15%/trace; Daviess [7 node]--33%/trace; Gibson--63%/trace; Posey [pod 0.5 cm]--90%/trace; Dubois--99%/2%; Martin [flower below uppermost node]--57%/trace; and Morgan--99%/4%; averaged 72%/1% in 13 sites. (Schall).

OHIO - Soybean downy mildew prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 field each) week ending August 11: Brown--99%/1-5%, Clinton--99%/1% [pod 2 cm], and Scioto--99%/1%. (Hite). ILLINOIS - Prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field each) week of August 7: Morgan--99%/25-30% [pod 2 cm]; Peoria--99%/3-6%; Adams--99%/12-15% [pod 0.5 cm]; Ogle--trace/trace; Carroll--50%/trace to 1% [pod 2 cm]; Marshall--99%/1-3% [pod 2 cm]; Hancock--99%/3-6% [pod 0.5 cm]; and Sangamon--99%/trace. (Jordan).

PHYTOPHTHORA ROOT AND STEM ROT (*Phytophthora megasperma* var. *sojae*) - KANSAS - Osage County--prevalence 1-2% on soybean plants in 3 fields. Stafford and Johnson Counties--present. (Sim). IOWA - Adair and Guthrie Counties--prevalence 5-20% on soybeans [pod filling] July 28 to August 11. (Williams). ILLINOIS - Will [pod 0.5 cm] and Iroquois [pod 2 cm] Counties--infected few scattered soybean plants in commercial fields week of August 7. (Jordan).

PHYLLOSTICTA LEAF SPOT (*Phyllosticta sojaecola*) - IOWA - Clay and O'Brien Counties--prevalence 3%/severity trace on soybeans [pod filling] July 28 to August 11. (Williams). ILLINOIS - Morgan County--prevalence 75%/severity 3-6% on soybeans [pod 2 cm] in 1 commercial field week of August 7. (Jordan).

SOYBEAN STEM CANKER (*Diaporthe phaseolorum* var. *caulivora*) - KANSAS - Osage County--infected 1 soybean field. (Sim). ILLINOIS - Vermilion [pod 2 cm], Iroquois [pod 2 cm], and Will [pod 0.5 cm] Counties--prevalence trace to 2% on soybeans in commercial fields week of August 7. (Jordan).

CHARCOAL ROT (Macrophomina phaseolina) - KANSAS - Osage County--infected 10% of soybean plants in 1 field. Chase County--symptoms in 0.8 ha (2 acres) of 6.1-ha (15-acre) soybean field. (Sim).

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - MISSOURI - North-central area--prevalence 5-20% on soybeans [full pod] with 1-3 leaves infected. (Foudin). ILLINOIS - Prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field each) week of August 7: Morgan--10%/1-3% [pod 2 cm]; La Salle--99%/30-35%; Peoria--99%/12-25%; Will--99%/12-25% [pod 0.5 cm]; Adams--30%/3-6% [pod 0.5 cm]; Carroll--99%/12-25% [pod 2 cm]; Marshall--99%/12-25% [pod 2 cm]; Iroquois--99%/12-25% [pod 2 cm]; Hancock--99%/1-3% [pod 0.5 cm]; and Sangamon--99%/25%. (Jordan).

INDIANA - Soybean bacterial blight prevalence/severity on soybeans [seed development unless stated otherwise] by county August 6-12: Montgomery [pod 2 cm], Clay [flower below uppermost node], Owen [flower below uppermost node], Daviess [7 nodes], and Gibson--trace/trace; Parke [pod 0.5 cm], Knox, Posey [pod 0.5 cm], Warrick, and Martin [flower below uppermost node]--0%/0%; Dubois--1%/1%; Lawrence--5%/0%; and Morgan--20%/1%; averaged 2%/trace in 13 sites. (Schall). OHIO - Brown County--prevalence trace/severity trace on soybeans [seed development] in 1 field week ending August 11. (Hite).

BACTERIAL PUSTULE (Xanthomonas phaseoli var. sojense) - IOWA - Prevalence/severity on soybeans [pod filling] by county July 28 to August 11: Pottawatomie and Shelby--20-80%/trace, Adair and Guthrie--trace/trace, and Sioux--20%/trace. (Williams). INDIANA - Prevalence/severity on soybeans [seed development unless stated otherwise] by county August 6-12: Montgomery [pod 2 cm], Parke [pod 0.5 cm], Clay [flower below uppermost node], Owen [flower below uppermost node], Daviess [7 nodes], Knox, Gibson, Posey [pod 0.5 cm], Dubois, Martin [flower below uppermost node], and Morgan--0%/0%; Warrick--15%/1%; and Lawrence--1%/trace; averaged 1%/trace in 13 sites. (Schall).

ILLINOIS - Bacterial pustule prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field each) week of August 7: La Salle--25%/1-3%; Peoria--25%/12-25%; Ogle--99%/1-3%; and Carroll--trace/trace [pod 2 cm]. (Jordan).

SOYBEAN MOSAIC POTYVIRUS - MISSOURI - North-central area--prevalence trace to 1% on soybeans [full pod] in commercial fields. (Foudin). INDIANA - Prevalence on soybeans [seed development unless stated otherwise] by county August 6-12: Montgomery [pod 2 cm], Owen [flower below uppermost node], and Martin [flower below uppermost node]--0%; Parke [pod 0.5 cm], Daviess [7 nodes], Knox, and Warrick--trace; Clay [flower below uppermost node] and Gibson--3%; Posey [pod 0.5 cm]--1%; Dubois--10%; Lawrence--5%; and Morgan--1%; averaged 2% in 13 sites. (Schall).

INSECTS

CORN EARWORM (Heliothis zea) - MISSISSIPPI - Delta area--larvae continued increase on soybeans. Newton, Neshoba, and Winston Counties--larvae 0.5 per 7.3 row m (24 row ft) on soybeans [pod set], damage light. (Anderson).

ALABAMA - Baldwin County--adults heavy in 1 soybean field. (Lemons). Dallas and Wilcox Counties--light to moderate. (R. Smith, Hines). Monroe County--2-3 per 0.3 row m (row ft). (Gamble).

NORTH CAROLINA - Southern Coastal Plain--adult flight from corn to soybeans decreased, shows egg laying in soybeans decreased. Cumberland, Sampson, Johnston, and Wayne Counties--30 fields [open canopy, blooming] few at threshold. Scotland County--small larvae averaged 3 per 0.3 row m (row ft) in 1 field. Other fields quickly reaching threshold. Wake County--larvae 2.5 per 0.3 m (ft) in 1 of 10 fields, 60.7 ha (150 acres). Northern Coastal Plain--few fields at threshold. Greatest larval pressure in soybeans expected August 18 to September 10. (Perkins et al.).

GREEN CLOVERWORM (Plathypena scabra) - MISSISSIPPI - Statewide--larvae continued gradual increase on soybeans, no economic levels reported. (Lambert). KENTUCKY - Fayette County--larvae increased slightly in Lexington area; population expected to peak soon, adult activity and egg laying peaked first week of August. Larvae, 0.2 cm (0.5 in), averaged 8 per 0.3 m (ft). (Sloderbeck).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Black Prairie area--moderate on soybeans, some treatments applied. (Lambert). Newton, Neshoba, and Winston Counties--averaged 10.7 per 25 sweeps of soybeans [bloom]. (Anderson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Monroe County--heavy in isolated soybean fields. (Gamble).

BANDEDWINGED WHITEFLY (Trialeurodes abutilonea) - CALIFORNIA - Imperial County--infested about 32 ha (80 acres) of soybeans at Imperial. (Flock).

PEANUTS

INSECTS

CORN EARWORM (Heliothis zea) - ALABAMA - Adult activity of this species and FALL ARMYWORM (Spodoptera frugiperda) increased across peanut belt. Isolated fields need treatment, most treated earlier. (French).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ALABAMA - Geneva, Houston, and Henry Counties--light to moderate in several peanut fields with exceptionally wet soil. (French).

COTTON

INSECTS

BOLLWORMS (Heliothis spp.) - ARIZONA - BOLLWORM (H. zea) on cotton by county: Maricopa--eggs 50-260 and larvae 0-30 per 100 plants; Pinal--larvae 2-3 and eggs 12-18 per 100 plants; and Yuma--larvae 40 and eggs 50 per 100 terminals. (Brooks et al.). ARKANSAS - Chicot County--this species and TOBACCO BUDWORM (H. virescens) eggs in some cotton fields very heavy, up to 127 per 17 row m (56 row ft). Southeastern area--larvae decreased. (Wall).

MISSISSIPPI - Southern and central areas--bollworm eggs and larvae increased on cotton in most areas. Sharkey and Issaquena Counties--eggs increased significantly, 95-100 per 100 cotton terminals not uncommon, and up to 300 per 100 terminals. Small larvae up to 40% in this area. Northern area--still comparatively light, problems in lush cotton on bottom land. Central Hill section--egg laying increased slightly, larvae caused problems in some fields. (Hamer).

ALABAMA - Shelby, Marion, and Fayette Counties--bollworms light on cotton. (Smith). Madison County--egg laying decreased in some areas and increased in most. (Freeman). Autauga County--eggs decreased to 5-25%; young larvae in isolated areas, infestations heavy in some areas. (Conley). Lawrence County--eggs increased up to 200 per 100 terminals. All larval instars heavy in terminals, squares, blooms, and bolls. (Brown). Marengo County--large larvae heavy in young bolls near Jefferson Community. (C. Smith).

TENNESSEE - H. zea increased slightly in rank cotton. Treatment still needed in rank bottom land. (Locke). NORTH CAROLINA - Scotland and Robeson Counties--bollworms increased in cotton fields. TOBACCO BUDWORM (H. virescens) significant percentage of population. (Bacheler).

CABBAGE LOOPER (Trichoplusia ni) - ARKANSAS - Southeastern area--eggs relatively heavy in cotton fields with few larvae. Some larvae killed by virus. (Wall).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Madison County--mainly late-instar larvae, moderate to heavy in several cotton fields; new generation expected week ending August 25. (Freeman).

YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) - ARIZONA - Yuma County--all stages heavy in cotton fields. (Brooks et al.).

BOLL WEEVIL (Anthonomus grandis grandis) - ARKANSAS - Northeastern and southeastern areas--increased in cotton fields, some fields treated. (Kimbrough, Wall). ALABAMA - Statewide--infestation 5-80% on cotton. Few new squares produced in some fields. Damage levels not reflected. (R. Smith). Madison County--treatment needed in some fields, especially older cotton. (Freeman). Monroe County--treatment continued. (Gamble). Autauga County--heavy in some areas. (Conley).

SAY STINK BUG (Chlorochroa sayi) - ARIZONA - Counts by county: Pinal--adults 2 per 100 sweeps of cotton; Graham--in most fields: Yuma--adults 3 per 25 sweeps. (Brooks et al.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Pinal County--nymphs 4 and adults 7 per 100 sweeps of cotton. (Brooks et al.).

TOBACCO

INSECTS

TOBACCO HORNWORM (Manduca sexta) - NORTH CAROLINA - Coastal Plain--continued to infest late-maturing tobacco. Bladen County--18 of 108 fields neared threshold. Wake County--25 of 69 fields at threshold. Small larvae in most fields, development rapid due to high temperatures. (Clark, Dunham).

A SPHINGID MOTH (Manduca sp.) - TENNESSEE - Trousdale, Smith, Sumner, and Wilson Counties--larvae 0-7,800 per 0.4 ha (acre), 11 of 16 tobacco fields at or above control level. (Gregory).

MISCELLANEOUS FIELD CROPS

DISEASES

SUNFLOWER RUST (Puccinia helianthi) - SOUTH DAKOTA - Marshall, Roberts, and Grant Counties--prevalence trace in commercial sunflower fields. (Jons).

NORTH DAKOTA - Cass, Richland, Sargent, and Dickey Counties--prevalence trace in commercial sunflower fields. (Jons).

SUNFLOWER LEAF SPOT (Septoria helianthi) - NORTH DAKOTA - Cass, Trail, Grand Forks, Pembina, Foster, Wells, Griggs, and Barnes Counties--prevalence trace in commercial sunflower fields week of August 7. (Jons).

SCLEROTINIA STEM ROT (Sclerotinia sclerotiorum) - SOUTH DAKOTA - Marshall, Roberts, and Grant Counties--prevalence trace in commercial sunflower fields. (Jons). NORTH DAKOTA - Cass, Richland, Sargent, and Dickey Counties--prevalence trace in commercial sunflower fields. (Jons).

CUCURBITS

INSECTS

CARMINE SPIDER MITE (Tetranychus cinnabarinus) - CALIFORNIA - Orange County--heavy, 200 per leaf, significantly damaged cucumbers, up to 50% loss of production at Costa Mesa. Symptoms included severe leaf yellowing and small irregular fruit. Treatment applied in spite of heavy predator activity. (Queyrel).

GENERAL VEGETABLES

INSECTS

DIAMONDBACK MOTH (Plutella xylostella) - KANSAS - Johnson County--seriously damaged turnips and collards in commercial planting. (Thompson).

DECIDUOUS FRUITS AND NUTS

DISEASES

APPLE SCAB (Venturia inaequalis) - NEW HAMPSHIRE - Statewide--severe problem in apple orchards due to persistent moist conditions. (Fisher).

INSECTS

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Baldwin County--exceeded threshold on pecans in 1 area. (McVay).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Monroe County--reached threshold on pecans. (McVay).

EUROPEAN RED MITE (Panonychus ulmi) - NEW HAMPSHIRE - Statewide--increased rapidly in apple-growing areas. Southern area--up to 15 per leaf, well above economic threshold for reduced fruit size, in some orchards. (Fisher).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - WISCONSIN - Winnebago County--heavy on pears, leaf damage severe on infected trees. (Lovett).

ORNAMENTALS

INSECTS

SPRUCE NEEDLEMINER (Endothenia albolineana) - WISCONSIN - Winnebago, Outagamie, and Shawano Counties--heavy on ornamental spruce. (Lovett).

FOREST AND SHADE TREES

INSECTS

MIMOSA WEBWORM (Homadaula anisocentra) - TEXAS - New county records taken on mimosa. Hopkins County--few larvae and prepupae collected at Sulphur Springs, July 28, 1978; Bowie County--1 larva collected at Boston, July 31; Lamar County--several larvae collected at Paris, August 1; Red River County--few larvae taken at Clarksville, August 2. All collected by J.V. Robinson; Titus County--many larvae collected at Mount Pleasant, August 2, by D.M. McCarver, adults reared; Smith County--few larvae collected at Tyler, August 3, by J. McDaniel; Cass County--several larvae collected at Linden, August 4, by L. Wilhite, adults reared. All determined by J.V. Robinson. (Jackman).

IOWA - Page County--1st to 3rd instar mimosa webworm larvae present. Central and southern areas--development of population 10-14 days behind normal. (Hart, Lewis).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - NORTH DAKOTA - New county record. Stark County--adults collected from attractant traps on American elm near Bellfield, August 10, 1978. Collected and determined by W.J. Brandvik. (Brandvik).

VARIABLE OAKLEAF CATERPILLAR (Heterocampa manteo) - MISSISSIPPI - Lee County--larvae defoliated various oak species, defoliation about 20%. (Cook).

ELM LEAF BEETLE (Pyrrhalta luteola) - COLORADO - Statewide--second generation caused severe defoliation of Siberian elms in many areas. (Hantsbarger).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NORTH DAKOTA - New county record. Stark County--adults collected from multilure pheromone sticky board traps on American elm near Bellfield, August 10, 1978. Collected and determined by W.J. Brandvik. (Brandvik).

LOCUST LEAFMINER (Odontota dorsalis) - VIRGINIA - Statewide--adults defoliated trees. Montgomery County--damage severe at Blacksburg. (Allen).

PINE BARK ADELGID (Pineus strobi) - NEW HAMPSHIRE - Strafford County--very heavy locally on white pine trees at Durham. Populations increased on individual trees past 2 years, especially in eastern part of town. No measurable stress on infested trees. (J.F. Burger).

MAN AND ANIMALS

INSECTS

FACE FLY (Musca autumnalis) - MISSOURI - North-central area--0-50 per face on 1 herd. (Hall). NEBRASKA - Dawson and Lincoln Counties--averaged 12 per face on untreated cattle. (Campbell).

HORN FLY (Haematobia irritans) - MISSOURI - North-central area--increased, 5-500 per side. (Hall). NEBRASKA - Dawson and Lincoln Counties--averaged 360+ per head on untreated cattle in river pastures. (Campbell).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Dawson and Lincoln Counties--averaged 11 per leg on untreated cattle in feedlots. (Campbell).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (Tetrastichus julis) - WEST VIRGINIA - Brooke County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 25% in barley field in Buffalo Magisterial District, June 6. (T.L. Burger). NEW HAMPSHIRE - New county record. Hillsboro County--parasitism of Oulema melanopus (cereal leaf beetle) larvae 100% in oat field in Milford Township, June 29, 1978. Collected by C. Tatham. Determined by V.E. Montgomery. (T.L. Burger).

FEDERAL AND STATE PROGRAMS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - New county record. Martin County--larvae and pupae infested leaves of Citrus limon (lemon) and Citrus paradisi (grapefruit) at Stuart, August 3, 1978. Collected by D. Cardell and T. Scaringe. Determined by J. O'Neal. (Mead).

GRASSHOPPERS - OREGON - Central and eastern areas--Melanoplus sanguinipes adults, 8 or more per 0.8 sq m (sq yd) on a total of 85,040.7 ha (210,140 acres) in 8 counties. Hectares (acres) by county: Grant--45,794.3 (113,160); Wheeler--40.5 (100); Wasco--31,695 (78,320); and Jefferson--7,510.9 (18,560). Sherman, Gilliam, Crook, and Deschutes Counties--no economic infestations. (Mellott).

NEVADA - Humboldt County--Melanoplus sanguinipes adults 5-70, averaged 8 per 0.8 sq m (sq yd) on 2,428 ha (6,000 acres) of private and public rangeland in Kings River area. Adults up to 30, averaged 10 per 0.8 sq m on 1,821 ha (4,500 acres) and averaged 4-5 on 23 sections of private and public rangeland from Paradise Hill to Orovada (Bezanson). Camnula pellucida up to 200, averaged 50, per 0.8 sq m on 283 ha (700 acres) of native meadow in Rock area and Sonoma Range. (Bezanson, Rowe).

KANSAS - Phillips, Stevens, and Ford Counties--Melanoplus sanguinipes nymphs heavy in alfalfa (Hilbert et al.) Stevens County--heaviest nymphal populations, 40-50 per 0.8 m (sq yd) in alfalfa field (Shuman). Southwestern Chase County--averaged 10 per 0.8 sq m, mostly M. differentialis and M. femurrubrum, defoliated alfalfa field near Wonservu (Bell). Lyon County--M. differentialis destroyed 1-3% of soft dough kernels in sorghum field near Admire and Wabaunsee County--M. differentialis and M. femurrubrum 1-2 per 0.8 sq m fieldwide near Maple Hill; Meade (0.5% loss) and Ford (up to one-half kernels on heads eaten on outer rows) Counties--some head damage mostly to border rows. (Salsbury). NEBRASKA - Lincoln County--most populations still in ditches and waste areas, moved only few rows in bordering corn fields. (Campbell).

NORTH DAKOTA - McHenry County (34 stops)--grasshopper field counts 1-11 per sq m (fewer than 1 up to 9 per sq yd), averaged 2 sq m (2.3 per sq yd); marginal counts 1-20 per sq m (fewer than 1 up to 17 per sq yd), averaged 4 per sq m (3 per sq yd). Dominant species Melanoplus sanguinipes, M. bivittatus, and M. dawsonii.

Pierce County (7 stops)--grasshopper field counts 1-8 per sq m (fewer than 1 up to 7 per sq yd), averaged 2 per sq m (2 per sq yd); marginal counts 1-10 per sq m (fewer than 1 up to 8 per sq yd), averaged 4 per sq m (3.4 per sq yd). Mostly M. bivittatus and M. sanguinipes.

Kidder County (18 stops)--grasshopper field counts 1-12 per sq m (fewer than 1 up to 10 per sq yd), averaged 5 per sq m (4 per sq yd); marginal counts 1-18 per sq m (fewer than 1 up to 15 per sq yd), averaging 4 per sq m (3.6 per sq yd). Dominant species M. bivittatus, M. differentialis, and M. femurrubrum. Damage light in T alfalfa field.

Economic infestations in rangeland areas by county: Billings--3,237 ha (8,000 acres), Slope--809.4 ha (2,000 acres), Golden Valley--6,070.3 ha (15,000 acres), and Morton--4,856.2 ha (12,000 acres). Total acreage in State and public rangeland 14,973 ha (37,000 acres). (Brandvik, Scholl).

GYPSY MOTH (Lymantria dispar) - CALIFORNIA - Santa Clara County--1 adult male caught in disparlure trap at San Jose. Trap was located about 2 km (1 mile) west of previously known infestation. (Henry). WASHINGTON - King County--22 adults collected from pheromone traps in Seattle area. Since August 8, 5 additional adults trapped at Renton and 1 in trap at Stewart Park. (Emery).

NEW HAMPSHIRE - Merrimack County--gypsy moth infestation on about 100 ha (400 acres) at Canterbury collapsed. All larvae throughout about 100 ha (300 acres) virtually destroyed by bacterial wilt, viable larvae left only on periphery. Some larvae up to 0.2 ha (0.5 mile) south and east of main infestation. No eggs laid in most of outbreak area. Egg masses scattered around periphery of original infested area during second week of August. Up to 5 masses collected from individual trees. (J.F. Burger, Sorge).

JAPANESE BEETLE (Popillia japonica) - NEW HAMPSHIRE - Statewide--most serious on ornamentals, adults extremely heavy throughout southern half of State. Adults increased in past 3 years, no indication of decreasing. (Bowman, J.F. Burger).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Counts by county: Maricopa--eggs 20-35 and larvae 30-50 per 100 plants; Pinal--larvae 1-9 per 100 bolls; Graham--10+% bolls infested; and Yuma--2-20% bolls infested. (Brooks et al.).

HAWAII PEST REPORT

General Vegetables - Infestations by LEAFMINER FLIES (Liriomyza spp.) and GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) moderate to heavy on 0.8 ha (2 acres) of cucumbers, 0.4 ha (1 acre) of yardlong beans, and on 93 sq m (1,000 sq ft) of dishcloth gourd at Waimanalo, Oahu. TOMATO PINWORM (Keiferia lycopersicella) caused about 50% defoliation on 0.1 ha (0.25 acre) of eggplant at Waimanalo. BEAN FLY (Ophiomyia phaseoli) infestations and damage heavy on 93 sq m of yardlong beans at Waimanalo. MANGO FLOWER BEETLE (Protaetia fusca) adults fed on commercial vegetable crops, apparently for first time, on Oahu. Moderate to heavy infestations about 3 adults per bud, caused heavy damage to flower buds on 93 sq m of yardlong beans at Lualualei. (Lai et al.).

DETECTION

NEW CONTINENTAL UNITED STATES RECORD

INSECTS

SUGARCANE APHID (Melanaphis sacchari (Zehntner)) - FLORIDA - Palm Beach County. (p. 475).

NEW COUNTY RECORDS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - Martin. (p. 484).

A EULOPHID WASP (Tetrastichus julis) - NEW HAMPSHIRE - Hillsboro. (p. 484).

MIMOSA WEBWORM (Homadaula anisocentra) - TEXAS - Hopkins, Bowie, Lamar, Titus, Red River, Smith, and Cass. (p. 483).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - NORTH DAKOTA - Stark. (p. 483).

SUGARCANE APHID (Melanaphis sacchari) - FLORIDA - Hendry and Glades. (p. 475).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - MISSOURI - Texas. INDIANA - Bartholomew. (p. 475).

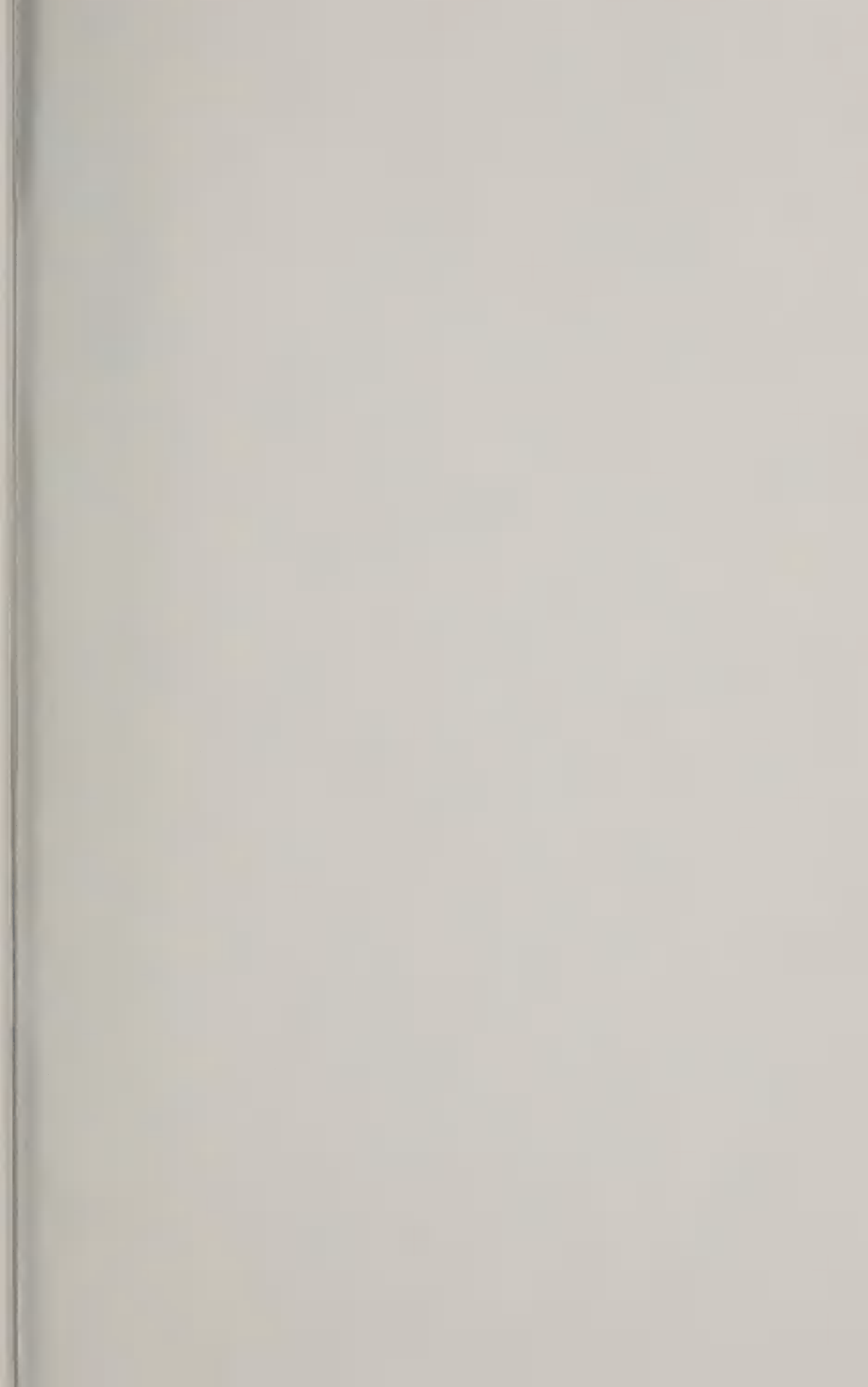
LIGHT TRAP COLLECTIONS

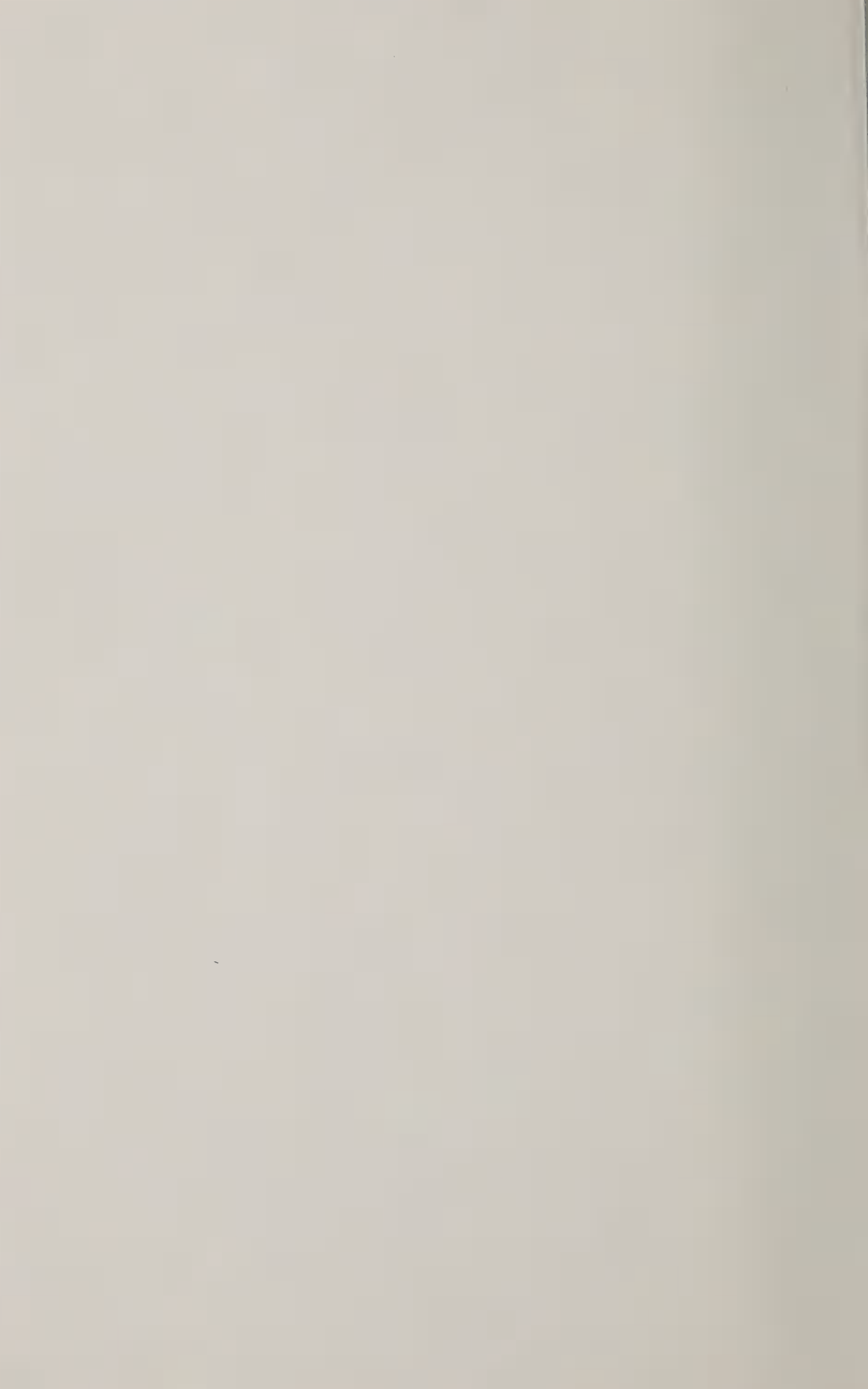
Location	Temperature C.	Precipitation mm	Type of light	Moths		Flies		Beetles		Crawlers		Crops	
				0 - other	1 - Inconspicuous	2 - Inconspicuous	3 - Inconspicuous	4 - Inconspicuous	5 - Inconspicuous	6 - Inconspicuous	7 - Inconspicuous	8 - Inconspicuous	9 - Inconspicuous
ARIZONA Mesa 8/13			BL	88								1	72
ARKANSAS (County) Jefferson 8/3-9			12BL		30	890							
CALIFORNIA Bellota 8/9	20-42		BL	4	3								
FLORIDA Gainesville 8/10-16			BL			4	15					15	9
INDIANA (Counties) Randolph 8/9			BL	7	87	0						1	4
Tippecance 8/9			BL	14	38	3						1	20
KANSAS Haviland 8/16-17			BL			5							8
Pratt 8/8-9, 13-16			BL			30							24
Lexington 8/9-15			BL	3	9	0						1	94
MICHIGAN (Counties) Berrien 8/7-14			BL	11									9
Lenawee 8/7-12			BL	3									3
MINNESOTA Fergus Falls 8/9-15	6-37	1.1	BL										
Worthington 8/9-15	17-31	0	BL	5									5
NEBRASKA Aurora 8/10-14			BL	5									9
Clay Center 8/10, 13, 14, 16			BL										10

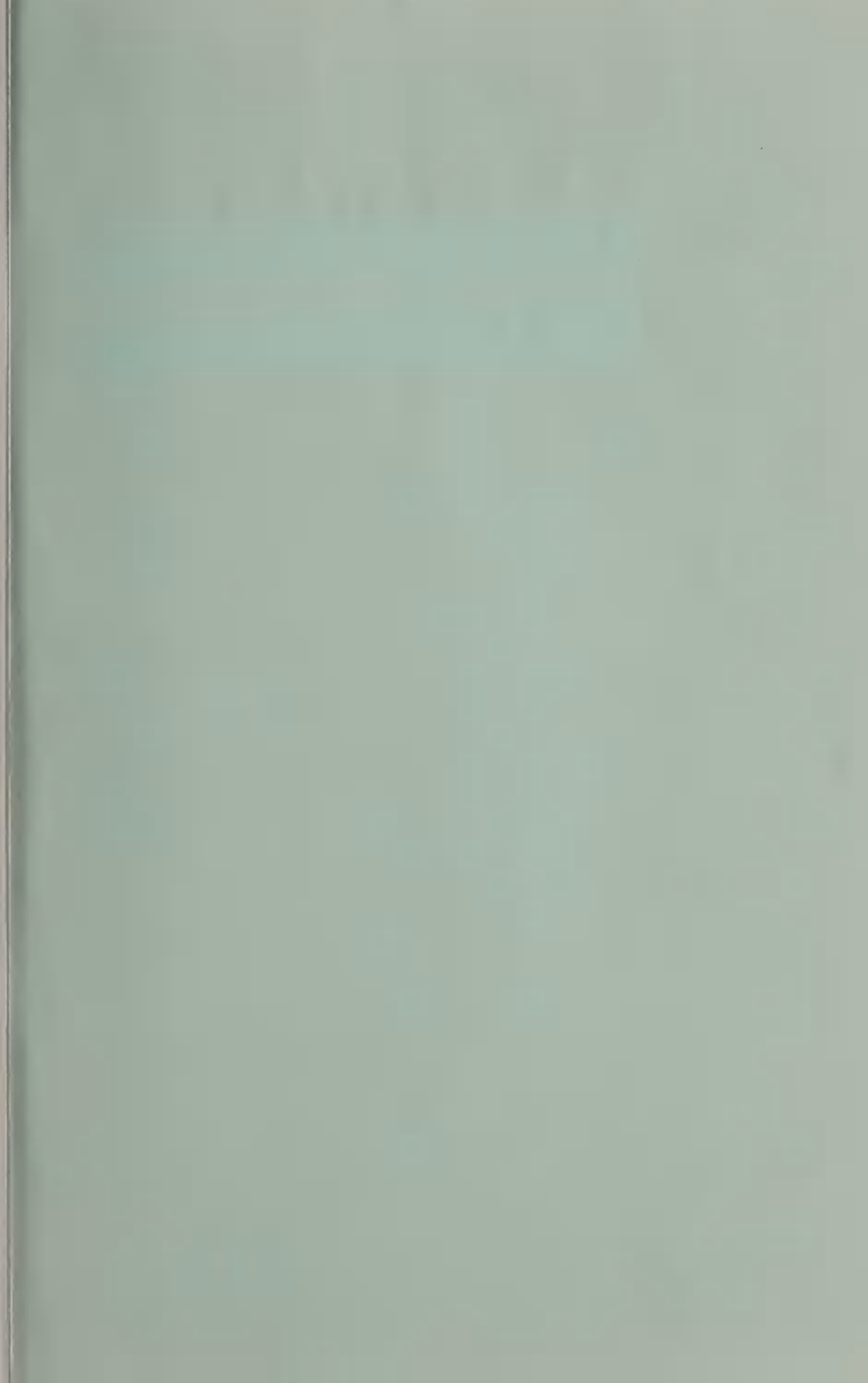
Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Guignardia citricarpa</u> Kiely citrus black spot Det. F.G. Pollack	imperfect	on fruit of <u>Citrus reticulata</u> from cargo	Australia	Anchorage	AK
<u>Aleurolobus</u> sp. a whitefly Det. S. Nakahara	pupal	on leaves of <u>Protea</u> cuttings	South Africa	Hawaii	HI
<u>Chlorophorus</u> sp. a cerambycid beetle Det. D.M. Anderson	all	in dunnage with castings	Japan	Baltimore	WI
<u>Conotrachelus</u> sp. a weevil Det. D.R. Whitehead	adult	on leaves of Bromeliad plants	Ecuador	Miami	FL
<u>Coptotermes formosanus</u> Shiraki Formosan subtterranean termite Det. R. Munkittrick	all	in dunnage	Hawaii	San Francisco	--
<u>Myloccerus</u> sp. a weevil Det. D.R. Whitehead	adult	with aircraft	Philippines	Travis AFB	--
<u>Orthotomicus suturalis</u> (Gyllenhal) a scolytid beetle Det. D.M. Anderson	adult	in dunnage	West Germany	New Orleans	MS
<u>Paracryptocerus pusillus</u> (Klug) an ant Det. D.R. Smith	adult	in dried grass stems	Brazil	Savannah	--









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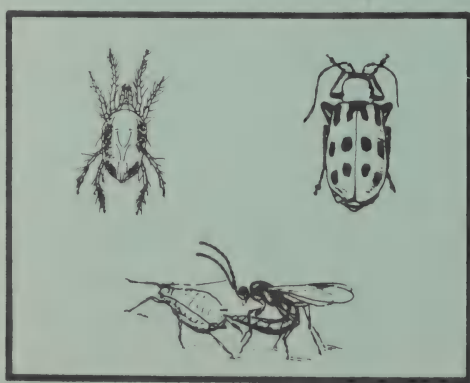
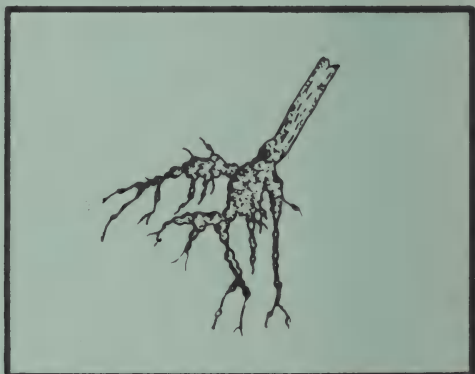
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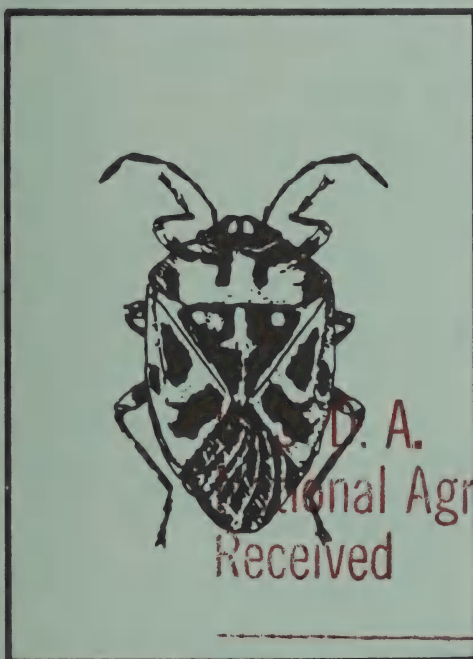
Vol. 3 No. 35

September 1, 1978

Cooperative PLANT PEST REPORT

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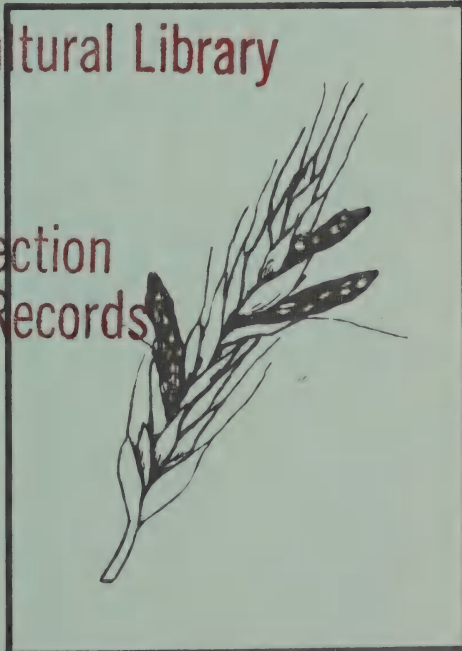


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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER totally infested corn fields in northeastern and east-central Kansas. (p. 494). Emergency treatment needed in southwestern Wisconsin. (p. 495).

Treatments needed for SUGARCANE APHID on sugarcane in southern Florida. (p. 496).

Detection

AN APHID is new for Oregon. (p. 497).

For new county records see page 506.

Reports in this issue are for the week ending August 25 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane	Potatoes, Tomatoes, Peppers
Diseases.....493	Diseases.....502
Insects.....494	Insects.....502
Small Grains	Beans and Peas
Insects.....497	Diseases.....502
Turf, Pastures, Rangeland	Cole Crops
Insects.....497	Insects.....503
Forage Legumes	Deciduous Fruits and Nuts
Diseases.....497	Insects.....503
Insects.....497	Small Fruits
Soybeans	Insects.....503
Diseases.....498	Ornamentals
Insects.....500	Insects.....503
Peanuts	Forest and Shade Trees
Diseases.....500	Insects.....504
Insects.....501	Man and Animals
Cotton	Insects.....504
Insects.....501	Miscellaneous Field Crops
Tobacco	Insects.....504
Insects.....502	
Sugar Beets	
Insects.....502	
Beneficial Organisms and Their Enemies	
Insects.....504	
Federal and State Programs	
Insects.....505	
Hawaii Pest Report.....506	
Detection.....506	
Corrections.....506	
Light Trap Collections.....507	
Pest Interceptions of Quarantine Significance at Ports of Entry.....509	

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON SMUT (Ustilago maydis) - MINNESOTA - Prevalence in dent corn by county August 14-18: Steele--1% [dough] and Waseca--6% [blister]. (Stromberg). ILLINOIS - Prevalence on corn [blister unless stated otherwise] in commercial fields by county (1 field each) week of August 14: Coles--2%, Clay--1% [silk emerged], Wayne--1% [silk emerged], Jackson--5% [dent], Saline--3% [dent], Madison--3%, Macon--2%, Fayette--1%, and Christian--1%. (Jordan).

INDIANA - Common smut prevalence on corn ears [dough unless stated otherwise] by county August 13-19: Huntington [blister], Noble, Steuben, De Kalb [blister], Allen [dent], Adams, and Jay [blister]--0%; Wabash--1%; Elkhart--1%, with 1% as a stalk rot; Blackford--4% [dent], 5% as a stalk rot; averaged 1% in 10 sites, 1% as a stalk rot. (Schall). MICHIGAN - Prevalence on corn [silk emerged unless stated otherwise] by county: Huron--trace; Bay--10% [blister]; Clare--trace [dough]; Osceola--trace [blister]; Mason--trace; Wexford--trace; Missaukee--trace [blister]; Iosco--1% [blister] and trace [silk emerged]; and Presque Isle--trace [dough]. (Singh).

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - ILLINOIS - Prevalence/severity on corn [blister] in commercial fields by county (1 field each) week of August 14: Christian--90%/trace, Madison--50%/1%, and Coles--90%/trace to 1%. (Jordan). INDIANA - Prevalence/severity on lower senescent leaves of corn [dough unless stated otherwise] with genetic lesions, SOUTHERN LEAF BLIGHT (Helminthosporium maydis), and/or asexual HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) by county August 13-19: Wabash, Huntington [blister], Elkhart, Noble, Steuben, Allen [dent], Adams, and Jay [blister]--0%/0%; De Kalb--5%/trace [blister]; Blackford--6%/trace [dent]; averaged 1%/trace in 10 sites. (Schall).

COMMON MAIZE RUST (Puccinia sorghi) - MINNESOTA - Prevalence/severity in dent corn by county August 14-18: Steele--100%/trace [dough] and Redwood--100%/trace to 3% [dough]. (Stromberg). ILLINOIS - Prevalence/severity on corn [blister unless stated otherwise] in commercial fields by county (1 field each) week of August 14: Coles--99%/trace, Clay--trace/trace [silk emerged], Wayne--trace/trace [silk emerged], Jackson--trace/trace [dent], Saline--trace/trace [dent], Madison--trace/trace [blister], Fayette--trace/trace, Christian--trace/trace, and Macon--trace/trace. (Jordan). INDIANA - Prevalence/severity on corn [dough unless stated otherwise] by county August 13-19: Wabash--6%/trace, Huntington--12%/trace [blister], Noble--10%/trace, Steuben--32%/trace, De Kalb--94%/1% [blister], Adams--10%/trace, Jay--4%/trace [blister], and Blackford--2%/trace [dent], Allen [dent] and Elkhart--0%/0%; averaged 17%/trace in 10 sites. (Schall).

SOUTHERN LEAF BLIGHT (Helminthosporium maydis) - ILLINOIS - Prevalence/severity on corn [blister unless stated otherwise] in commercial fields by county (1 field each) week of August 14: Christian--25%/trace to 1%, Madison--20%/trace, Coles--trace/trace, Macon--trace/trace, Wayne--30%/trace [silk emerged], and Clay--25%/trace [silk emerged]. (Jordan). INDIANA - Prevalence/severity on lower senescent leaves of corn [dough unless stated otherwise] with genetic lesions, asexual HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum), and/or GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) by county August 13-19: Wabash, Huntington [blister], Elkhart, Noble, Steuben, Allen [dent], Adams, and Jay [blister]--0%/0%; De Kalb--5%/trace [blister]; Blackford--trace/trace [dent]; averaged 1%/trace in 10 sites. (Schall).

HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) - INDIANA - Asexual prevalence/severity on lower senescent leaves of corn [dough unless stated otherwise] with genetic lesions, SOUTHERN LEAF BLIGHT (Helminthosporium maydis), and/or GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) by county August 13-19: Huntington [blister], Noble, Steuben, De Kalb [blister], Allen [dent], Adams, Jay [blister], and Blackford [dent]--0%/0%; Wabash--8%/trace; Elkhart--trace/trace; averaged 1%/trace in 10 sites. (Schall). ILLINOIS - Prevalence/severity on corn [blister] in commercial fields by county (1 field each) week of August 14: Coles--99%/1%, Macon--25%/trace, Christian--30%/ trace, and Fayette--99%/1%. (Jordan).

CRAZY TOP (Sclerophthora macrospora) - KANSAS - Reno County--prevalence trace on sorghum in irrigated fields. (Sim).

SORGHUM DOWNY MILDEW (Sclerospora sorghi) - KANSAS - Republic County--prevalence trace on sorghum in 1 field. (Sim).

CORN EYESPOT (Kabatiella zea) - MINNESOTA - Steele County--prevalence 3%/severity 5-20%, greatest in mid and lower leaves, on dent corn [dough] in 1 commercial field, August 14-18. (Stromberg). WISCONSIN - Washburn County--prevalence generally widespread/severity light on most field corn. Columbia County--prevalence heavy in isolated pockets in some fields. (Lovett). MICHIGAN - Prevalence on corn by county: Osceola--trace [blister]; Wexford--30%/severity 10% [silk emerged]; and Ogemaw--trace [silk emerged]. (Singh).

SOOTY STRIPE (Ramulispora sorghi) - KANSAS - Reno County--prevalence trace on sorghum in irrigated fields. (Sim).

STALK ROTS - KENTUCKY - Todd County--CHARCOAL ROT (Macrophomina phaseolina), DIPLODIA STALK ROT (Diplodia maydis), and GIBBERELLA STALK ROT (Gibberella (Fusarium) roseum f.sp. cerealis) infected an average of 22%, 12%, and 25% of cornstalks in 18 early planted fields August 15-18. (Sloderbeck et al.).

STEWART'S WILT (Erwinia stewartii) - ILLINOIS - Prevalence/severity on corn by county (1 commercial field each) week of August 14: Jackson--99%/1-3% [dent] and Coles--5%/1% [blister]. (Jordan).

HOLCUS SPOT (Pseudomonas syringae) - MINNESOTA - Prevalence/severity on dent corn by county (1 field each) August 14-18: Steele--100%/trace [dough]; Waseca--100%/10% [blister] in mid-leaves and monitoring plots; and Redwood--100%/5-20%, mid-leaves severely affected. (Stromberg).

BACTERIAL STRIPE (Pseudomonas andropogoni) - KANSAS - Republic County--prevalence trace in 1 sorghum field. (Sim).

SORGHUM BACTERIAL STREAK (Xanthomonas holcicola) - KANSAS - Marshall County--prevalence trace in 1 sorghum field. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - MINNESOTA - Redwood County--prevalence 100% [12 leaf] and 20% [dough] on sweet corn in monitoring plot at Lambertson, August 14-18. (Stromberg).

ROUGH SPOT (Ascochyta sorghina) - KANSAS - Reno County--first of season. Prevalence trace on sorghum in irrigated fields. (Sim).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Miami County--second generation infestation 100% in mature corn field. (White). Brown County--larvae

commonly infested 100% late-planted corn, averaged 1 per plant. (Brooks). Doniphan County--European corn borer infested 30% of plants in 1 corn field [early dent]. (Hilbert). IOWA - Hancock County--blacklight trap counts from Kanawha indicate adult flight decreased in northern 2 tiers of counties. Traps averaged 590 (ranged 61-972) adults per night. Wright County--egg masses 0-4 per 20 corn plants with 0-3 larvae per 20 stalks in 6 corn fields. No economic damage noted. Treatments for second-generation borers completed in southern area with exception of few late-planted fields. (Townsend). MINNESOTA - Increased in light traps for second week. Especially heavy in traps set near sweet corn fields. (Sreenivasam).

WISCONSIN - European corn borer adult activity decreased, blacklight trap counts still high. Egg laying increased, larvae and/or eggs infested 100% of late dent and sweet corn fields. Dane County--1st and 2nd instar larvae and eggs common in sweet corn south and west of Madison, few 1st instar larvae and many eggs found north and east of Madison. Areas east of Fond du Lac, Fond du Lac County, and Horicon, Dodge County--no second generation eggs found, adults occasional in sweet corn fields. Infestations ranged from near 0% in older, harvest-ready sweet corn to near 100% in youngest sweet corn. Spring Green and Mazomanie areas--small larvae in silk channels of nearly all ears and egg masses heavy on flag leaves of ears in treated fields with silk just beginning to brown in advanced areas. Columbia County--eggs averaged 2.1 per plant on all plants in sweet corn field at 10% tassel. Rock County--egg masses infested 92% of late dent corn. Egg masses common on leaves immediately above or below ear and on leaf next to tassel. Spring Green, Mazomanie, and Madison-area--most eggs on flag leaves of ears in several fields. Emergency survey and treatment needed in area generally west of Fond du Lac and Horicon. (Lovett).

INDIANA - Lawrence County--of 24 European corn borer larvae taken from 50 plants in grain corn field, 2nd instar 8.3%, 3rd instar 62.5%, 4th instar 20.8%, and 5th instar 8.3%. Collected only from ear tips, little evidence of larvae elsewhere on plants. (Meyer). OHIO - Brown, Delaware, Fayette, and Wood Counties--larvae, 8-14 mm (0.3-0.55 in) long in silks and ears of corn. Brown County--some fresh tunnels in cornstalks observed. (Drees). WEST VIRGINIA - Wood County--2% infestation of 2nd and 3rd instar larvae. (Hacker). Jefferson County--90% infestation of 1st and 2nd instar larvae in late-planted corn. (Washburn).

CORN EARWORM (Heliothis zea) - COLORADO - Many reports of infestations and damage to sweet corn. (Hantsbarger). OKLAHOMA - Roger Mills County--damage heavy, nearly 100% of late-sweet corn ears infested. Ellis County--moderate in some sorghum fields. (Arnold). ILLINOIS - Statewide--half to full-grown larvae of H. zea and ARMYWORM (Pseudaletia unipuncta) damaged ear tips in corn fields. (Black).

WISCONSIN - Dane County--corn earworm larvae found in late corn field at Mazomanie. Southern and western counties--adult activity expected to increase immediately. (Lovett). MARYLAND - Statewide--blacklight trap catches averaged 25% of 1977 catches. Egg laying concentrated on late corn. (Hellman, Pinto). FLORIDA - Alachua County--adults about 70-80 per night in blacklight traps. (Mitchell).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Grady County--heavy, infested 100% of corn whorls. (Arnold). WISCONSIN - Southern one-half of State--in most sweet corn fields, heavy in some fields. Sheboygan and Ozaukee Counties--larvae in whorls and tassels of late sweet corn, infested 100% of plants in spots throughout these fields. Few larvae noted in ear tips. Spring Green and Mazomanie areas--larvae common in ear tips of corn with silks just beginning to dry, generally affected less than 10% of plants.

Fall armyworm larvae one-fourth grown to mature, pupation underway and increased adult activity should be expected soon. (Lovett).

KENTUCKY - Purchase region--fall armyworm moderately damaged 2 sorghum fields. (Foster). FLORIDA - Alachua County--problem on late-planted corn field near Alachua. (Mitchell). NORTH CAROLINA - This species and CORN EARWORM (Heliothis zea) infested sorghum, currently fewer than 1 larva per head in most fields. Thresholds 1 corn earworm and 1 fall armyworm per head. (Hunt).

WEST VIRGINIA - Jefferson County--fall armyworm infested 15-20% of plants in most late-planted corn fields. In 20 fields, 50% or more of plants infested; most treated. (Baniecki, Washburn). MARYLAND - Eastern Shore--heavily damaged late-planted dent corn for silage. Heaviest larval infestations, 3-4 per plant, at 80%; most fields less than 40% and spotty. (Hellman, Pinto). DELAWARE - Sussex County--infestations moderate to heavy in "green" field corn in many areas. (Boys).

SORGHUM WEBWORM (Celama sorghiella) - ARKANSAS - Greene County--larvae up to 8-10 per head in some grain sorghum fields [past bloom]. (Kimbrough).

CORN ROOTWORMS (Diabrotica spp.) - MISSOURI - West-central, north-central, and northwestern areas--light on corn; 0-2.3 per plant, adults averaged less than 0.5 per plant. (Munson). IOWA - Hamilton and Webster Counties--adult emergence increased; about 90% were D. longicornis. Peak emergence later than in previous years. (Townsend). INDIANA - Tippecanoe County--total corn rootworm catch on 10 sticky traps in corn fields versus totals same period in 1977: WESTERN CORN ROOTWORM (D. virgifera) 902 versus 299 and NORTHERN CORN ROOTWORM (D. longicornis) 531 versus 125. (Meyer).

OHIO - Ratio of NORTHERN CORN ROOTWORM (D. longicornis) to WESTERN CORN ROOTWORM (D. virgifera) on corn by county: Delaware--96:4 and Wood--60:40, nearly 100% mature (brown) silks in 1 field eaten back to tip of ear by average of 4.5 corn rootworms per ear. Defiance County--D. virgifera mating observed. New county records. Delaware County--WESTERN CORN ROOTWORM (D. virgifera) collected on corn near northern end of Delaware Lake, August 22, 1978; and Fayette County--collected on corn August 21, 1978, near West Lancaster. Both collected and determined by B.M. Drees. (Drees).

SUGARCANE APHID (Melanaphis sacchari) - FLORIDA - Palm Beach County--populations heavy enough that excess honeydew provided media for heavy sooty mold growth: total of 324 ha (800 acres) of sugarcane sprayed, 202 ha (500 acres) east of Canal Point and 121 ha (300 acres) north of Canal Point. (Summers).

CORN LEAF APHID (Rhopalosiphum maidis) - CALIFORNIA - San Mateo County--adults 50 per leaf on home garden corn at Redwood Shores. (Evans, Guerra). OKLAHOMA - Grant County--light, 0-10 per leaf in grain sorghum. (Arnold). ILLINOIS - Statewide--infestations by this species and AN APHID (R. padi) 0-90% in corn fields. Heaviest infestation seems to be in north-central area. West-central and south-central counties--many areas dry, may put stress on corn if aphid populations increase. (Black). MAINE - Populations decreased sharply due to fungal disease, remaining populations can continue corn damage because of severe drought effects in some fields. (Gall).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Texas and Cimarron Counties--populations decreased in sorghum and parasitism increased. Beaver County--infestations heavy in some fields. Grant County--2-50 per sorghum plant. (Arnold).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Russell County--averaged 30 and 15 per sorghum [bloom to milk] plant in 2 fields; farthest county west significant populations noted in recent years. (Hilbert, Bell). OHIO - Henry County--nymphs and adults very heavy between ears and stalks and underneath husks of mature corn in 1 field. (Drees).

GRASSHOPPERS - OHIO - Brown, Defiance, Delaware, Highland, Henry, Franklin, and Wood Counties--marginal defoliation of corn leaves by Melanoplus bivittatus and M. femurrubrum common in all fields. (Drees).

SMALL GRAINS

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Jefferson Davis County--larvae moderately damaged 40.5 ha (100 acres) of millet. (Anderson). SOUTH CAROLINA - Abbeville County--Heavily infested about 5.7 ha (14 acres) of millet starting to head. All instar 6 per 0.09 sq m (sq ft) in some areas, 80% of leaves damaged and 25% of heads infested. (Jones).

HESSIAN FLY (Mayetiola destructor) - MONTANA - Toole County--severely damaged several hundred acres of wheat. (Krum).

TURF, PASTURES, RANGELAND

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - ARKANSAS - Southwestern area--larvae very light, possibly due to extreme moisture stress. (Barnes).

AN APHID (Forda formicaria) - OREGON - New State record. Polk County--1 specimen fed on newly developing rhizomes and 1 fed on nearby root crowns of Sorghum halepense (johnsongrass) along State Highway 51, 10 km (6 miles) north of Independence, July 27, 1978. Collected by R.L. Westcott and R.L. Penrose. Determined by T. Kono. (Westcott, Penrose).

CHINCH BUG (Blissus leucopterus leucopterus) - ARKANSAS - Southwestern area--heavy on St. Augustinegrass lawns, killed spots in some lawns. (Barnes).

FORAGE LEGUMES

DISEASES

SUMMER BLACK STEM (Cercospora zebrina) - KANSAS - Prevalence on alfalfa and plant height in cm (in) by county: Republic--100% (defoliation in 1 field), 51-61 cm (20-24 in), Cloud--80-100%, 30 cm (12 in), and Clay--trace to 10%. (Sim).

LEPTOSPHAERULINA LEAF SPOT (Leptosphaerulina briosiana) - KANSAS - Republic County--prevalence 100% on alfalfa in 1 field. (Sim).

INSECTS

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Pinal County--larvae 21 per 100 sweeps of alfalfa. (Brooks et al.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Counts per 100 sweeps of alfalfa by county: Maricopa--100 larvae, Pinal--29 larvae, 12 adults; and Yuma--10 larvae. (McCall et al.).

GARDEN WEBWORM (*Achyra rantalis*) - KANSAS - Barber County--adults averaged 25 per 0.8 sq m (sq yd) in alfalfa field. (Salsbury).

BLACK BLISTER BEETLE (*Epicauta pennsylvanica*) - NEBRASKA - Saunders County--adults averaged 30+ per plant on alfalfa scattered throughout pasture. (Pruess, Miller).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEVADA - Humboldt County--increased on seed alfalfa in Orovada area, especially south of area. Averaged 37 and 42 per sweep, respectively, in 2 fields. Up to 200 per sweep in localized spots. (Berg, Lauderdale).

POTATO LEAFHOPPER (*Empoasca fabae*) - OHIO - Counts per sweep of alfalfa by county: Defiance--1.2, Delaware--6.4 (hopperburn), Franklin--2.7, Henry--1.0 and Highland--1.2. Heavy in few fields. (Drees). WEST VIRGINIA - Counts per sweep of alfalfa and plant height in cm (in) by county: Wood--2, 20 cm (8 in); Jackson--2, 15 cm (6 in); and Mason--6, 38 cm (15 in). (Hacker).

SOYBEANS

DISEASES

SOYBEAN BROWN SPOT (*Septoria glycines*) - ILLINOIS - Prevalence/severity on soybeans [pod 2 cm unless stated otherwise] by county (1 commercial field or monitoring plot each) week of August 14: In commercial fields, Macon--99%/3% [seed development]; Madison--99%/6-12%; Clay--99%/3-6%; Coles--99%/6-12% [seed development]; Wayne--99%/3-6%; Fayette--99%/6-12%; and Christian--99%/12%. In monitoring plots, St. Clair--99%/12-25% [seed development]; Fayette--99%/12-25% [seed development]; Jackson--99%/6-12% [seed development]; and Saline--99%/3-6% [seed development]. (Jordan).

INDIANA - Soybean brown spot prevalence/severity on soybeans [seed development unless stated otherwise] by county August 13-19: Wabash--69%/1%; Huntington--14%/trace [pod 2 cm], Elkhart--78%/2%, Noble--78%/1%, Steuben--75%/1%, De Kalb--65%/1%, Allen--39%/trace, Adams--48%/trace, Jay--54%/1% [pod 2 cm], and Blackford--90%/1%; averaged 61%/1% in 10 sites. (Schall). MICHIGAN - Prevalence/severity on soybeans by county: Huron--15%/30% on lower leaves [flowering]; prevalence trace in seed development stage; Bay--95%/15% on lower leaves [seed development]; and Osceola--trace [pod]. (Singh).

SOYBEAN DOWNY MILDEW (*Peronospora manshurica*) - KANSAS - Douglas County--prevalence 50% on soybeans in 1 field. (Sim). ILLINOIS - Prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field or monitoring plot each) week of August 14: In commercial fields, Macon--trace/trace; Madison--99%/3-6% [pod 2 cm]; Clay--99%/6-12% [pod 2 cm]; Coles--trace/trace; Wayne--99%/1-3% [pod 2 cm]; Fayette--99%/3-6%; and Christian--99%/3% [pod 2 cm]. In monitoring plots, St. Clair--99%/12-25%; Fayette--60%/3-6%; Jackson--60%/1-3%; and Saline--80%/3-6% (Jordan).

INDIANA - Soybean downy mildew prevalence/severity on soybeans [seed development unless stated otherwise] by county August 13-19: Huntington [pod 2 cm] and Elkhart--99%/4%; Noble--81%/trace; De Kalb--95%/2%; Allen--96%/1%; Adams--93%/1%; Jay--72%/trace [pod 2 cm]; and Wabash, Steuben, and Blackford--99%/1%; averaged 93%/2% in 10 sites. (Schall). MICHIGAN - Prevalence/severity on soybeans by county: Huron--90%/60% [flowering] and Bay--trace [seed development]. (Singh)

- SOYBEAN STEM CANKER (*Diaporthe phaseolorum* var. *caulivora*) - KANSAS - McPherson County--prevalence 1% on soybeans in irrigated field. (Sim). ILLINOIS - Macon County--prevalence 12% in 1 commercial soybean [seed development] field. St. Clair and Jackson Counties--infected scattered soybean [seed development] plants in monitoring plots week of August 14. (Jordan).
- PHYTOPHTHORA ROOT AND STEM ROT (*Phytophthora megasperma* var. *sojae*) - KANSAS - Johnson County--prevalence trace on soybeans in 1 field. Stafford County--affected several varieties in an irrigated trial plot. (Sim). MINNESOTA-Nobles County--on soybeans [pod fill] in 1 field in area about 100 m x 25 m (328 ft x 82 ft), August 14-18. (Stromberg).
- BROWN STEM ROT (*Phialophora gregata*) - MINNESOTA - Steele County--prevalence trace on soybeans [pod fill] in 1 field August 14-18. (Stromberg).
- CHARCOAL ROT (*Macrophomina phaseolina*) - KANSAS - McPherson County--prevalence 1% on soybeans in irrigated field. (Sim).
- DIFFUSA POWDERY MILDEW (*Microspora diffusa*) - WISCONSIN - Racine County--prevalence 6%/severity light in 1 soybean field. (Lovett).
- SOYBEAN BACTERIAL BLIGHT (*Pseudomonas glycinea*) - KANSAS - Washington County--prevalence 30% on soybeans in 1 field. (Sim). MINNESOTA - Prevalence/severity on soybeans [pod fill] by county (1 field each) August 14-18: Steele--100%/5% and Waseca--100%/5-10%. (Stromberg). ILLINOIS - Prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field or monitoring plot each) week of August 14: In commercial fields, Macon--99%/1-3% and Coles--99%/1%. In monitoring plots, St. Clair--trace/trace; Fayette--12%/1-6%; Jackson--trace/trace to 1%; and Saline--trace/trace. (Jordan).
- INDIANA - Soybean bacterial blight prevalence/severity on soybeans [seed development unless stated otherwise] by county August 13-19: Wabash--87%/trace; Elkhart--99%/1%; Noble--93%/1%; Steuben--42%/1%; De Kalb--5%/trace; Adams--27%/trace; Blackford--30%/1%; and Huntington [pod 2 cm], Allen, and Jay [pod 2 cm]--0%/0%; averaged 38%/trace in 10 sites. (Schall). MICHIGAN - Osceola County--prevalence 15%/severity 2% on soybeans [pod]. (Singh).
- BACTERIAL PUSTULE (*Xanthomonas phaseoli* var. *sojense*) - KANSAS - Prevalence on soybeans by county: Marshall--80% and Washington--trace. (Sim). ILLINOIS - Prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field or monitoring plot each) week of August 14: In commercial fields, Macon--99%/4% and Coles--99%/3-6%. In monitoring plots, St. Clair--trace/trace; Jackson--2%/1%; and Saline--trace/trace. (Jordan).
- INDIANA - Bacterial pustule prevalence/severity on soybeans [seed development unless stated otherwise] by county August 13-19: Wabash, Huntington [pod 2 cm], Elkhart, Steuben, De Kalb, Allen, Adams, and Jay [pod 2 cm]--0%/0%; and Blackford--30%/1%; averaged 3%/trace in 10 sites. (Schall).
- SOYBEAN MOSAIC POTYVIRUS - ILLINOIS - Macon [seed development], Madison [pod 2 cm], Clay [pod 2 cm], Coles [seed development], Wayne [pod 2 cm], Fayette [pod 2 cm], and Christian [pod 2 cm] Counties--symptoms on few scattered soybean plants in commercial fields week of August 14. Prevalence on soybeans [seed development] in monitoring plots (1 plot each) by county: Saline--1%, St. Clair--12-25%, Fayette--3-6%, and Jackson--1-3%. (Jordan). MICHIGAN - Osceola County--trace on soybeans [pod]. (Singh).

TOBACCO RINGSPOT NEPOVIRUS - MICHIGAN - Prevalence of bud blight on soybeans by county: Huron--trace [flowering] and Osceola--trace [pod]. (Singh).

INSECTS

CORN EARWORM (Heliothis zea) - MISSISSIPPI - Delta area--larvae increased on soybeans [pod set] as cotton matured; treatment applied in some fields. Oktibbeha and Lowndes Counties--larvae 0.15 per 0.3 row m (row ft). (Anderson). NORTH CAROLINA - Central and southern Coastal Plain areas--larvae peaked. Robeson, Scotland, and Sampson Counties--pupation began in some soybean fields. Bladen, Sampson, Johnston, Robeson, Wayne, Wilson, Halifax, and Martin Counties--of 30 fields [bloom to small pod] 8 at threshold. Southern Coastal Plain area--populations expected to decrease August 25 to September 1. Edgecombe and Halifax Counties--small larvae in many fields. (Hunt).

GREEN CLOVERWORM (Plathypena scabra) - KANSAS - Wabaunsee County--small larvae averaged 0.5 per 0.3 row m (row ft) in 1 soybean [full pod] field; some adults noted. Brown and Ford Counties--significant adult flights indicated by light traps. (Bell). MISSOURI - North-central area--larvae light to moderate on soybeans, counts 0-8 (average 2.5) per 0.3 row m (row ft). (Munson). MISSISSIPPI - Statewide--larvae continued increase on soybeans. Oktibbeha and Lowndes Counties--larvae averaged 4.8 per 0.3 row m (row ft) on 404.7 ha (1,000 acres) and 80.9 ha (200 acres), respectively; defoliation noneconomic in all fields. (Anderson). WISCONSIN - Rock and Dane Counties--small larvae up to 3 per 0.3 row m (row ft) in soybean fields. Iowa County--fewer than 1 per 0.3 row m. (Lovett).

CORN EARWORM (Heliothis zea) - ARKANSAS - Desha County--this species, TOBACCO BUDWORM (H. virescens), and YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) larvae about 2 per 0.3 row m (row ft) in soybean field. (Wall). Greene County--H. zea larvae considerably below treatment level. (Kimbrough).

SALTMARSH CATERPILLAR (Estigmene acrea) - MISSISSIPPI - Delta area--larvae heavy in isolated fields of soybeans [pod set]; defoliation heavy in some fields, treatment needed. (Lambert).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Garvin County--infestations moderate in some soybean fields. (Arnold).

MEXICAN BEAN BEETLE (Epilachna varivestis) - KENTUCKY - Trimble County--larvae threatened soybeans, adults averaged 6.7 per 0.3 row m (row ft) of soybeans [beginning seed], eggs and pupae present. Oldham County--heavily infested 1 field, treatment planned. (Yeagan et al.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Oktibbeha and Lowndes Counties--averaged 9.3 per 25 sweeps of soybeans [bloom to pod set]; defoliation below 10% in all fields. (Anderson).

GREEN STINK BUG (Acrosternum hilare) - KENTUCKY - Western area--adults, nymphs, and eggs in most soybean fields, 1-3 per 0.3 row m (row ft) common, expected to increase. (Foster).

PEANUTS

DISEASES

SOUTHERN BLIGHT (Pellicularia (Sclerotium) rolfsii) - FLORIDA - Jackson County--asexual stage increased, economically damaged peanuts at Greenwood. (Tappan).

INSECTS

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - FLORIDA - Jackson County--this species and CORN EARWORM (Heliothis zea) populations light, averaged 1.8 per 0.3 row m (row ft). (Arnold).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Garvin County--infestations moderate on peanuts. (Arnold).

COTTON

INSECTS

BOLLWORMS (Heliothis spp.) - ARIZONA - BOLLWORM (H. zea) counts on cotton by county: Maricopa--60-450 eggs, 5-75 larvae per 100 terminals; Pinal--10-40 eggs, 2-9 larvae per 100 terminals; Gila--4 eggs, no larvae per plant; and Yuma--4-6 eggs, 1-8 larvae per terminal. (Kirkpatrick et al.). OKLAHOMA - Jackson, Tillman, and Harmon Counties--bollworm eggs 1-12 and larvae 1-27 per 100 cotton terminals. (Arnold).

ARKANSAS - Southeastern area--H. zea and TOBACCO BUDWORM (H. virescens) adult activity variable; H. virescens only 1-2% of adults in Tigt trap catches. Desha County--eggs 20-240 per 17 row m (56 row ft) in greener cotton fields, larvae 30-35 per 17 row m. Chicot County--eggs 0-138 per 17 row m, larvae 1-72 per 17 row m. (Wall). Northeastern area--40 eggs and 18-20 larvae per 100 terminals common in greener cotton fields. (Kimbrough).

MISSISSIPPI - Statewide--rapidly maturing cotton becoming unattractive to bollworm adults in many areas, especially where rainfall low. Southern area--eggs 20-90% on green cotton. Central hill section--eggs 20-40%. Northern area--eggs heavy on green cotton, larvae generally light. (Hamer). Average percent larval infestation by county: Alcorn--3% on 60.7 ha (150 acres), Itawamba--3% on 121 ha (300 acres), Yalobusha--2% on 2,023 ha (5,000 acres), Prentiss--8% on 40.5 ha (100 acres), Holmes--10-15% on 404.7 ha (1,000 acres), Lowndes--10% on 162 ha (400 acres), Monroe--0-15% on 2,023 ha, Adams--5-20% on 1,214 ha (3,000 acres), and Copiah--8% on 40.5 ha. (Anderson).

SOUTH CAROLINA - Several Piedmont counties--BOLLWORM (H. zea) and TOBACCO BUDWORM (H. virescens) activity increased on cotton. York and Chester Counties--light trap catches increased from average of 5-10 per night to 90-100, August 20; 50-75 next 3 nights. (Douglass).

COTTON LEAFPERFORATOR (Bucculatrix thurberiella) - ARIZONA - Maricopa County--extremely heavy on cotton in spots; Pinal County--larvae 10 per 100 sweeps, very heavy in some spots; Yuma County--widespread and heavy in spots; and Graham County--most fields treated. (Kozloski).

CABBAGE LOOPER (Trichoplusia ni) - ARKANSAS - Northeastern and southeastern areas--adults very heavy on cotton. Chicot and Desha Counties--larvae near treatment level. Northeastern area--larvae mostly found around cotton field borders. (Barnes et al.).

FALL ARMYWORM (Spodoptera frugiperda) - SOUTH CAROLINA - Calhoun County--activity heavy on cotton, 5-10% larval infestation and 1-3 egg masses per field in some areas. York County--infestation light. Treatment applied in both counties. (Douglass).

BEET ARMYWORM (Spodoptera exigua) - OKLAHOMA - Jackson County--heavy infestations in spots in several cotton fields, counts increased in irrigated fields. (Arnold).

BOLL WEEVIL (Anthonomus grandis grandis) - ARKANSAS - Statewide--counts increased in cotton fields, no damaging infestations. (Barnes). MISSISSIPPI - Covington and Rankin Counties--boll weevil fed on small cotton bolls at economic levels. Central and northern areas--damage generally light. Southern area--damaging populations continued. Percent punctured cotton squares, with acreage, by county: Alcorn--0%, 60.7 ha (150 acres); Itawamba--5%, 121 ha (300 acres); Yalobusha--8%, 2,023 ha (5,000 acres); Prentiss--4%, 40.5 ha (100 acres); Holmes--15-20%, 404.7 ha (1,000 acres); Lowndes--5%, 162 ha (400 acres); Monroe--0-15%, 2,023 ha, Adams--15-30%, 1,214 ha (3,000 acres); and Copiah--7%, 40.5 ha. (Anderson). SOUTH CAROLINA - Laurens, McCormick, and Chester Counties--activity on cotton very light and scattered. (Douglass).

BANDEDWINGED WHITEFLY (Trialeurodes abutilonea) - ARKANSAS - Southeastern area--adults heavy in some cotton fields. (Wall).

TOBACCO

INSECTS

TOBACCO HORNWORM (Manduca sexta) - NORTH CAROLINA - Bladen County--29 of 216 tobacco fields at threshold and Wake County--5 of 62 fields at threshold. Southern and central Coastal Plain--harvest nearly completed. (Dunham, Clark).

SUGAR BEETS

INSECTS

BEET ARMYWORM (Spodoptera exigua) - COLORADO - North-central area--scattered, light infestations on sugar beets. (Hantsbarger).

POTATOES, TOMATOES, PEPPERS

DISEASES

ALTERNARIA EARLY BLIGHT (Alternaria solani) - NEW MEXICO - Dona Ana County--moderate, caused necrotic lesions on tomato leaves and fruit at Anthony, Vado, Hatch, and La Mesa. (Stefano).

TOMATO WILT (Fusarium oxysporum f.sp. lycopersici) - NEW MEXICO - Dona Ana County--caused chlorosis, wilting, and die-back of terminal growth of tomato at Anthony, Hatch, Vado, and La Mesa. (Stefano).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Sussex County--larvae, all instars, but mainly full-grown borers, averaged about 23% in untreated sweet peppers in western area. (Burbutis, Kelsey).

BEANS AND PEAS

INSECTS

WESTERN FLOWER THRIPS (Frankliniella occidentalis) - CALIFORNIA - Humboldt County--active on 2 ha (4 acres) of beans at Shively; 50% of plants affected with leaf yellowing and curling. (Holzberger, Haggard).

COLE CROPS

INSECTS

CABBAGE LOOPER (Trichoplusia ni) - WISCONSIN - Southern area--adults heavy in pheromone and blacklight traps in commercial cabbage-growing areas. Larval damage heaviest in several years. (Lovett).

DECIDUOUS FRUITS AND NUTS

INSECTS

REDHUMPED CATERPILLAR (Schizura concinna) - CALIFORNIA - Yolo County--larvae 25 per leaf on 24 ha (60 acres) of 7 to 10-year-old walnut trees; defoliation about 5% in orchard at Dunnigan. (Perkins, McCartney).

CODLING MOTH (Laspeyresia pomonella) - NEW MEXICO - Lincoln County--larval populations up to 80% in apple orchards in Hondo Valley where fruit severely damaged by hail and growers stopped controls. (Nielsen)

PECAN WEEVIL (Curculio caryae) - MISSISSIPPI - Statewide--emergence late due to late-maturing pecan crop. Wilkinson County--2 females and 1 male taken from 12 cone traps. Winston County--2 females taken from 6 cone traps. (Neel).

BEAN THRIPS (Caliothrips fasciatus) - CALIFORNIA - Lake County--heavily infested 3 walnut orchards, defoliation up to 25% at Lower Lake; crop sunburn noted, controls underway. (Townsend).

SPIDER MITES (Tetranychus spp.) - NEW MEXICO - Chaves County--heavy populations damaged foliage of apple trees in Rio Penasco area. Chemical treatments reduced populations below economic levels. (Nielsen). OKLAHOMA - Wagoner County--TWO SPOTTED SPIDER MITE (T. urticae) up to 20 per leaf in apple and peach orchards. (Arnold).

SMALL FRUITS

INSECTS

ACHEMON SPHINX (Eumorpha achemon) - CALIFORNIA - Glenn County--late instar larvae active on 202 ha (500 acres) of grapes at Orland; 25% of grape vineyard heavily infested with up to 26 larvae per vine, 25% light to moderately infested with 1-2 per plant. Defoliation 95-100% on heavily infested vines. (Thomas, Haig).

GRAPE ERINEUM MITE (Colomerus vitis) - IDAHO - Nez Perce County--severely damaged grape foliage at Lewiston. (Kambitsch).

ORNAMENTALS

INSECTS

A THRIPS (Echinothrips americana) - FLORIDA - Orange County--economic on ornamentals this season, special treatment of ornamentals in commercial nurseries in Apopka area needed. (Hamlen).

FOREST AND SHADE TREES

INSECTS

ELM LEAF BEETLE (Pyrrhalta luteola) - NEVADA - New county record. White Pine County--heavily damaged elm trees at Baker. Collected by S.D. Peters, August 17, 1978. Determined by R.C. Bechtel. (Bechtel). OKLAHOMA - Payne and Washita Counties--newly molted adults heavy on elm trees. (Arnold).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Taos County--heavily defoliated cottonwoods along Rio Grande. (Smith).

WALNUT CATERPILLAR (Datana integerrima) - WISCONSIN - Rock and Winnebago Counties--completely defoliated black walnut trees, tachinid fly parasitism heavy in Rock County. (Lovett).

A MARGARODID SCALE (Matsucoccus acalyptus) - NEW MEXICO - Taos County--infested pinyon on private land near Questa. Defoliation from previous infestations very noticeable and new growth heavily infested. (Gilmore).

MAN AND ANIMALS

INSECTS

FACE FLY (Musca autumnalis) - NEBRASKA - Dawson and Lincoln Counties--averaged 13 per face on untreated cattle. (Boxler). MISSOURI - North-central area--increased, 0-75 on 2 herds, averaged 12 and 20 per face. (Hall). MARYLAND - Western counties--averaged 75-150 per head. (Hellman, Pinto).

HORN FLY (Haematobia irritans) - OKLAHOMA - Garvin County--ranged 300-500 per head on cattle. (Arnold). NEBRASKA - Dawson and Lincoln Counties--averaged 375+ per head on untreated cattle in river pastures. (Boxler). MISSOURI - North-central area--increased, 5-500 on 2 herds, averaged 183 and 160 per side. (Hall). MARYLAND - Western counties--heavy. Garrett County--averaged 200 per head. (Hellman, Pinto).

TABLE FLY (Stomoxys calcitrans) - NEBRASKA - Dawson and Lincoln Counties--averaged 20 per leg on untreated cattle in feedlots. (Boxler). MARYLAND - statewide--unusually heavy. Garrett County--150 per head on cattle. (Hellman, Pinto).

ISCELLANEOUS FIELD CROPS

INSECTS

UNFLOWER MOTH (Homoeosoma electellum) - CALIFORNIA - Sacramento County--larvae damaged 2% of stems in 14-ha (35-acre) field of sunflowers at Sacramento. Damage at leaf axils and in pulpy area in calyx. (Mellor, Alvarez).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Grant County--on 70% of sorghum plants in fields. (Arnold).

AN APHIDIID WASP (Lysiphlebus testaceipes) - OKLAHOMA - Texas and Cimarron Counties--parasitism of Schizaphis graminum (greenbug) in sorghum ranged 40-70% and 20-40%, respectively. (Arnold).

GREEN LACEWINGS (Chrysopa spp.) - OKLAHOMA - Grant County--eggs and adults heavy in sorghum. Kingfisher and Garfield Counties--eggs and adults heavy in mungbeans. Jackson County--adults swarming in and around Altus heavy. (Arnold).

FEDERAL AND STATE PROGRAMS

INSECTS

GRASSHOPPERS - OKLAHOMA - Infestations by county: Texas--Melanoplus sanguinipes nymphs and adults heavy in alfalfa; Ellis--heavy in rangeland; Kingfisher and Garfield--M. sanguinipes and M. differentialis heavy in borders of mungbeans; Garvin--light to heavy in pastures; Caddo--light to moderate in pastures and M. differentialis caused significant damage to blackeyed pea fields. (Arnold). NEBRASKA - Knox and Frontier Counties--Melanoplus spp. adults damaged new alfalfa seedlings. (Roselle).

GYPSY MOTH (Porthetria dispar) - SOUTH CAROLINA - Horry County--30 adults taken in 19 traps at 9 locations in Myrtle Beach area. (Lott). WEST VIRGINIA Male adults from traps by county: Hampshire--1, Morgan--7, Berkeley--41 in 35 traps; and Jefferson County--4. Shannondale-Appalachian Trail area--22 male adults in 20 traps. (Van Buskirk, Tustin).

JAPANESE BEETLE (Popillia japonica) - OHIO - Southern, central, and north-western counties--none on soybeans, alfalfa, corn silks, or grapes; adults decreased past 14 days. (Drees).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Percent infested cotton bolls by county: Maricopa--0-25%, Gila--4%, Yuma--3-20%, and Pinal--4-12%. (Pilling).

SCREWORM (Cochliomyia hominivorax) - Total of 270 cases reported from continental United States July 30 to August 5 as follows: Texas 26, New Mexico 39, Arizona 200, California 5. (Meadows). Total of 130 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 350 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 117,386,200 as follows: Texas 53,618,000, New Mexico 21,023,150, Arizona 42,115,050, California 630,000. (Meadows). Total of 96,978,200 sterile flies released within Barrier of Mexico. (Williams, Smith).

A WHITEFRINGED BEETLE (Graphognathus leucoloma leucoloma) - ARKANSAS - New county record. Washington County--several adults collected in azalea flower garden at Fayetteville, August 18, 1978, by B.F. Jones. Determined by E.P. Rouse. (Mayse).

HAWAII PEST REPORT

General Vegetables - Infestations by LEAFMINER FLIES (Liriomyza spp.) heavy on 0.4 ha (1 acre) of eggplant (defoliation about 50%) at Lahaina and on 0.2 ha (0.5 acre) of pole beans at Pulehu, Maui. GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) infestations heavy on 0.2 ha of pole beans at Pulehu. (Miyahira, L. Nakahara).

Beneficial Insects - Heavy populations of a LADY BEETLE (Stethorus siphonulus) parasitized Tetranychus cinnabarinus (carmine spider mite) infestations on papaya and Eutetranychus banksi (Texas citrus mite) on plumeria, papaya, and castorbean in backyard and roadside plantings at Lahaina, Maui. (Miyahira, L. Nakahara).

DETECTION

NEW STATE RECORD

INSECTS

AN APHID (Forda formicaria) - OREGON - Polk County. (p. 497).

NEW COUNTY RECORDS

INSECTS

ELM LEAF BEETLE (Pyrrhalta luteola) - NEVADA - White Pine. (p. 504).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - OHIO - Delaware and Fayette. (p. 496).

A WHITEFRINGED BEETLE (Graphognathus leucoloma leucoloma) - ARKANSAS - Washington. (p. 505).

CORRECTIONS

CPPR 3(30):397 - First paragraph - "Parasitism of Oulema melanopus (cereal leaf beetle) larvae by county: Frederick--5% and 17% in 2 samples, Shenandoah--4%..." should read "New county record. Shenandoah County--parasitism of Oulema melanopus (cereal leaf beetle) 4% in oat field in Central Magisterial District, June 12. Collected by E. Elliott."

CPPR 3(31):421 - Second paragraph - "OHIO - ... Stark--32%, 61%, and 62% in Nimishillen Township ..." should read "New county record. Stark County--parasitism of Oulema melanopus (cereal leaf beetle) 32%, 61%, and 62% in 3 oat fields in Nimishillen Township, June 6. Collected by J. Slates."

CPPR 3(31):421 - Fourth paragraph - NEW JERSEY - delete "Burlington--67% in North Hanover Township," (P.R. DeWitt).

CPPR 3(31):421 - last paragraph - "NEW YORK - Westmoreland-- ..." should read "PENNSYLVANIA - WESTMORELAND--..." (P.R. DeWitt).

CPPR 3(33):460 - "A EULOPHID WASP ... KENTUCKY ... near Harrisburg ..." should read "A EULOPHID WASP ... KENTUCKY ... near Harrodsburg ..."

LIGHT TRAP COLLECTIONS

State	Locality	Date	Temp. (F)	Temp. (C)	Precip. (mm)	Action	Trap	BL	38	16	68	4	35	1252	37	Crop
ARIZONA	Mesa	8/14-20						BL	38							
ARKANSAS (Counties)	Jefferson	8/10-16						12BL	9	1755						
	Mississippi	8/7-11, 14-18						10BL	29	1127						
FLORIDA	Gainesville	8/17-23						BL		16	10			1	2	7
KANSAS	Haviland	8/23						BL			34			5	0	2
	Pratt	8/19-21						BL				27				
								BL			304					
KENTUCKY	Lexington	8/16-20						BL	8	1						
MINNESOTA	Fergus Falls	8/16-22	6-34					BL								
	Worthington	8/16-22	12-30	44.5				BL	6							3
MISSISSIPPI	Stoneville	8/18-24	18-37					2BL	28	7						
NEBRASKA	Aurora	8/15-21						BL	2							
	Clay Center	8/18-24						BL	10							
NORTH DAKOTA	Bismarck	8/21						BL								
	Williston	8/16, 18						BL								
								BL								
OHIO (Counties)	Huron	8/17-24						BL	1							
	Wayne	8/19-25						3BL	16	18						

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Cercospora cotizensis</u> a fungus Det. F.G. Pollack	imperfect	on leaves of <u>Crotalaria</u> plants	Dominican Republic	San Juan	PR
<u>Milesia</u> sp. a rust Det. F.G. Pollack	uredial	on leaves of <u>Blechnum</u> plants	Dominican Republic	Miami	FL
<u>Puccinia pitcairniae</u> spp. <u>Chapalensis</u> Cumm & Pollack a rust Det. F.G. Pollack	uredial telial	on leaves of <u>Tillandsia</u> plants	Mexico	Brownsville	TX
<u>Uromyces lucumae</u> Diet. a rust Det. F.G. Pollack	uredial	on leaves of <u>Pouteria</u> <u>caimito</u> plants	Brazil	Miami	FL
<u>Buprestis</u> sp. a buprestid beetle Det. J.M. Kingsolver	larval	in wood crates of steel bolts	India	New Orleans	IL
<u>Hylobius</u> sp. a weevil Det. D.M. Anderson	larval	in dunnage	West Germany	Savannah	---
<u>Orthotomicus erosus</u> (Moll.) a scolytid beetle Det. D.M. Anderson	adult	in wood crate with marble	Italy	Tampa	FL
<u>Phelypera distigma</u> Boheman a weevil Det. J.M. Kingsolver	adult	in leaves of <u>Chamaedorea</u>	Guatemala	Houston	---

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Animal and Plant Health Inspection Service
Hyattsville, Maryland 20782

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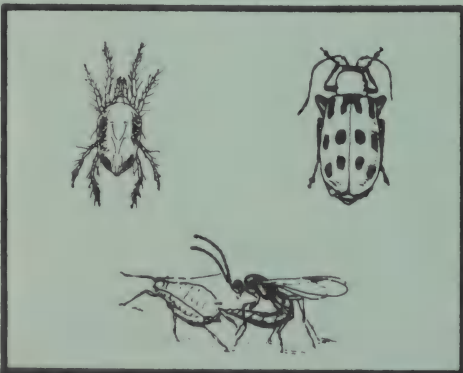
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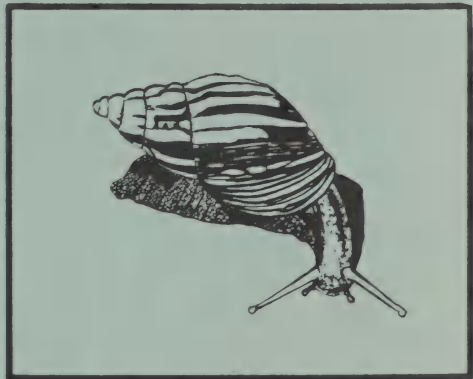


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Vol. 3 No. 36

September 8, 1978

Cooperative PLANT PEST REPORT



Animal
and Plant
Health
Inspection
Service

U.S.
DEPARTMENT
OF AGRICULTURE

This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER continues to threaten unharvested sweet corn in parts of Wisconsin. (p. 513-514).

Detection

A LYGAEID BUG is new for Virginia. (p. 520).

For new county records see page 520.

Reports in this issue are for the week ending September 1 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Tobacco	
Diseases.....	513	Insects.....	517
Insects.....	513		
Forage Legumes		Potatoes, Tomatoes, Peppers	
Insects.....	515	Diseases.....	517
		Insects.....	517
Soybeans		Deciduous Fruits and Nuts	
Diseases.....	515	Insects.....	517
Insects.....	516		
Peanuts		Forest and Shade Trees	
Insects.....	516	Insects.....	518
Cotton		Man and Animals	
Diseases.....	517	Insects.....	518
Insects.....	517		
Federal and State Programs			
Insects.....	518		
Hawaii Pest Report.....	519		
Detection.....	520		
Corrections.....	521		
Light Trap Collections.....	521		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	522		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON MAIZE RUST (Puccinia sorghi) - NEBRASKA - Douglas, Sarpy, Cass, Otoe, Johnson, Nemaha, Pawnee, Gage, Jefferson, Saline, and Lancaster Counties--prevalence absent to trace/severity trace on corn [mostly late blister to dough] in most areas, except 15%/trace in Johnson County, August 7-18. (Poe). IOWA - Prevalence/severity on corn [dough to dent] by county August 12-25: Palo Alto--trace/trace, Boone and Story--trace to 20%/trace, Winneshiek--trace to 10%/trace, and Clinton--50%/trace. (Williams).

NORTHERN LEAF BLIGHT (Helminthosporium turcicum) - WISCONSIN - Crawford, Grant, Lafayette, Iowa, Dane, and Richland Counties--prevalence less than 10% in most fields except in Richland County where prevalence 100%/severity 5% in few seed fields of waxy corn with 30% severity common on individual plants. (Lovett).

HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) - WISCONSIN - Asexual prevalence general/severity light in most fields throughout corn areas. Rock County--coalescing lesions fired leaves on lower half of plant in some exceptional fields. (Lovett).

COMMON SMUT (Ustilago maydis) - NEBRASKA - Douglas, Sarpy, Cass, Otoe, Johnson, Nemaha, Pawnee, Gage, Jefferson, Saline, and Lancaster Counties--prevalence trace to 2% on corn [mostly late blister to dough], except 4% in Johnson County and up to 6% in some fields in Otoe and Gage Counties, August 7-18. (Poe). IOWA - Prevalence on corn [dough to dent] by county August 12-25: Palo Alto, Story, and Boone--trace to 3%; and Cerro Gordo, Kossuth, Greene, Buchanan, Delaware, and Clinton--trace. (Williams).

YELLOW LEAF BLIGHT (Phyllosticta maydis) - NEBRASKA - Johnson County--prevalence trace/severity 5% on corn [mostly late blister to dough] in 1 field August 7-18. (Poe)

CORN EYESPOT (Kabatiella zea) - IOWA - Delaware County--prevalence trace/severity trace on corn [dough to dent] August 12-25. (Williams).

SOOTY STRIPE (Ramulispora sorghi) - KANSAS - Osage County--prevalence about 5% in 1 sorghum field. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - KANSAS - Osage County--prevalence trace in 1 sorghum field. (Sim).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Status on sorghum by county: Nemaha--second generation larvae infested 20% of plants in 1 field, larvae behind leaf sheaths, none in stalks (Hilbert); and Cloud--larvae, 1 cm (0.5 in) long, trace in 1 field (Bonczkowski); on corn: Nemaha--larvae infested 70% of stalks (bored into 90%) in late field [milky] (Hilbert). ILLINOIS - Adult flights decreased. Northern one-half of State--all stages in corn fields; some stalk breakage. (Black).

WISCONSIN - Statewide--European corn borer adults still very heavy in black-light traps at many sites. Heaviest second adult flight on record. From southern border to St. Croix, Eau Claire, and Shawano Counties--eggs and larvae still in damaging numbers on late sweet corn and dent corn. Counts per 25 plants by county: Rock--20 egg masses; Outagamie, Shawano, and Waushara--4 eggs; St. Croix--up to 11 fresh eggs. No larvae in many treated

fields but fresh European corn borer egg masses still appeared few days after treatment. Observations indicate severe threat for most sweet corn fields not harvested within next 14 days. (Lovett).

INDIANA - Number of corn plants surveyed, percent plants infested by second generation European corn borer larvae, larvae per infested stalk, and predominant instar by county (1 field each): Warren--15 [blister], 60%, 4.44, and 3rd (87% of larvae associated with axils of leaves) and Lake--25, 64%, 2.19, and 3rd (74% of larvae in or on tip of ear). (Meyer).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - NEW MEXICO - Luna County--2nd instar larvae caused some cornstalk lodging near Columbus. Larvae occasionally in grain sorghum stalks. (Nielsen).

CORN EARWORM (Heliothis zea) - NEW MEXICO - Luna County--populations heavier in late-planted corn fields. Larvae fed in "boot" and damaged tassel and other terminal growth. Eggs heaviest at 35 on silk of 1 corn ear at Lewis Flats. (Nielsen). COLORADO - Montrose County--damage severe in many corn fields. (Hantsbarger). WISCONSIN - No damaging larval populations on corn. Adult blacklight trap catches indicate threat to late corn. (Lovett).

FALL ARMYWORM (Spodoptera frugiperda) - MISSOURI - South-central area--light on late-planted corn. This species and CORN EARWORM (Heliothis zea) infested 3-11% of plants in 2 fields. (Munson). WISCONSIN - Larvae still heavy on some corn. (Lovett).

SORGHUM WEBWORM (Celama sorghiella) - MISSISSIPPI - Alcorn County--larvae, up to 50 per head, infested 202 ha (500 acres) of grain sorghum [head]. (Jarratt).

CORN ROOTWORMS (Diabrotica spp.) - OKLAHOMA - New county record for WESTERN CORN ROOTWORM (D. virgifera). Garvin County--adult taken in pheromone trap in corn field 0.4 ha (1 mile) north of Stratford, July 12, 1978. Collected and determined by J.L. Krysan. (Arnold). INDIANA - Tippecanoe County--NORTHERN CORN ROOTWORM (D. longicornis) adults 218 (51 in 1977) at 10 sticky traps in untreated corn field. (Meyer). MICHIGAN - Cass County--Diabrotica spp. adults heavy on sweet corn. Sanilac, Ottawa, Livingston, Ingham, and Clinton Counties--common in field corn. (Hammon et al.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Texas County--decreased to near zero on sorghum due to treatments, parasites, and predators. Grant County--5-10 per sorghum plant. (Arnold). KANSAS - Parasitism of greenbug on sorghum by county: Thomas--infestations in experimental plots at Colby destroyed by parasitic wasps (Harvey); and Gray, Finney, and Kearny--destroyed most greenbugs on sorghum (Shuman). Statewide--no damaging infestations. (Bell).

CHINCH BUG (Blissus leucopterus leucopterus) - KANSAS - Counts on sorghum by county: Ottawa and Cloud--most growth stages heavy in some fields, Dickinson and Clay--particularly heavy (Bonczkowski), Nemaha and Marshall--averaged 10-150 per plant in 5 fields (Hilbert), Sedgwick--averaged 50 per plant in 2 fields with trace killed by Beauveria globulifera (an insect fungus). (Salsbury).

SAY STINK BUG (Chlorochroa sayi) - NEW MEXICO - Luna County--adults of mostly this species up to 37 per head of grain sorghum in untreated fields in Deming area, also minor problem on corn. Treatments applied to 10,117-12,141 ha (25,000-30,000 acres) of sorghum. (Nielsen, Pena).

GRASSHOPPERS (Melanoplus spp.) - ILLINOIS - Southern one-half of State--heavily damaged end rows of many corn fields. (Black).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Quay County--adults 0-2 per 25 sweeps in alfalfa fields at San Jon. (Heninger).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Quay County--larvae 17-39 per 25 sweeps of alfalfa at San Jon. (Heninger).

CORN EARWORM (Heliothis zea) - NEW MEXICO - Chaves and Eddy Counties--damaged alfalfa foliage from Dexter to Carlsbad, respectively. (Gholson)

BEET ARMYWORM (Spodoptera exigua) - NEW MEXICO - From Dexter, Chaves County, to Carlsbad, Eddy County--larvae up to 400-500 (averaged 40) per 10 sweeps, damage heavy on alfalfa foliage since mid-July. (Gholson).

SPOTTED ALFALFA APHID (Therioaphis maculata) - COLORADO - Montrose County--light, 3-4 per sweep, on alfalfa. (Hantsbarger). OKLAHOMA - Garvin County--0-100 per 10 sweeps of alfalfa. (Arnold).

POTATO LEAFHOPPER (Empoasca fabae) - MICHIGAN - St. Clair, Cass, Kalamazoo, and Ottawa Counties--damaged some alfalfa fields. (Robb et al.).

SOYBEANS

DISEASES

SOYBEAN (TRUNCATA) ANTHRACNOSE (Colletotrichum dematium var. truncata) - IOWA - Prevalence on soybeans [pod] by county August 12-25: Cerro Gordo--50-70% and Carroll--70%. (Williams).

CHARCOAL ROT (Macrophomina phaseolina) - KANSAS - Prevalence on soybeans by county: Coffey--40-50%, Woodson--10%, Wilson--30%, Allen--30-80%, Labette--90%, Linn--1-5%, Anderson--1-70%, Franklin--30-70%, Douglas--30-40%, and Wabaunsee--10%. (Sim).

SOYBEAN BROWN SPOT (Septoria glycines) - IOWA - Greene County--prevalence 60%/severity trace to 5% on soybeans [pod] August 12-25. (Williams).

PHYLLOSTICTA LEAF SPOT (Phyllosticta sojaecola) - IOWA - Prevalence/severity on soybeans [pod] by county August 12-25: Boone--5-70%/trace to 5%, Greene--3%/trace, and Clinton--trace/trace. (Williams).

PHYTOPHTHORA ROOT AND STEM ROT (Phytophthora megasperma var. sojae) - KANSAS - Washington and Osage Counties--reported on soybeans in 1 field each. (Sim). IOWA - Prevalence on soybeans [pod] by county August 12-25: Buchanan--3-5% and Chickasaw--5%. (Williams).

SCLEROTINIA STEM ROT (Sclerotinia sclerotiorum) - WISCONSIN - Dane County--prevalence 6% in 1 soybean field. Black sclerotia clearly visible on dead stems. (Lovett)

SOYBEAN DOWNY MILDEW (Peronospora manshurica) - NEBRASKA - Cass, Otoe, Johnson, and Nemaha Counties--began to appear in some soybean fields [mostly

rapid pod growth], soybean downy mildew usually limited to upper leaves. Prevalence 10-40%/severity 10-20%, August 7-18. (Poe).

BACTERIAL PUSTULE (Xanthomonas phaseoli var. sojense) - IOWA - Prevalence/severity on soybeans [pod] by county August 12-25: Kossuth--50-99%/trace to 3% and Greene--trace/trace. (Williams).

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - NEBRASKA - Douglas, Sarpy, Cass, Otoe, Johnson, Nemaha, Pawnee, and Gage Counties--prevalence/severity on soybeans [most rapid pod growth] ranged from trace/5% to 15%/20%, except 70%/15% in Cass County and 60%/5% in Otoe County, August 7-18. (Poe).

SOYBEAN MOSAIC POTYVIRUS - NEBRASKA - Sarpy and Cass Counties--prevalence trace to 5% in soybean fields [mostly rapid pod growth], August 7-18. (Poe). IOWA - Prevalence on soybeans [pod] by county August 12-25: Cerro Gordo--trace to 3%, Greene--trace to 3%, and Calhoun--trace. (Williams).

INSECTS

CORN EARWORM (Heliothis zea) - ARKANSAS - Southeastern area--larvae up to 14 per 0.3 row m (row ft) in some soybean fields (Barnes), and 5 per 0.3 row m (above treatment level) in many fields. (Wall). MISSISSIPPI - Many areas--larvae increased on soybeans, heaviest in Delta section. Oktibbeha, Lowndes, and Noxubee Counties--larvae 0.36 per 0.3 row m (row ft). (Anderson). NORTH CAROLINA - Statewide--populations peaked in most soybean fields. From Sampson to Halifax Counties--large larvae, 3.8 cm (1.5 in) or longer, in 20 of 25 fields with small to medium pods. Pupation underway and rapid larval decrease expected September 1-7. (Hunt).

GREEN CLOVERWORM (Plathypena scabra) - MISSISSIPPI - Oktibbeha and Lowndes Counties--larvae ranged 2.8-9.3 per 0.3 row m (row ft) of soybeans [bloom to pod set]. In other areas of State--larvae increased; heavy defoliation needed treatment in some fields. (Anderson). ILLINOIS - Statewide--larvae light, 2-3 per 0.3 row m (row ft), in occasional soybean fields. Many parasitized or diseased. (Black).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - CALIFORNIA - Imperial County--one 16-ha (40-acre) field of soybeans plowed down because of 80-90% infestation and salt damage, yellowed and stunted 50% of plants in second field, and damaged 10% of plants in third field of 32 ha (80 acres) at El Centro. (Flock).

GRASSHOPPERS (Melanoplus spp.) - ARKANSAS - Washington County--M. differentialis adults up to 3 per 0.3 row m (row ft) in experimental soybean plots. (Mayse). ILLINOIS - Southern one-half of State--unspecified species damaged soybeans past period. Statewide--currently serious threat to soybeans and corn. Some feeding on soybean seed pods. (Black).

PEANUTS

INSECTS

CORN EARWORM (Heliothis zea) - NORTH CAROLINA - Bladen, Sampson, Halifax, and Northampton Counties--infestations light, larvae 1-2 per 0.3 m (ft) in most peanut fields; defoliation economic, larvae 4+ per 0.3 m, in scattered fields. Many growers applied treatment. (Hunt, Pleasants).

COTTON

DISEASES

VERTICILLIUM WILT (Verticillium albo-atrum) - NEW MEXICO - Otero County--light infection at Dell City caused marginal lesions, wilting, and eventual defoliation of cotton plants. (Nielsen, Stefano).

INSECTS

BOLL WEEVIL (Anthonomus grandis grandis) - MISSISSIPPI - Southern area--damage decreased on cotton, damage to small bolls economic in some fields. Central and northern areas--damage light with "hotspots." Percent punctured squares and acreage by county: Wayne--3%, 101 ha (250 acres); Madison--10%, 1,012 ha (2,500 acres); Lowndes--5%, 121 ha (300 acres); Itawamba--10%, 202 ha (500 acres); Alcorn--0%, 40.5 ha (100 acres); Yalobusha--5%, 2,023 ha (5,000 acres); and Franklin--5%, 93.1 ha (230 acres). (Anderson).

BOLLWORMS (Heliothis spp.) - OKLAHOMA - Grady County--eggs 30-40 per 100 cotton terminals, TOBACCO BUDWORM (H. virescens) larvae still averaged about 80%. (Arnold). ARKANSAS - Eastern area--BOLLWORM (H. zea) and H. virescens eggs very heavy, up to 15 per cotton terminal in some fields. Proportion of H. virescens larvae increased in many fields. (Barnes). Southeastern area--adults increased, H. virescens about 20% of adults trapped. (Wall).

SPIDER MITES (Tetranychus spp.) - OKLAHOMA - Jackson County--increased on cotton, 50-200 per leaf. Infestations found throughout many fields; controls poor. (Arnold).

TOBACCO

INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - NORTH CAROLINA - Martin and Washington Counties--10 of 50 tobacco fields at threshold. Treatment effective. (Pleasants).

POTATOES, TOMATOES, PEPPERS

DISEASES

TOBACCO MOSAIC TOBAMOVIRUS - CALIFORNIA - Ventura County--prevalence 100% on 8.1 ha (20 acres) of tomatoes at Camarillo. (Minyard).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Most areas--adults averaged 150+ per night in blacklight traps. Western Sussex County--larval infestations averaged 42% in untreated sweet peppers. (Burbutis, Kelsey).

DECIDUOUS FRUITS AND NUTS

INSECTS

PEACHTREE BORER (Synanthedon exitiosa) - NEW MEXICO - Bernalillo County--larvae very heavy on nectarines and peaches in nurseries and residential plantings at Albuquerque. (Heninger).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Grant County--damaged apple foliage and fruit within webbing in 3 of 8 orchards near Faywood. (Nielsen).

FOREST AND SHADE TREES

INSECTS

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - New county records taken in multilure traps by county: Taylor--near Medford at edge of woods August 9, 1978, by D. Helgerson; Clark--near Loyal in wooded pasture August 9 by D. Helgerson; Door--near Brussels at roadside August 11 by H. Hauser; Marinette--near Porterfield in farm yard August 11 by H. Hauser; Chippewa--near Chippewa Falls at roadside August 18 by J. Dixon; Pierce--near Ellsworth at roadside August 18 by R. Larson; and Lincoln--near Merrill at roadside August 23 by J. Adams. Determined by E. Arnold, confirmed by P. Pellitteri. (Lovett).

FALL WEBWORM (Hyphantria cunea) - ARKANSAS - Madison County--larvae heavy, completely defoliated persimmon trees [up to 6.1 m (20 ft) tall]. (Mayse).

VARIABLE OAKLEAF CATERPILLAR (Heterocampa manteo) - ARKANSAS - Central area--new generation larvae heavy on oak regrowth foliage from Little Rock eastward. (Barnes).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - OKLAHOMA - Major County--750-1,200 per head of cattle. (Arnold).

FEDERAL AND STATE PROGRAMS

INSECTS

GRASSHOPPERS - CALIFORNIA - New county record for Aeoloplides californicus. Kings County--adults on an unidentified weed, at Lemoore, July 31, 1978. Collected by J. Dunningliff. Determined by A.R. Hardy. (Hasbrouck). OREGON - Wasco County--Melanoplus femurrubrum and M. sanguinipes heavy in Big Dune area, 11 km (7 miles) east of The Dalles. Populations may not be representative of surrounding areas. (Westcott). NEW MEXICO - Quay County--grasshopper adults and nymphs 6-36 per 25 sweeps of alfalfa at San Jon. (Heninger)

KANSAS - Grasshopper status by county: Gray and Finney--second generation Melanoplus sanguinipes hatch probably completed or near completion (Mock, Shuman); Lincoln--mostly 5th and 4th instars in alfalfa field, mostly adults and 5th instars in 2 wheat stubble fields, averages of 0.6-5.5 per 0.8 sq m (sq yd) in 5 stubble fields (Bell); Cowley, Sedgwick, and Butler--unusually light on crops, pastures, and rangeland (Salsbury); Cloud, Clay, Dickinson, and Ottawa--adults unusually light on cropland, range, and pastures, no noticeable crop damage (Bonczkowski); Johnson, Coffey, and Woodson--also light in similar situations, foliar damage moderate on 1 to 2-ha (3 to 4-acre) area in 1 soybean field in Johnson County. Recent treatment of this field effective. (White).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Colfax County--heavy numbers of late instar larvae crossing highway 8 km (5 miles) west of Vermejo. Molting larvae averaged 10-12 per yucca and grass clump 3 km (2 miles) north of Colmar exit. (Heninger).

SCREWWORM (Cochliomyia hominivorax) - Total of 244 cases reported from continental United States August 6-12 as follows: Texas 15, New Mexico 63, Arizona 162, California 4. (Meadows). Total of 149 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 120 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 123,829,900 as follows: Texas 61,197,300, New Mexico 20,174,000, Arizona 41,738,600, California 360,000, Nevada 360,000. (Meadows). Total of 555,253,500 sterile flies released within Barrier of Mexico. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) heavily infested 1 ha (3 acres) of green onions (50-75% of leaves) and 1 ha of cucumbers in Waianae Valley, Oahu. GREEN PEACH APHID (Myzus persicae) severely infested 0.4 ha (1 acre) of bell peppers (50-75% of leaves) and 1 ha of cucumbers in Waianae Nakahara). BROAD MITE (Polyphagotarsonemus latus) infestations and terminal damage heavy on 464.5 sq m (5,000 sq ft) of yardlong beans at Waiahole, Oahu. (Nakao, L. Nakahara).

DETECTION

NEW STATE RECORD

INSECTS

A LYGAEID BUG (Peritrechus fraternus) - VIRGINIA - Essex County--adult male collected from forage on farm at Studley, May 11, 1978. New county record for Hanover County--another male collected from wheat on farm at Howertons, May 22. Both collected by V. Hoyos. Determined by E.R. Hoebeke; confirmed by J.A. Slater. This widespread Nearctic species generally encountered in strand and flood litter habitats when it feeds upon seed in the litter. Prefers seeds of Panicum spp. (Poaceae). (Hoebeke).

NEW COUNTY RECORDS

INSECTS

A GRASSHOPPER (Aeoloplides californicus) - CALIFORNIA - Kings. (p. 518).

A LYGAEID BUG (Peritrechus fraternus) - VIRGINIA - See above.

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - Taylor, Clark, Door, Marinette, Chippewa, Pierce, and Lincoln. (p. 518).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - OKLAHOMA - Garvin. (p. 514).

CORRECTIONS

CPPR 3(35):500 - MEXICAN BEAN BEETLE (Epilachna varivestis) - KENTUCKY - Trimble County...change to adults averaged 6.7 and larvae averaged 52.8 per row m (3 row ft) of soybeans [beginning seed] at 1 location. (Sloderbeck, PPQ).

Pest Interceptions of Quarantine Significance at Ports of Entry

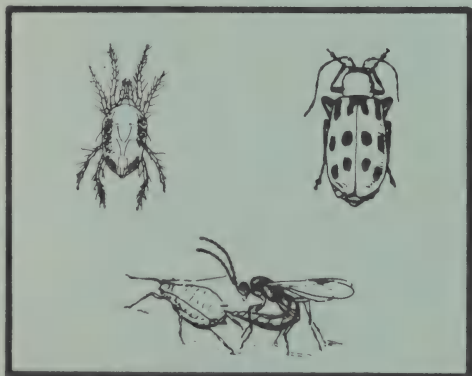
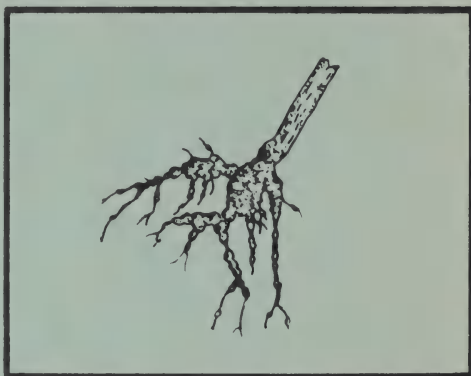
Plant Importation and Technical Support Staff
 Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Coleosporium perillac</u> Syd. a rust Det. F.G. Pollack	uredial telial	on leaves of <u>Perilla frutescens</u>	Japan	Los Angeles	NV
<u>Rehingeriella insignis</u> Petrak. a fungus Det. F.G. Pollack	perfect	on stems of <u>Othonna</u> plants	Namibia	Hoboken	NJ
<u>Belionota</u> sp. a buprestid beetle Det. J.M. Kingsolver	adult pupal	in wood pallets with bolts	India	New Orleans	IL
<u>Dryocoetes</u> sp. a scolytid beetle Det. D.M. Anderson	adult	in dunnage	Japan	San Francisco	CA
<u>Nasutitermes</u> sp. a termite Det. D.R. Smith	adult	in lumber	Brazil	Savannah	GA
<u>Trogoderma granarium</u> Everts Khapra beetle Det. J.M. Kingsolver	pupal	in bags of shelled pistachio nuts	Iran	New York	NY
<u>Helicella striata</u> (Muller) a hellicid snail Det. P.J. Lima	adult	on military vehicles	Turkey	Savannah	---
<u>Veronicella moreletii</u> Crosse & Fischer a veronicella slug Det. P.J. Lima	adult	on leaves of <u>Chamaedorea</u>	Guatemala	Houston	---



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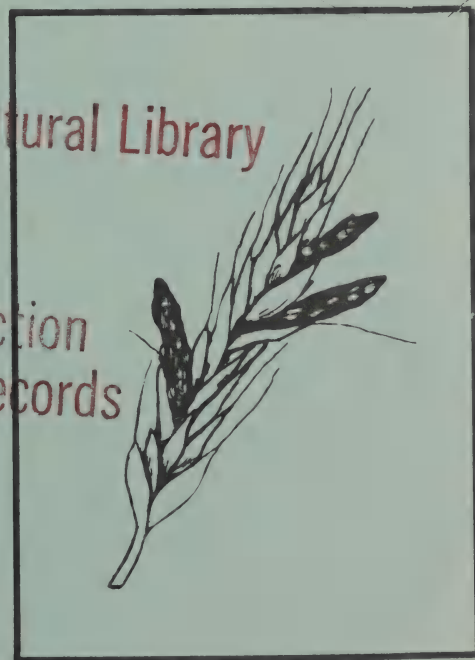
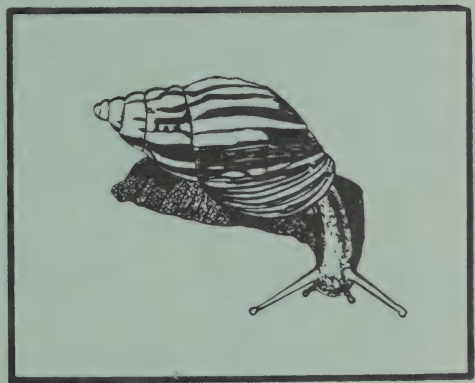
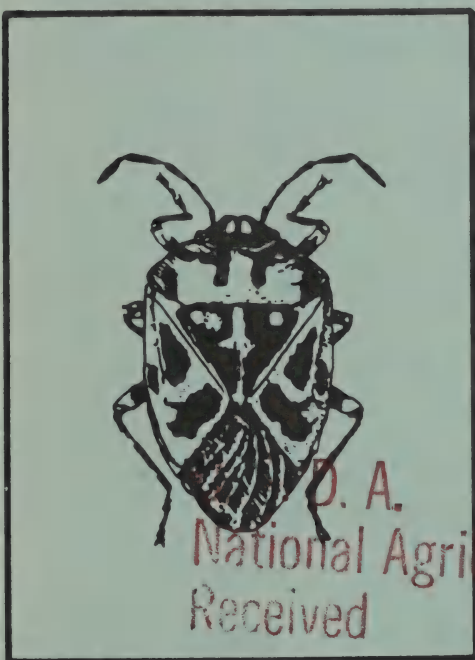
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR
New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

CORN ROOTWORM adults in Wisconsin averaged 0.8 per corn plant, lighter than in past surveys. (p. 526).

Survey for HESSIAN FLY in Kansas showed 50+% of sampled wheat fields infested this spring. (p. 526).

Detection

SPOTTED ALFALFA APHID is new for Massachusetts. (p. 527).

For new county records see page 531.

Reports in this issue are for the week ending September 8 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Beans and Peas	
Diseases.....	525	Insects.....	529
Insects.....	526		
Small Grains		Cucurbits	
Insects.....	526	Insects.....	529
Forage Legumes		General Vegetables	
Insects.....	527	Insects.....	529
Soybeans		Deciduous Fruits and Nuts	
Diseases.....	527	Insects.....	530
Insects.....	528	Forest and Shade Trees	
Peanuts		Insects.....	530
Insects.....	529	Man and Animals	
Cotton		Insects.....	530
Insects.....	529		
Federal and State Programs			
Insects.....	530		
Detection.....	531		
Corrections.....	531		
Light Trap Collections.....	532		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	533		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON MAIZE RUST (Puccinia sorghi) - INDIANA - Prevalence/severity on corn [dough unless stated otherwise] by county August 27 to September 2: Marion--14%/trace, Henry--4%/trace, Wayne--30%/trace, Ohio--2%/trace, Scott--40%/trace, Franklin--4%/trace [dent], Dearborn--82%/trace [blister], Clark--0%/0% [all kernels dented], and Jennings--16%/1% [all kernels dented]; averaged 1%/trace in 9 sites. (Schall).

COMMON SMUT (Ustilago maydis) - INDIANA - Prevalence on corn ears [dough unless stated otherwise] by county August 27 to September 2: Marion, Henry, Wayne, and Scott--0%; Franklin--0% [dent]; Dearborn--0% [blister]; and Clark and Jennings--0% [all kernels dented]; averaged trace in 9 sites. (Schall).

SOUTHERN LEAF BLIGHT (Helminthosporium maydis) - INDIANA - Prevalence/severity on lower partially senescent leaves of corn [dough unless stated otherwise] by county August 27 to September 2: Marion--42%/2%, Henry--13%/1%, Wayne--20/1%, Ohio--90%/8%, Scott--20%/1%, Franklin--2%/trace [dent], Dearborn--92%/2% [blister], Clark--18%/5% [all kernels dented], and Jennings--0%/0% [all kernels dented]; averaged 33%/2% in 9 sites. Often found with genetic lesions, asexual HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum), NORTHERN LEAF BLIGHT (Helminthosporium turcicum), and/or GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola). (Schall).

NORTHERN LEAF BLIGHT (Helminthosporium turcicum) - INDIANA - Prevalence/severity on lower partially senescent leaves of corn [dough unless stated otherwise] by county August 27 to September 2: Marion, Henry, Wayne, and Scott--0%/0%; Ohio--36%/2%; Franklin--0%/0% [dent]; Dearborn--0%/0% [blister]; Clark and Jennings--0%/0% [all kernels dented]; averaged 4%/trace in 9 sites. Often found with genetic lesions, asexual HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum), SOUTHERN LEAF BLIGHT (Helminthosporium maydis), and/or GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola). (Schall).

HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) - INDIANA - Asexual prevalence/severity on lower partially senescent leaves of corn [dough unless stated otherwise] by county August 27 to September 2: Marion--10%/1%, Henry, Wayne, Ohio, and Scott--0%/0%; Franklin--2%/trace [dent]; Dearborn--0%/0% [blister] and Clark and Jennings--0%/0% [all kernels dented]; averaged 1%/trace in 9 sites. Often found with genetic lesions, NORTHERN LEAF BLIGHT (Helminthosporium turcicum), SOUTHERN LEAF BLIGHT (Helminthosporium maydis), and/or GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola). (Schall).

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - INDIANA - Prevalence/severity on lower partially senescent leaves of corn [dough unless stated otherwise] by county August 27 to September 2: Marion, Wayne, and Ohio--0%/0%; Henry--20%/1%; Scott--6%/trace; Franklin--0%/0% [dent]; Dearborn--0%/0% [blister]; Clark--70%/5% [all kernels dented]; and Jennings--2%/trace [all kernels dented]; averaged 11%/1% in 9 sites. Often found with genetic lesions, asexual HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum), NORTHERN LEAF BLIGHT (Helminthosporium turcicum), and/or SOUTHERN LEAF BLIGHT (Helminthosporium maydis). (Schall).

STEWART'S WILT (Erwinia stewartii) - INDIANA - Prevalence/severity on corn [dough unless stated otherwise] by county August 27 to September 2: Marion,

Henry, and Wayne--Stewart's wilt 0%/0%; Ohio--52%/2%; Scott--12%/1%; Franklin--1%/trace [dent]; Dearborn--12%/trace [blister], Clark--12%/2% [all kernels dented]; and Jennings--76%/2% [all kernels dented]; averaged 20%/1% in 9 sites. (Schall).

MAIZE DWARF MOSAIC POTYVIRUSES - INDIANA - Prevalence on corn [dough unless stated otherwise] by county August 27 to September 2: Marion, Henry, Wayne, Ohio, and Scott--0%; Franklin--0% [dent]; Dearborn--trace [blister]; Clark--0% [all kernels dented]; and Jennings--trace [all kernels dented]; averaged trace in 9 sites. (Schall).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - IOWA - Story County--3rd to 5th instar larvae averaged 4 per plant on 95% of plants in 2 untreated corn fields. (Townsend). ILLINOIS - McDonough County--occasional pupae in field corn. Champaign County--early instar larvae and occasional egg masses in sweet corn along with heavy adult flight indicates possibility of third generation. (Black).

WISCONSIN - Sauk, Dane, and Columbia Counties--European corn borer larvae, newly hatched to 4th instar, 1-7 per ear on 100% of ears in late sweet corn near Spring Green, Mazomanie, and Randolph, respectively. Most larvae in ear tips; about 30% of ears have large larvae in sides of ears. Chemical controls ineffective. Eggs very light in most fields, except possibly some fields in east-central area. Second adult flight decreased rapidly. (Lovett). NEW HAMPSHIRE - Grafton County--feeding damage evident on about 20% of sorghum [whorl] plants at Canaan. (J.F. Burger).

RICE LEAFFOLDER (*Lerodea eufala*) - CALIFORNIA - Glenn County--infested 50% of 80.9 ha (200 acres) of field corn at Artois. (Chastain).

CORN ROOTWORMS (*Diabrotica* spp.) - WISCONSIN - Adult averages per corn plant for 1978 (counts made in August) by district: Northwest--0.7, north-central--0.1, northeast--0.1, west-central 0.9, central--0.1, east-central--0.8, southwest--0.9, south-central--0.9, and southeast--1.0. Statewide--averaged 0.8, 1.2 in 1977, and 1.3 for 1974-1978. Conditions favorable but egg laying far from completed. (Lovett). INDIANA - Tippecanoe County--total corn rootworm catch on 10 sticky traps in untreated corn fields versus totals same period in 1977: NORTHERN CORN ROOTWORM (*D. longicornis*) 406 versus 75, and WESTERN CORN ROOTWORM (*D. virgifera*) 1,058 versus 109. (Meyer).

SMALL GRAINS

INSECTS

HESSIAN FLY (*Mayetiola destructor*) - KANSAS - Statewide--annual spring survey of wheat for 1977-1978 crop showed that for 171 certified fields representing 23 varieties, samples averaged 6.1% (1.3% in 1977) tillers infested and 59% of fields infested. Heaviest on such susceptible varieties as Hutch, Newton, Eagle, and Sage. Parker 76 and Larned showed high levels of resistance to field populations. Samples from 261 noncertified wheat fields (varieties not determined) averaged 4.4% tillers infested and 55% of fields infested. North-central, central, northwest, and southeast districts--heaviest infestations and concentration of infestations. (Hatchett).

FORAGE LEGUMES

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - ARIZONA - Larvae per 100 sweeps of alfalfa by county: Maricopa--150 and Graham--14. (Pearson et al.).

MISSOURI - Southeastern area--fall armyworm light to moderate, larvae 0-19 per 10 sweeps of alfalfa. (Munson).

BEE T ARMYWORM (Spodoptera exigua) - ARIZONA - Larval counts on alfalfa by county: Maricopa--3 per sweep, Pinal--5 per 100 sweeps, and Yuma--18 per 10 sweeps. (Kirkpatrick et al.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - MASSACHUSETTS - New State record. Hampshire County--averaged 7 per sweep of 50-cm (20-in) spring seeded, first cutting alfalfa at Amherst, July 30, 1978. New county record for Franklin County--averaged 10 per sweep of 40-cm (16-in) alfalfa during third cutting at South Deerfield, August 10. Collected by J.T. Andaloro. Determined by M.B. Stoetzel. (Andaloro).

MEADOW SPITTLEBUG (Philaenus spumarius) - INDIANA - Warren County--adults averaged 29 per 10 sweeps of 26-cm (10-in) alfalfa in 1 field. (Meyer).

LYGUS BUGS (Lygus spp.) - ARIZONA - Adults and nymphs, respectively, per 100 sweeps of alfalfa by county: Maricopa--175-1,000 and 95-125, Pima--31 and 19, Graham--10 and 7, and Yuma--16 and 7. (McCall et al.).

SOYBEANS

DISEASES

SOYBEAN BROWN SPOT (Septoria glycines) - WISCONSIN - Prevalence/severity on soybeans surveyed in 70 fields by county: Rock--10%/1%, Racine--33%/2%, Kenosha--37%/2%, Walworth--23%/2%, Jefferson--8%/1%, Winnebago--30%/1%, Trempealeau--22%/1%, Waukesha--8%/1%, Dane--27%/2%, Milwaukee--6%/1%, Dunn--3%/1%, Pepin--63%/1%, Columbia--30%/1%, Green--4%/1%, Sauk--2%/1%, Crawford--1%/1%, Lafayette--29%/2%, Pierce--50%/1%, St. Croix--50%/1%, and Chippewa--100%/3%; averaged 27%/1%. (Lovett).

INDIANA - Soybean brown spot prevalence/severity on soybeans [seed development unless stated otherwise] by county August 27 to September 2: Marion--80%/5%, Wayne--84%/5%, Franklin--59%/4%, Dearborn--99%/2%, Scott--87%/2%, Jennings--99%/5%, Henry--98%/20% [seed full size], Clark--99%/5% [seed full size], and Bartholomew--99%/5% [seed full size]; averaged 89%/6% in 9 sites. (Schall).

BROWN STEM ROT (Phialophora gregata) - WISCONSIN - Prevalence/severity on soybeans surveyed in 70 fields by county: Rock--4%/4%, Racine--8%/2%, Kenosha--5%/1%, Walworth--20%/3%, Jefferson--1%/1%, Winnebago--1%/1%, Dane--1%/1%, Sauk--2%/1%, Pepin--trace/trace, Trempealeau, Waukesha, Milwaukee, Dunn, Columbia, Green, Crawford, Lafayette, Pierce, St. Croix, and Chippewa--0%/0%; averaged 2%/1%. (Lovett).

INDIANA - Brown stem rot prevalence on soybeans [seed development unless stated otherwise] by county August 27 to September 2: Marion--10%, Wayne--30%, Franklin--10%, Dearborn--0%, Scott--0%, Jennings--30%, Henry--20% [seed full size], and Bartholomew--10% [seed full size]; averaged 12% in 9 sites. (Schall).

SOYBEAN DOWNY MILDEW (*Peronospora manshurica*) - WISCONSIN - Prevalence/severity on soybeans in 70 fields by county: Racine--2%/1%, Kenosha--2%/1%, Walworth--1%/1%, Jefferson--9%/1%, Winnebago--10%/1%, Trempealeau--trace/trace, Waukesha--22%/1%, Dane--29%/1%, Milwaukee--22%/1%, Columbia--5%/1%, Green--11%/1%, Sauk--60%/1%, Lafayette--24%/1%, and Rock, Dunn, Pepin, Crawford, Pierce, St. Croix, and Chippewa--0%/0%; averaged 10%/1%. (Lovett).

INDIANA - Soybean downy mildew prevalence/severity on soybeans [seed development unless stated otherwise] by county August 27 to September 2: Marion--95%/1%, Wayne--99%/2%, Franklin--99%/1%, Dearborn--99%/1%, Scott and Jennings--99%/trace, Henry--95%/1% [seed full size], and Bartholomew--99%/1% [seed full size]; averaged 98%/1% in 9 sites. (Schall).

SOYBEAN POD AND STEM BLIGHT (*Diaporthe phaseolorum* var. *sojae*) - WISCONSIN - Prevalence/severity on soybeans in 70 fields by county: Rock, Racine, Kenosha, and Milwaukee--1%/1%, Jefferson--3%/1%, Winnebago--4%/9%, Trempealeau and Dunn--trace/trace, Walworth, Waukesha, Dane, Pepin, Columbia, Green, Sauk, Crawford, Lafayette, Pierce, St. Croix, and Chippewa--0%/0%; averaged 1%/1%. (Lovett).

SOYBEAN BACTERIAL BLIGHT (*Pseudomonas glycinea*) - WISCONSIN - Prevalence/severity on soybeans surveyed in 70 fields by county: Rock--92%/2%, Racine--48%/3%, Kenosha--72%/2%, Walworth--66%/1%, Jefferson--27%/1%, Winnebago--8%/1%, Trempealeau--4%/1%, Waukesha--25%/1%, Dane--70%/1%, Milwaukee--12%/1%, Dunn--4%/1%, Pepin--37%/1%, Columbia--12%/1%, Green--62%/1%, Sauk--25%/1%, Crawford--3%/1%, Lafayette--29%/1%, Pierce--7%/1%, St. Croix--50%/1%, and Chippewa--53%/1%; averaged 35%/1%. (Lovett).

INDIANA - Soybean bacterial blight prevalence/severity on soybeans [seed development unless stated otherwise] by county August 27 to September 2: Marion--0%/0%, Wayne--0%/0%, Franklin--24%/1%, Scott--15%/trace, Jennings--0%/0%, Henry--trace/trace [seed full size], Clark--0%/0% [seed full size], and Bartholomew--0%/0% [seed full size]; averaged 4%/trace in 9 sites. (Schall).

BACTERIAL PUSTULE (*Xanthomonas phaseoli* var. *sojense*) - WISCONSIN - Prevalence/severity on soybeans surveyed in 70 fields by county: Rock, Racine, and Walworth--1%/1%, Dane--5%/1%, and Kenosha, Jefferson, Winnebago, Trempealeau, Milwaukee, Dunn, Pepin, Columbia, Green, Sauk, Crawford, Lafayette, Pierce, St. Croix, and Chippewa--0%/0%; averaged 1%/1%. (Lovett).

INDIANA - Bacterial pustule prevalence/ severity on soybeans [seed development unless stated otherwise] by county August 27 to September 2: Marion, Wayne, Franklin, Dearborn, and Jennings--0%/0%, Scott--0%/trace, Henry--50%/1% [seed full size], Clark--0%/0% [seed full size], and Bartholomew--0%/0% [seed full size]; averaged 6%/trace in 9 sites. (Schall).

INSECTS

GREEN CLOVERWORM (*Plathypena scabra*) - MISSISSIPPI - Statewide--larvae caused problems to soybeans [mostly pod set to pod fill] in many areas. Oktibbeha and Lowndes Counties--2.1-8.4 per 0.3 row m (row ft) of untreated soybeans [pod set], slight decrease. (Anderson).

VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) - MISSISSIPPI - Stone County--larvae increased on soybeans. Averaged about 2 per 0.3 m (ft) in late soybeans [bloom] and less than 1 per 0.3 m in more mature plants [pod fill]; defoliation about 10%. (Buschman). FLORIDA - Jackson County--very heavy on soybeans, treatment applied to 80% of acreage. (Arnold).

CORN EARWORM (Heliothis zea) - MISSOURI - Southeastern area--adults heavy on late-planted soybeans. Eggs 1-10+ per 0.3 row m (row ft). Larvae light in all fields surveyed. (Munson). MISSISSIPPI - Statewide--larvae continued to enter late varieties of soybeans; treatments applied in many areas of the delta. North and Central hill sections--some "hotspot" fields with most controls applied for defoliators. (Anderson).

PEANUTS

INSECTS

GRANULATE CUTWORM (Feltia subterranea) - OKLAHOMA - Marshall County--half-grown larvae up to 12 (averaged 6) per plant, in several peanut fields. Damage heavy to pegs and young nuts. (Arnold).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Marshall County--infestations averaged 60% in dryland peanuts. (Arnold).

COTTON

INSECTS

BOLLWORMS (Heliothis spp.) - ARIZONA - BOLLWORM (H. zea) egg and larval counts, respectively, on cotton by county: Maricopa--6-100 and 4-19 per 100 plants, Yuma--4-25 and 3-25 per 25 plants, Pinal--40-100 and 6-18 per 100 terminals, Graham--200-400 and 8-9 per 100 plants, and Gila--4 and 2 per plant. (Kirkpatrick et al.).

OKLAHOMA - Jackson, Harmon, and Tillman Counties--Heliothis spp. eggs still heavy, up to 30 per 100 terminals, on cotton. (Arnold). MISSISSIPPI - Heliothis spp. decreased significantly on cotton due to cotton plants "cutting out" and some cool nights. Larvae and eggs still on "green" cotton, eggs decreased. Defoliant sprays widespread on mature cotton. (Hamer, Head).

BEANS AND PEAS

INSECTS

SALT MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Solano County--up to 8 per leaf of this species and WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praefica) infested 10% of snap beans at Dixon. (Silveria, Caruso).

CUCURBITS

INSECTS

SWEETPOTATO WHITEFLY (Bemisia tabaci) - CALIFORNIA - Imperial County--totally infested banana squash on 16 ha (40 acres) at El Centro. (Pineda).

GENERAL VEGETABLES

INSECTS

CORN EARWORM (Heliothis zea) - ARIZONA - Pinal County--larvae 1 and eggs 3 per 100 lettuce plants. (Berens et al.).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Counts by county: Graham--larvae 4 and eggs 4-15 per 100 lettuce plants, and Maricopa--larvae 18, eggs 12, and adults 18 per 5.5 row m (18 row ft) of lettuce. (Svoboda).

DECIDUOUS FRUITS AND NUTS

INSECTS

SPIREA APHID (*Aphis citricola*) - OKLAHOMA - New county record. Wagoner County--moderate on apple at Porter, June 19, 1978. Collected by B.G. Hill. Determined by M.B. Stoetzel. (Arnold).

FOREST AND SHADE TREES

INSECTS

VARIABLE OAKLEAF CATERPILLAR (*Heterocampa manteo*) - MISSISSIPPI - Grenada and Calhoun Counties--larval defoliation severe to various oak species. Defoliation on some larger oaks almost 95%. Northern area--very heavy to date. (Cochran).

FALL WEBWORM (*Hyphantria cunea*) - NEW HAMPSHIRE - Southern area--larvae about three-fourths grown. Much lighter than in 1977 in most areas. Statewide--infestations as far north as Littleton and Waterville Valley, Grafton County, and Albany, Carroll County. (J.F. Burger).

MAN AND ANIMALS

INSECTS

HORN FLY (*Haematobia irritans*) - OKLAHOMA - Counts per head of cattle by county: Johnston--100-400 and Atoka--50-200. (Arnold). MISSISSIPPI - Oktibbeha, Winston, Clay, Lowndes, Neshoba, and Newton--adults 50-300+ per head on cattle. (Anderson). FLORIDA - Alachua County--averaged 390 per head in small herd at Newberry. (Boyd).

FACE FLY (*Musca autumnalis*) - NEBRASKA - Dawson and Lincoln Counties--averaged 13 per face on untreated cattle. (Campbell).

STABLE FLY (*Stomoxys calcitrans*) - NEBRASKA - Dawson and Lincoln Counties--averaged 20 per leg on untreated cattle in feedlots. (Campbell).

FEDERAL AND STATE PROGRAMS

INSECTS

CITRUS BLACKFLY (*Aleurocanthus woglumi*) - FLORIDA - New county record. Indian River County--all stages on leaves of Citrus sp. (citrus) at residence at Vero Beach, August 15, 1978. Collected by D. McDade. Determined by E. Nickerson. Confirmed by H.A. Denmark. (Mead).

GRASSHOPPERS - KANSAS - Morris County--second generation *Melanoplus sanguinipes* hatch appeared complete (mostly in late instar nymphal and adult stages) 2 alfalfa fields. (Bell). OKLAHOMA - Alfalfa County--grasshoppers still heavy in roadsides and field margins with considerable egg laying. Atoka County--mostly *Melanoplus* spp. 2-5 per 0.8 sq m (sq yd) in fencerows and 1-2 per 0.8 sq m in pastures. (Arnold).

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - Percent infested bolls by county: Maricopa--0-24%, Pinal--10%, Graham--0%, and Yuma--2-4%. (McCall et al.).

SCREWWORM (*Cochliomyia hominivorax*) - Total of 242 cases reported from continental United States August 13-19 as follows: Texas 20, New Mexico 51, Arizona 165, California 6. (Meadows). Total of 253 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 757 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 129,075,200 as follows: Texas 64,131,000, New Mexico 21,092,000, Arizona 43,312,200, California 180,000. (Meadows). Total of 105,837,200 sterile flies released within Barrier of Mexico. (Williams, Smith).

DETECTION

NEW STATE RECORD

INSECTS

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - MASSACHUSETTS - Hampshire County. (p. 527).

NEW COUNTY RECORDS

INSECTS

CITRUS BLACKFLY (*Aleurocanthus woglumi*) - FLORIDA - Indian River. (p. 530).

SPIREA APHID (*Aphis citricola*) - OKLAHOMA - Wagoner. (p. 530).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - MASSACHUSETTS - Franklin. (p. 527).

CORRECTIONS

CPPR 3(31):419 - VEGETABLE LEAFMINER (*Liriomyza sativae*) should read A LEAFMINER FLY (*Liriomyza trifoliarum*). (Simonet).

CPPR 3(36):519 - SCREWWORM (*Cochliomyia hominivorax*) - "... Total of 555,253,500 sterile flies released within Barrier of Mexico ..." should read "Total of 124,625,100 ..."

CPPR 3(36):522 - *Coleosporium perillae* Syd. should read *Coleosporium perillae* Syd.

LIGHT TRAP COLLECTIONS

Locality	Temperature Cure °C	Precipitation mm	Type of trap	Apothecia		Bl = blacklight I = incandescent M = mercury vapor O = other	Reticularia acris (black cucumbers)	Peziza caryophylli	Peziza substriata (granulate cucumbers)	Pyrenia ditrusa (wheat head arumworts)	Helotia vitreosa (tobacco budworm)	N. zea (bollworm, corn worm, tomato fruitworm)	Lasioxya pomonella (codling moth)	Lokostege commixtella (alfalfa weevils)	Lokostege ruficornis (garden weevils)	Lokostege sticticalis (beet weevils)	Manduca quinque maculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ortynia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Psephenella ulmiuncta (armworts)	Spodoptera exigua (beet armworts)	Spodoptera frugiperda (fall armyworts)	Spodoptera ornithogalli (peach-tree-clipper armworts)	Triphleba 21 (cabbage looper)	Crops
				BL	TP																					
ARIZONA Mesa 8/28-9/3			BL														1		76			2686		28	110	
CALIFORNIA Bellota 8/29	16-33		BL	2													1					70				
FLORIDA Gainesville 8/31-9/6			BL		15																					
INDIANA (Counties) LaGrange 8/30			BL	3	23												3	10	236	8	16					
Tippecanoe 8/30			BL	71	45												12	19	283	78	308					
KANSAS Pratt 8/26-28			BL	0															200							
Rossville 8/30-31, 9/8			BL	33															190							
NORTH DAKOTA Bismarck 8/29, 31			BL		696																					
Williston 8/29, 31			BL		113																					
PENNSYLVANIA (Regions) Central 9/5-7			3BL	11																						
Northwest 9/5-7			2BL	3																						
TEXAS College Station 8/30-9/5			BL	3	0																					
WISCONSIN Evansville 8/29-9/4			BL																							
Mazomanie 8/31-9/6			BL																							

Pest Interceptions of Quarantine Significance at Ports of Entry

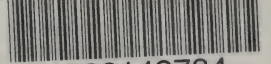
Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Uredo ficina</u> Juel a rust Det. F. Matthews	uredial	on leaves of Ficus plants from cargo	Guatemala	Miami	FL
<u>Cryptorhynchus gravis</u> (Fabricius) a weevil Det. D.R. Whitehead & D.M. Anderson	all	in mangoes from baggage	Singapore	Honolulu	HI
<u>Grapholitha funebrana</u> Treit. an olethreutid moth Det. R.S. Taylor	larval	in cherries from baggage	Romania	Detroit	MI
<u>Nasutitermes</u> sp. a termite Det. D.R. Smith	adult	in andiroba lumber	Brazil	Savannah	GA
<u>Niphades variegatus</u> (Roelofs) a weevil Det. D.M. Anderson	all	in dunnage with steel	Japan	San Francisco	CA
<u>Shirahoshizo rufescens</u> (Roelofs) a weevil Det. D.R. Whitehead	all	in dunnage with steel	Japan	San Francisco	CA
<u>Tranes</u> sp. a weevil Det. D.R. Whitehead	adult	with cycad plants from cargo	Australia	Miami	FL
<u>Veronicella moreleti</u> Cross & Fischer a veronicellid slug Det. P.J. Lima	adult	with Chamaedora fronds from cargo	Guatemala	Houston	LA

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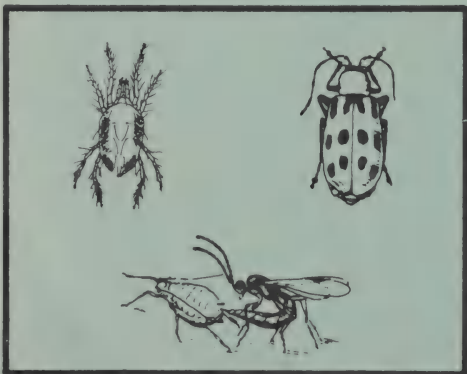
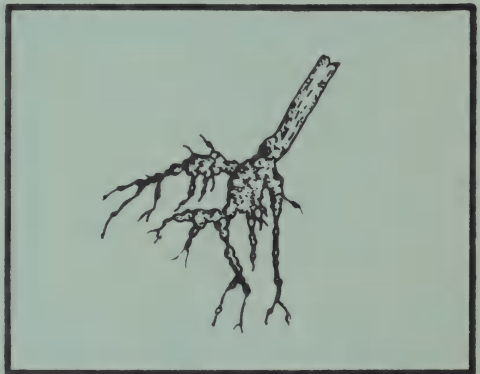


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Vol. 3 No. 38

September 22, 1978

Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
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Animal and Plant Health Inspection Service
U.S. Department of Agriculture
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Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

FALL ARMYWORM problems on young wheat in parts of southern Kansas. (p. 540).
CORN EARWORM, BEET ARMYWORM, and CABBAGE LOOPER 100+ per night in blacklight traps in west-central area of Mississippi. (p. 548).

Detection

For new county records see page 547.

Reports in this issue are for the week ending September 15 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Beans and Peas	
Diseases.....	537	Insects.....	544
Insects.....	539	Deciduous Fruits and Nuts	
Small Grains		Insects.....	544
Insects.....	540	Small Fruits	
Turf, Pastures, Rangeland		Insects.....	544
Insects.....	540	Forest and Shade Trees	
Forage Legumes		Diseases.....	544
Insects.....	540	Insects.....	545
Soybeans		Man and Animals	
Diseases.....	541	Insects.....	545
Insects.....	543		
Cotton			
Diseases.....	543		
Insects.....	543		
Beneficial Organisms and Their Enemies			
Insects.....	545		
Federal and State Programs			
Insects.....	545		
Hawaii Pest Report.....	546		
Detection.....	547		
Light Trap Collections.....	548		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	549		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON MAIZE RUST (*Puccinia sorghi*) - NEBRASKA - Phelps, Harlan, Furnas, Kearney, Franklin, Adams, Webster, Clay, and Fillmore Counties--prevalence/severity still trace on corn [mostly late dough to early dent], except for 70%/5% in late planting of sweet corn in Clay County, August 28 to September 6. (Poe). IOWA - Prevalence/severity on corn [dent] by county August 25 to September 8: 8: Polk and Jasper--99%/trace to 5%, Mahaska--trace/trace, Wapello--99%/5-40%, Monroe--70%/trace to 5%, Appanoose--20%/trace to 5%, and Boone--99%/trace to 10%. (Williams).

MINNESOTA - Common maize rust prevalence/severity on dent corn by county August 28 to September 1: One commercial field each, Sibley--100%/trace to 5% [early dough], Renville and Brown--100%/trace [dough], Yellow Medicine--100%/trace to 2% [dent], and Lac qui Parle and Meeker--100%/trace [dent]; 1 monitoring plot each, Redwood--100%/trace [dent] and Stevens--100%/trace to 2% [dough]. (Stromberg).

ILLINOIS - Common maize rust prevalence/severity on corn [dough unless stated otherwise] by county August 22-28: One commercial field each, Vermilion--99%/trace, Clark--99%/1%, Macoupin--99%/1-3% [dent], Williamson--99%/trace [all kernels dented], Washington--99%/1%, Crawford--99%/1%, and Sangamon--99%/trace to 1% [dent]; 1 monitoring plot each, St. Clair--99%/trace to 1% [all kernels dented] and Jackson--99%/trace to 1% [maturity]. One commercial field each, August 29 to September 4: Champaign--99%/1% [all kernels dented], Coles--99%/trace to 3%, Clay--99%/trace to 1%, Wayne--99%/trace, Fayette--99%/trace to 1% [dent], Christian--99%/1-3% [all kernels dented], and Macon--99%/1-3% [all kernels dented]. (Jordan).

SOUTHERN LEAF BLIGHT (*Helminthosporium maydis*) - IOWA - Prevalence/severity on corn [dent] by county August 25 to September 8: Mahaska--10%/trace to 5% and Jasper--trace/trace. (Williams).

ILLINOIS - Southern leaf blight prevalence/severity on corn [all kernels dented unless stated otherwise] by county (1 commercial field each) August 22-28: Clark--99%/1% [dough], Macoupin--99%/1-3% [dent], Williamson--99%/1%, Washington--99%/3-6% [dough], Crawford--99%/3-6% [dough], and Sangamon--99%/trace [dent]. August 29 to September 4: Champaign--99%/1-3%, Christian--99%/trace, Macon--99%/1%, Coles--99%/1-3% [dough], Clay--99%/trace to 1% [dough], Wayne--99%/trace [dough], and Fayette--99%/3-6% [dent]. (Jordan).

NORTHERN LEAF BLIGHT (*Helminthosporium turcicum*) - IOWA - Clinton and Dubuque Counties--prevalence trace/severity trace on corn [dent] August 25 to September 8. (Williams).

HELMINTHOSPORIUM LEAF SPOT (*Cochliobolus* (*Helminthosporium*) *carbonum*) - IOWA - Prevalence/severity of imperfect stage on corn [dent] by county August 26 to September 8: Jasper and Mahaska--trace/trace, Monroe--30%/trace to 5%, and Davis--trace/trace. (Williams).

ILLINOIS - Prevalence/severity of helminthosporium leaf spot caused by imperfect stage on corn [dough unless stated otherwise] by county (1 commercial field each) August 22-28: Vermilion--99%/6-12%, Clark--99%/3-6%, Macoupin--99%/trace [dent], Williamson--99%/trace [all kernels dented], Washington--99%/trace to 1%, Crawford--99%/3-6%, and Sangamon--99%/trace to 1% [dent].

Helminthosporium leaf spot for August 29 to September 4: Champaign--99%/1% [all kernels dented], Christian--99%/trace [all kernels dented], and Macon--99%/1% [all kernels dented], Coles--99%/trace to 1%, Clay--99%/trace, Wayne--99%/1%, and Fayette--99%/trace to 1% [dent]. (Jordan).

COMMON SMUT (*Ustilago maydis*) - NEBRASKA - Phelps, Harlan, Furnas, Kearney, Franklin, Adams, Webster, Clay, and Fillmore Counties August 28 to September 6--prevalence trace to 4% in most corn [late dough to early dent] fields. Heavier in some hail-damaged fields, up to 25% in 1 Phelps County field. (Poe). IOWA - Prevalence on corn [dent] by county August 25 to September 8: Polk--trace to 3%, and Jasper, Mahaska, and Boone--trace. (Williams).

MINNESOTA - Common smut prevalence on dent corn [dent unless stated otherwise] by county (1 commercial field each) August 28 to September 1: Sibley--4% [early dough], Renville--3% [dough], Brown--trace [dough], Lincoln--2% [dough], Lac qui Parle--3%, Chippewa--trace, Yellow Medicine--trace, and Meeker--4%. (Stromberg).

ILLINOIS - Common smut prevalence on corn [all kernels dented unless stated otherwise] by county August 22-28: One commercial field each, Vermilion--8% [dough], Clark--2% [dough], Macoupin--4% [dent], Williamson--5%, Washington--6% [dough], Crawford--3% [dough], and Sangamon--4% [dent]; 1 monitoring plot each, St. Clair--3% and Jackson--1% [maturity]. One commercial field each, August 29 to September 4: Champaign--4%, Christian--8%, Macon--6%, Coles--5% [dough], Clay--3% [dough], Wayne--4% [dough], and Fayette--3% [dent]. (Jordan).

GRAMINICOLA ANTHRACNOSE (*Colletotrichum graminicola*) - ILLINOIS - Prevalence/severity on corn [all kernels dented unless stated otherwise] by county August 22-28: One commercial field each, Macoupin--99%/trace to 1% [dent]; in monitoring plots, St. Clair--99%/25-50%. One commercial field each, August 29 to September 4: Champaign--99%/6-12%, Coles--99%/1% [dough], and Macon--99%/3-6%; Champaign--prevalence of stalk rot 5% in 1 field [maturity]. (Jordan).

CORN EYESPOT (*Kabatiella zaeae*) - IOWA - Mahaska County--prevalence trace/severity trace to 5% August 25 to September 8. (Williams). MINNESOTA--Meeker County--prevalence 30%/severity trace to 5% in 1 commercial dent corn [early dent] field August 28 to September 1. (Stromberg).

FUSARIUM EAR ROTS (*Fusarium* spp.) - ILLINOIS - Prevalence/severity on corn ears [all kernels dented unless stated otherwise] by county August 22-28: One commercial field each, Vermilion--trace/trace [dough], Macoupin--3%/trace to 1% [dent], Williamson--12%/trace to 1%, Sangamon--5%/trace to 1% [dent]; 1 monitoring plot each, Jackson--50%/trace to 1% [maturity] and St. Clair--25%/trace to 1%. One commercial field each, August 29 to September 4: Champaign--5%/trace to 1% [maturity], Coles--2%/trace [dough], Clay--trace/trace [dent], Wayne--trace/trace [dent], Fayette--1%/trace [dent], Christian--4%/trace to 1%, and Macon--3%/trace to 1%. Infection of few kernels at ear tips related to insect and bird damage. (Jordan).

FUSARIUM STALK ROTS (*Fusarium* spp.) - IOWA - Prevalence on corn by county August 26 to September 8: Boone--trace to 30% and Clinton and Dubuque--30%. (Williams).

GIBBERELLA STALK ROT (*Gibberella* (*Fusarium*) *roseum* f.sp. *cerealis*) - ILLINOIS - Macon and Champaign Counties--prevalence 3-4% in commercial corn [all kernels dented] fields August 29 to September 4. (Jordan).

PENICILLIUM ROTTS (*Penicillium* spp.) - ILLINOIS - Prevalence/severity on corn ears by county [all kernels dented unless stated otherwise] August 22-28: One commercial field each, Macoupin--3%/trace [dent], Williamson--6%/trace to 1%, and Sangamon--2%/trace [dent]; 1 monitoring plot each, St. Clair--12%/trace to 1%, and Jackson--25%/trace to 1% [maturity]. One commercial field each, August 29 to September 4: Champaign--1%/trace [maturity], Coles--1%/trace [dough], Clay--trace/trace [dough], Christian--1%/trace, and Macon--1%/trace. Infection of few kernels at ear tips related to insect and bird damage. (Jordan).

STEWART'S WILT (*Erwinia stewartii*) - ILLINOIS - Prevalence/severity on corn by county August 22-28: One commercial field each, Williamson--99%/3-6% [all kernels dented] and Washington--99%/1-3% [dough]; in monitoring plot, St. Clair--90%/1-3% [all kernels dented]. Type of property not stated for August 29 to September 4: Wayne and Fayette--prevalence trace/severity 1% on corn [dough and dent, respectively]. (Jordan).

HOLCUS SPOT (*Pseudomonas syringae*) - MINNESOTA - Prevalence/severity on dent corn [dough unless stated otherwise] by county August 28 to September 1: One commercial field each, Sibley--100%/trace to 5% [early dough], Renville--100%/trace, Brown--100%/trace to 3%, Lincoln--100%/trace to 2%, Lac qui Parle--100%/trace to 2% [dent], and Chippewa--100%/3-5% [dent]; 1 monitoring plot each, Redwood--100%/trace to 5% [dent] and Stevens--100%/trace to 10% with mid-leaves most severely affected. (Stromberg).

MAIZE DWARF MOSAIC POTYVIRUSES - IOWA - Prevalence on corn [late dough] by county August 26 to September 8: Polk and Harrison--trace (single plants strongly stunted) and Story--trace (scattered plants late infected). (Williams). MINNESOTA - Stevens County--infected 8 of 12 plants [silk] in late planting and 5 of 18 plants in midseason planting in sweet corn monitoring plot August 28 September 1. (Stromberg).

CORN LETHAL NECROSIS - NEBRASKA - Franklin and Harlan Counties--prevalence of this disease and MAIZE CHLOROTIC MOTTLE VIRUS continued to increase August 28 to September 6 in some previously infected corn fields due to continued vector activity. Prevalence may now reach 70% in some fields. Early drying and death of previously infected plants evident. (Poe).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - IOWA - Central area--damage more evident in corn fields due to recent heavy rains and wind. Southern area--increase of virgin females indicated partial third generation. (Showers, Townsend). MINNESOTA - Status on corn in central district--larvae (mostly 5th instars) 29, egg masses 4, and infested plants 23 per 100 plants. Preliminary observations suggest buildup will not reach 1977 levels. (Hoger). WISCONSIN - Adults still still heavy in blacklight traps. Larvae heavy in late corn, but problems few as most washed out of ear tips in sweet corn. (Lovett). DELAWARE - Sussex County--adults averaged 45 per night in blacklight traps. (Burbutis, Kelsey).

CORN EARWORM (*Heliothis zea*) - IDAHO - Latah County--larvae 1 per infested ear, infested 50% of corn silks. (Scott). ARIZONA - Graham County--larvae 28 per 25 corn plants. (Davis, Pearson). KANSAS - Doniphan County--averaged 2 per head of sorghum [soft dough] in 1 field; Brown, Nemaha, and Jefferson Counties--none in 4 fields [soft to hard dough]. (Hilbert). NEW YORK - Finger Lakes region--larvae began to appear. (MacNeil). Capital region--larvae began to appear in sweet corn not under regular spray program. (Cuniglio). Ontario County--blacklight trap catch increased. (Tebcherany).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - COLORADO - Baca County--infested nearly all corn plants in untreated field near Walsh. (Schweissing, Hantsbarger).

CORN ROOTWORMS (Diabrotica spp.) - INDIANA - New county records for WESTERN CORN ROOTWORM (D. virgifera). Jennings and Jefferson Counties--adults taken from grain corn 0.8 km (0.5 mile) east of San Jacinto and near Madison, respectively. Collected by R. Meyer, August 22, 1978. Determined by F.T. Turpin. (Meyer). NEW YORK - Saratoga and Washington Counties--NORTHERN CORN ROOTWORM (D. longicornis) significantly infested and lodged corn. (Willson).

GREENBUG (Schizaphis graminum) - COLORADO - Otero County--averaged 1,825 per untreated sorghum plant. (Schweissing).

SMALL GRAINS

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - KANSAS - Status by county: Pratt--ate early planted seedling wheat field to ground level, Rice--ate half of second seedling wheat field in southern area, Ford--larvae heavy in seedling wheat field, Stafford--heavy, 12-15 per 0.3 row m (row ft), Kiowa--mostly 1st instars infested 100% of plants in wheat [1 tiller] field to be treated. (Salsbury, Brooks).

TURF, PASTURES, RANGELAND

INSECTS

ARMYWORM (Pseudaletia unipuncta) - NEW MEXICO - Dona Ana County--this species and BEET ARMYWORM (Spodoptera exigua) heavily damaged turf on football field at Las Cruces. Larvae, 60% armyworm and 40% beet armyworm, averaged 10-12 per 0.09 sq m (sq ft). (Durkin).

HAIRY CHINCH BUG (Blissus leucopterus hirtus) - OHIO - Wayne County--population averaged 72 per 0.09 sq m (sq ft): 14.1% 1st instar, 8.2% 2nd instars, 9.4% 3rd instars, 4.7% 4th instars, 0% 5th instars, 63.5% adults. Adults from 1st and 2nd generations while nymphs from 2nd generation. (Niemczyk, Hazer).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - WISCONSIN - Sheboygan County--adults 2-5 per sweep. (Lovett).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larval counts on alfalfa by county: Maricopa--10 per sweep and Pinal--100-200 per 100 sweeps. (McCall et al.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Maricopa County--larvae 11 per 3 sweeps of alfalfa. (McCall et al.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Adult and nymphal counts per 100 sweeps of alfalfa by county: Pinal--50-100 and 30-50 and Yuma--26 and 18. (McCall et al.).

SOYBEANS

DISEASES

SOYBEAN BROWN SPOT (*Septoria glycines*) - IOWA - Prevalence/severity on soybeans [full pod] by county August 26 to September 8: Jasper--80%/trace to 10%, Monroe--60-90%/trace to 5%, Appanoose--99%/3-10%, Davis--99%/trace, Wapello--60%/trace to 3%, and Boone--75%/trace to 3%. (Williams). MINNESOTA - First of season. Prevalence/severity on soybeans by county (1 commercial field each) August 28 to September 1: Renville--30%/trace to 5% [seed 3/4 size], Lac qui Parle--20%/trace to 3% [seed 1/2 size], and Martin--scattered plants/10% [pod fill]. (Stromberg).

ILLINOIS - Soybean brown spot prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field each) August 22-28: Vermilion--99%/6-12%, Clark--99%/6-12%, Macoupin--99%/12-25%, Williamson--99%/6-12%, Washington--99%/9%, Crawford--99%/12-25%, St. Clair--99%/12%, and Sangamon--99%/25-50% [seed full size]. Soybeans [pod yellowing unless stated otherwise] August 29 to September 4: One commercial field each, Coles--99%/25% [seed full size], Clay--99%/25% [seed full size], Wayne--99%/50%, Fayette--99%/25% [seed full size], Christian--99%/12-25% [seed full size], and Macon--99%/25-50%; 1 monitoring plot each, Fayette--99%/25-50%, St. Clair--99%/25%, Jackson--99%/25-50%, and Saline--99%/12-25%. (Jordan).

SOYBEAN DOWNY MILDEW (*Peronospora manshurica*) - ILLINOIS - Prevalence/severity on soybeans [seed development unless stated otherwise] by county (1 commercial field each) August 22-28: Vermilion--99%/12-25%, Clark--99%/25-50%, Macoupin--99%/12-25%, Williamson--99%/1-3%, Washington--99%/3-6%, Crawford--99%/6-12%, St. Clair--99%/12-25%, and Sangamon--99%/trace [seed full size]. Soybeans [seed full size unless stated otherwise] August 29 to September 4: One commercial field each, Coles--99%/1-3%, Clay--99%/12%, Wayne--99%/1-3% [pod yellowing], Fayette--99%/12%, Christian--99%/1-3%, and Macon--99%/3-6% [pod yellowing]; one monitoring plot each [pod yellowing], Fayette--90%/6-12%, St. Clair--90%/12-25%, Jackson--90%/1-3%, and Saline--90%/1-3%. (Jordan).

IOWA - Soybean downy mildew prevalence/severity on soybeans [pod fill] by county August 26 to September 8: Monroe--20%/trace to 3%, Appanoose--80%/trace to 5%, Davis--80%/trace, Lucas--trace/trace, and Wapello--20%/3%. (Williams).

SOYBEAN STEM CANKER (*Diaporthe phaseolorum* var. *caulivora*) - ILLINOIS - Prevalence on soybeans [seed development unless stated otherwise] by county (1 commercial field each) August 22-28: Vermilion--9%, Clark--3%, Macoupin--trace, Williamson--5%, Washington--2%, Crawford--3%, St. Clair--20%, and Sangamon--5% [seed full size]. Soybeans [seed full size unless stated otherwise] August 29 to September 4: One commercial field each, Coles--1%, Clay--8%, Wayne--3% [pod yellowing], Fayette--4%, Christian--5%, and Macon--12% [pod yellowing]; 1 monitoring plot each [pod yellowing], Fayette--trace, St. Clair--1%, Jackson--2%, and Saline--2%. (Jordan).

BROWN STEM ROT (*Phialophora gregata*) - IOWA - Prevalence on soybeans [pod fill] by county August 26 to September 8: Monroe--trace, Lucas--30%, Warren--10-40%. (Williams). MINNESOTA - Yellow Medicine County--on scattered soybean plants in 1 field August 28 to September 1. (Stromberg).

CHARCOAL ROT (*Macrophomina phaseolina*) - ILLINOIS - Williamson County--prevalence 2% on soybeans [seed development] in 1 commercial field August 22-28. Soybeans [seed full size unless stated otherwise] August 29 to September 4: One commercial field each, Coles--1%, Clay--10%, Wayne--7% [pod yellowing], Fayette--4%, and Christian--1%; 1 monitoring plot each [pod yellowing], Fayette--10%, Jackson--20%, and Saline--12%. (Jordan).

SOYBEAN POD AND STEM BLIGHT (*Diaporthe phaseolorum* var. *sojae*) - IOWA - Prevalence on soybeans [pod fill] by county August 26 to September 8: Jasper--90%, Monroe and Appanoose--trace, and Lucas--99%. (Williams). Prevalence on soybean [seed development unless stated otherwise] stems by county (1 commercial field each) August 22-28: Williamson--1%, Crawford--2%, and Sangamon--1% [seed full size]. Soybean [seed full size unless stated otherwise] stems August 29 to September 4: One commercial field each, Coles--1%, Clay--1%, Fayette--1%, and Macon--2% [pod yellowing]; one monitoring plot each [pod yellowing], Saline--trace, St. Clair--trace, and Fayette--trace. (Jordan).

PHYLLOSTICTA LEAF SPOT (*Phyllosticta sojaecola*) - IOWA - Clinton, Appanoose, and Poweshiek Counties--prevalence trace/severity trace to 3% on soybeans [pod fill] August 26 to September 8. (Williams).

SOYBEAN BACTERIAL BLIGHT (*Pseudomonas glycinea*) - NEBRASKA - Adams, Clay, Fillmore, York, and Seward Counties--prevalence trace to 5%/severity 5-10% on soybeans [mostly seed development]; 40%/15% in 1 field under center pivot irrigation in Fillmore County. (Poe). MINNESOTA - Prevalence/severity on soybeans [seed 3/4 size unless stated otherwise] by county (1 commercial field each) August 28 to September 1: Sibley--100%/trace to 3% [seed full size]; Renville, Brown, Lincoln, Yellow Medicine, and Kandiyohi--100%/trace; Lac qui Parle--100%/trace [seed 1/2 size]; and Swift--100%/trace to 3%. (Stromberg).

ILLINOIS - Soybean bacterial blight prevalence/severity on soybeans by county (1 commercial field each) August 22-28: Sangamon--99%/12-25% [seed full size] and Vermilion--99%/1-3% [seed development]. Soybeans [pod yellowing unless stated otherwise] by county August 29 to September 4: One commercial field each, Christian--99%/trace [seed full size] and Macon--99%/1-3%; 1 monitoring plot each, Fayette--20%/1-3%, St. Clair--12%/1-3%, Jackson--trace/trace, and Saline--5%/1-3%. (Jordan).

BACTERIAL PUSTULE (*Xanthomonas phaseoli* var. *sojense*) - IOWA - Prevalence/severity on soybeans [pod fill] by county August 26 to September 8: Appanoose--99%/trace to 5%, Wapello--90%/3%, Poweshiek--20%/trace, Boone--30%/trace, and Davis--99%/trace. (Williams). MINNESOTA - First of season. Prevalence/severity on soybeans [seed 3/4 size unless stated otherwise] by county (1 commercial field each) August 28 to September 1: Sibley--100%/10% [seed full size], Renville and Brown--100%/trace, Lincoln--100%/3% [pod fill], Lac qui Parle--100%/trace to 2% [seed 1/2 size], Swift--100%/trace to 5%, and Kandiyohi--100%/trace 2%. (Stromberg).

ILLINOIS - Bacterial pustule prevalence/severity on soybeans by county August 29 to September 4: One commercial field each, Coles--99%/25-50% [seed full size] and Macon--99%/3-6% [pod yellowing]; 1 monitoring plot each [pod yellowing], St. Clair--trace/trace, and Jackson--trace/trace. (Jordan).

WILDFIRE (*Pseudomonas tabaci*) - MINNESOTA - First of season. Prevalence/severity, associated with BACTERIAL PUSTULE (*Xanthomonas phaseoli* var. *sojense*) on soybeans [seed 3/4 size unless stated otherwise] by county (1 commercial field each) August 28 to September 1: Sibley--70%/trace [pod fill], Renville--30%/trace on scattered plants, Brown--10%/trace to 3% on scattered plants, and Lincoln--70%/5%. (Stromberg).

SOYBEAN MOSAIC POTYVIRUSES - NEBRASKA - Fillmore County--prevalence about 15% on soybeans [mostly seed development] in border portions of several fields. (Poe). ILLINOIS - Vermilion, Clark, and Crawford Counties--symptoms on few scattered soybean [seed development] plants in commercial fields

August 22-28. Soybean mosaic potyvirus symptoms on soybeans [pod yellowing unless stated otherwise] by county August 29 to September 4: One commercial field each, Coles [seed full size], Clay [seed full size], Wayne, Fayette [seed full size], Christian [seed full size], and Macon--few scattered plants; 1 monitoring plot each, Fayette--3%, St. Clair--6%, Jackson--4%, and Saline--6%. (Jordan).

SOYBEAN CYST NEMATODE (*Heterodera glycines*) - TENNESSEE - Number of newly infested soybean fields of fields surveyed by county: Macon--1 of 10, Smith--0 of 5, Sumner--1 of 8, Trousdale--0 of 18, and Williamson--0 of 6. (Foster et al.).

INSECTS

CORN EARWORM (*Heliothis zea*) - ARKANSAS - Southeastern area--larvae of this species and TOBACCO BUDWORM (*H. virescens*) heavy on soybeans. Desha County--*H. virescens* larvae 8% in recently treated field. (Wall). MISSISSIPPI - *H. zea* larvae per 0.3 row m (row ft) of soybeans by county: Southern delta area--up to 4 on late plants caused problems, Oktibbeha--averaged 0.25 on 404.7 ha (1,000 acres) of soybeans [pod setting], and Neshoba--0.32 on 202 ha (500 acres) of soybeans [pod setting]. (Anderson). VIRGINIA - Populations light as predicted on soybeans. (Allen).

GREEN CLOVERWORM (*Plathypena scabra*) - MISSISSIPPI - Larval status of this species and VELVETBEAN CATERPILLAR (*Anticarsia gemmatalis*) on soybeans by county: Stone--defoliation 20-30% on plants [pod setting] (Buschman), Oktibbeha--larvae averaged 3.4 and 0 per 0.3 row m (row ft), respectively for each species, on 404.7 ha (1,000 acres) of plants [pod setting], and Neshoba--averaged 4.7 and 0 per 0.3 row m on 202 ha (500 acres). Disease began to reduce numbers in some areas due to recent rains. (Anderson).

BEAN LEAF BEETLE (*Cerotoma trifurcata*) - ALABAMA - Perry County--moderate to heavy in some soybean fields. (R. Smith). Madison County--8 per 0.3 row m (row ft), damage near 20% defoliation. (Freeman).

COTTON

DISEASES

TEXAS ROOT ROT (*Phymatotrichum omnivorum*) - NEW MEXICO - Luna County--caused root rot on cotton. Damage west of Columbus more widespread in fields previously planted to cotton. (Nielsen, Stafano).

INSECTS

BOLL WEEVIL (*Anthonomus grandis grandis*) - MISSISSIPPI - Decreased as cotton matured. Southern Hill section--damage confined to late-maturing cotton where squares present with some boll damage. (Anderson).

BOLLWORMS (*Heliothis* spp.) - ARIZONA - BOLLWORM (*H. zea*) egg and larval counts per 100 cotton terminals by county: Maricopa--0-20 and 0-100, Yuma--1-20 and 5-20, and Pinal--14-19 and 2-7. (Brooks et al.). ARKANSAS - Chicot County--*H. zea* up to 70 eggs and 12 larvae per 17 row m (56 row ft) of cotton. (Wall). Northeastern area--eggs 1+ per terminal and small larvae up to 8 on 10 terminals in some greener cotton fields. (Kimbrough). MISSISSIPPI - Statewide--*Heliothis* spp. continued to decrease as majority of cotton unattractive to adults. Recent rains slowed harvest. (Anderson).

ALABAMA - Statewide--Heliothis spp. eggs still heavy on green cotton. Larval mortality heavier than normal on drought-stressed cotton; controls adequate. (R. Smith).

TENNESSEE - All stages of H. zea below control level on rank cotton. (Locke). Haywood County--100 adults trapped. (Patrick). SOUTH CAROLINA - Piedmont area--H. zea and H. virescens decreased sharply in light traps. Chester and York Counties--very little egg laying in cotton fields checked. Lower counties--decreased as fields matured. (Chastain, Douglass).

FALL ARMYWORM (Spodoptera frugiperda) - SOUTH CAROLINA - Piedmont area--infestations still light. Lower area counties--decreased somewhat as much of cotton nearly mature. (Chastain, Douglass).

SALTMARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Yuma County--larvae 5-100 per 100 sweeps of cotton. (Brooks et al.).

BEANS AND PEAS

INSECTS

MEXICAN BEAN BEETLE (Epilachna varivestis) - TEXAS - New county record. Potter County--2 larvae collected on green beans, no town given, August 30, 1978. Collected and determined by C.D. Patrick. (Jackman).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Mostly west-central, northwestern, and central areas--490+ ha (1,200+ acres) of snap beans bypassed due to infestations, despite controls. (Lovett).

DECIDUOUS FRUITS AND NUTS

INSECTS

CODLING MOTH (Laspeyresia pomonella) - OHIO - Wayne County--caused 58% fruit drop on unsprayed Cortland apples. (Hall).

SMALL FRUITS

INSECTS

GRAPE BERRY MOTH (Endopiza viteana) - OHIO - Wayne County--second generation adults caused average of 6.5 "stung" grapes per 10 clusters of Concord grapes. (Williams).

FOREST AND SHADE TREES

DISEASES

SCLERODERRIS CANKER (Gremmeniella albetina) - MICHIGAN - Kalamazoo County--affected about 400 ha (1,000 acres) of jack pine on State land at Schoolcraft. Luce County--affected 243 ha (600 acres). Mortality in jack pine stands ranged 7-50%. Some flagging on most living trees. Some may die in 1979 depending on infection levels and weather. Most infected plantations 5-10 years old and thought to have "grown out" of susceptibility. (Simmons, McKeague).

INSECTS

VARIABLE OAKLEAF CATERPILLAR (Heterocampa manteo) - TENNESSEE - Collierville, Shelby County, Grand Junction, Hardeman County, and Nashville, Davidson County--completely defoliated oak trees. (Patrick, Harrison).

GREENSTRIPED MAPLEWORM (Dryocampa rubicunda) - IOWA - Southern one-half area--defoliation severe in isolated cases. Jasper County--larvae, 35 mm (1.4 in) long, nearly full grown on September 11. Defoliated 100% of large grove of maples at Prairie City. (Lewis).

TWOLINED CHESTNUT BORER (Agrilus bilineatus) - IOWA - Central area--caused limb dieback and tree mortality to drought-stressed oaks. Foliage wilted and browned, usually in upper portions of tree crown. Damage caused death of single limbs, parts of crown, or entire tree. (Hart).

MAN AND ANIMALS

INSECTS

A MOSQUITO (Culex tarsalis) - OHIO - New county record. Wayne County--collected near Doylestown by P. Jansak and F. Bishak, August 14, 1978. Determined S. Gordon. (Berry).

FACE FLY (Musca autumnalis) - NEBRASKA - Dawson and Lincoln Counties--averaged 14 per face on untreated cattle. (Campbell).

HORN FLY (Haematobia irritans) - NEBRASKA - Dawson and Lincoln Counties--averaged 410+ per head on untreated cattle in river pastures. (Campbell).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Dawson and Lincoln Counties--averaged 22 per leg on untreated cattle in feedlots. (Campbell).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ICHNEUMONID WASP (Bathyplectes anurus) - WEST VIRGINIA - New county record. Jackson County--pupae recovered from Hypera postica (alfalfa weevil) larvae at Murraysville, May 11, 1978, and reared to pupal stage. Collected by J.D. Hacker; determined by J.E. Weaver. First recovery since release at this site in 1975. (Weaver).

FEDERAL AND STATE PROGRAMS

INSECTS

GRASSHOPPERS - KANSAS - Franklin County--mostly Melanoplus differentialis averaged about 4 per 0.8 sq m (sq yd) of soybeans [maturing] and damaged 9% of pods (ate 5% of seed from these pods) in field near Centropolis by September 12; damage appeared recent and much heavier in this field than average for county. (Bell).

GYPSY MOTH (Lymantria dispar) - MICHIGAN - Estimated male catches from sticky-traps by county: Bay--1, Calhoun--6, Clare--3, Gratiot--319, Isabella--253, Mecosta--44, Midland--107, Montcalm--207, Oakland--12, Osceola--1, Saginaw--15, Washtenaw--3, and Wayne--1. (Hanna, Moore).

JAPANESE BEETLE (Popillia japonica) - TENNESSEE - Eastern counties--Bacillus popilliae biological control agent, applied for larval control in 25 counties. Blount County--application of milky spore began as pilot program in Happy Valley area. (Bogard). OHIO - Still unusually heavy. Wayne County--adults averaged 1 per grapevine (leaf damage 50%) and averaged 1 per 0.09 sq m (sq ft) of foliage on or near raspberries. (Williams, Dix).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Percent cotton bolls infested by county: Maricopa--0-10%; Pinal--1-10%; and Yuma--4-20%. (Brooks et al.). et al.).

SCREWWORM (Cochliomyia hominivorax) - Total of 305 cases reported from continental United States August 20-26 as follows: Texas 40, New Mexico 76, Arizona 177, California 11, Nevada 1. (Meadows). Total of 451 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 745 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released this period totaled 131,631,200 as follows: Texas 63,622,000, New Mexico 19,372,100, Arizona 48,277,100, California 360,000. (Meadows). Total of 141,251,200 sterile flies released within Barrier of Mexico. (Williams, Smith).

A WHITEFRINGED BEETLE (Graphognathus leucoloma leucoloma) - ARKANSAS - New county record. Fulton County--moderately infested plantain growing on business property at Mammoth Spring. Collected by J.E. Beville, September 7, 1978. Determined by E.P. Rouse. (Mayse).

HAWAII PEST REPORT

General Vegetables - VEGETABLE LEAFMINER (Liriomyza sativae) moderate to heavy on 2 ha (4 acres) of bearing tomato and on 1 ha (3 acres) of young and bearing cucumber at Kona, Hawaii Island. GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) moderate to heavy on 0.61 ha (1.5 acres) of bearing cucumber at Kona. TOMATO PINWORM (Keiferia lycopersicella) heavy on commercial tomatoes at Anahola, Kauai. (Matayoshi et al.).

Snail Pest - GIANT AFRICAN SNAIL (Achatina fulica) activity minimal during August surveys on Kauai and confined to Waipouli and Lihue. (Sugawa).

Turf and Pasture - GRASS WEBWORM (Herpetogramma licarsalis) larvae moderate to heavy, 4-22 (averaged 13.3) per 0.09 sq m (sq ft) on 0.61 ha of turf grass at Laupahoehoe, Hawaii Island. Grass mowed recently and amount of damage unknown. Hymenopterous parasites observed. Heavy old damage on 8.1 ha (20 acres) of turf grass at Kahaluu, Oahu. (Higa et al.).

DETECTION

NEW COUNTY RECORDS

INSECTS

EUROPEAN HORNET (Vespa crabro germana) - KENTUCKY - Washington County--adult taken at large near Springfield, June 15, 1978. Collected by J. Reichenback. Determined by R.A. Scheibner. (Scheibner).

AN ICHNEUMONID WASP (Bathyplectes anurus) - WEST VIRGINIA - Jackson County. (p 545).

MEXICAN BEAN BEETLE (Epilachna varivestis) - TEXAS - Potter. (p. 544).

A MOSQUITO (Culex tarsalis) - OHIO - Wayne (p. 545).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - INDIANA - Jennings and Jefferson. (p. 540).

A WHITEFRINGED BEETLE (Graphognathus leucoloma leucoloma) - ARKANSAS - Fulton. (p. 546).

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
 Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Coniothyrium atriplicatum</u> Wint. a fungus Det. F.G. Pollack	imperfect	on <u>Atriplex</u> seed from mail	Republic of South Africa	Hoboken	MT
<u>Monilinia fructigena</u> (Aderh. & Ruhl) Honey brown rot Det. F.G. Pollack	imperfect	on <u>Prunus</u> fruit from baggage	Switzerland	Boston	MA
<u>Uredo nidularii</u> P. Henn. a rust Det. F. Mathews	uredial	on leaves of bromeliad plants from cargo	Jamaica	Miami	FL
<u>Aleurotuberculatus aucubae</u> (Kuwana) a whitefly Det. S. Nakahara	pupal	on leaves of <u>Zelkova</u> plants from cargo	Japan	Los Angeles	CA
<u>Cerambyx</u> sp. a cerambycid beetle Det. E.J. Ford	Larval	in bubinga logs from cargo	Cameroon	Baltimore	TN
<u>Hylurgops palliatus</u> (Gyllenhal) a scolytid beetle Det. E.J. Ford	all	in wood bracing with pipe	West Germany	Baltimore	IL
<u>Nasutitermes</u> sp. a termite Det. R.P. Higgins	adult	in stems of <u>Yucca</u> from cargo	Honduras	Miami	FL
<u>Vaginulus occidentalis</u> (Guiliding) a veronicellid slug Det. R. Munkittrick	adult	on orchid plants from cargo	Colombia	Miami	FL

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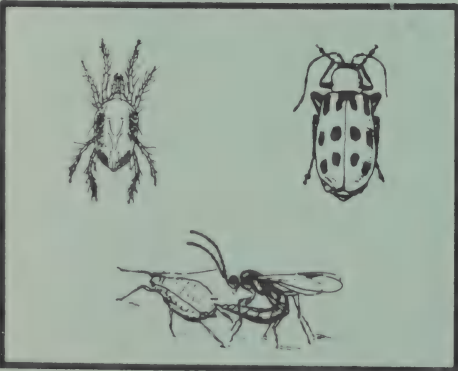


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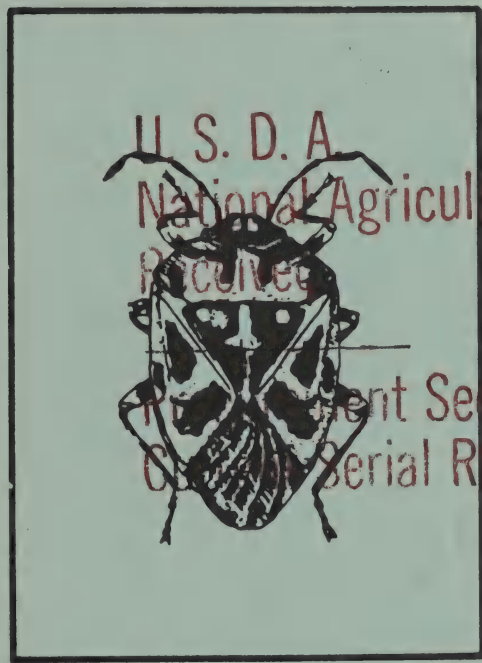
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Prevalence 20% or higher on corn for STALK ROTS in parts of western Nebraska and central and northern Missouri and for EAR ROTS in northwestern parts of Illinois and Indiana. (p. 553-554).

FALL ARMYWORM problem in hay fields in southwestern Arkansas. (p. 555).

GRASSHOPPER damage to margins of young wheat fields in scattered parts of western Kansas. (p. 560).

Detection

A NITIDULID BEETLE is new for West Virginia. (p. 558).

For new county records see page 561.

New host records for EURASIAN PINE ADELGID in Hawaii. (p. 561).

● Reports for the week ending September 29 will not be published next period. That issue, number 40, will be combined with the next, number 41. The delay is due to a move to new offices and adoption of a new text-editing system.

Reports in this issue are for the week ending September 22 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Potatoes, Tomatoes, Peppers	
Diseases.....	553	Insects.....	558
Insects.....	554		
Small Grains		Beans and Peas	
Diseases.....	555	Diseases.....	559
Insects.....	555	Insects.....	559
Turf, Pastures, Rangeland		Deciduous Fruits and Nuts	
Insects.....	555	Insects.....	559
Forage Legumes		Ornamentals	
Diseases.....	555	Insects.....	559
Insects.....	556	Forest and Shade Trees	
Soybeans		Insects.....	559
Diseases.....	556	Man and Animals	
Insects.....	558	Insects.....	559
Cotton			
Insects.....	558		
Beneficial Organisms and Their Enemies			
Insects.....	560		
Federal and State Programs			
Insects.....	560		
Hawaii Pest Report.....	561		
Detection.....	561		
Light Trap Collections.....	562		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	563		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON MAIZE RUST (Puccinia sorghi) - MINNESOTA - Prevalence/severity on dent corn [all kernels dented unless stated otherwise] by county (1 field each) September 11-15: Faribault--100%/trace to 5%, Martin--100%/trace to 3%, Jackson--100%/trace, Renville--100%/trace, Sibley--100%/trace to 10%, and Goodhue--100%/10-30% on sweet corn [dough]. (Berger). ILLINOIS - Prevalence/severity on corn [all kernels dented] by county (1 commercial field each) week of September 11: La Salle--99%/12-25% and McLean--99%/trace to 1%. (Jordan).

COMMON SMUT (Ustilago maydis) - NEBRASKA - Red Willow, Hitchcock, Dundy, Chase, Hayes, Perkins, Keith, Deuel, Cheyenne, Kimball, Banner, and Scotts Bluff Counties--prevalence 1-4% on predominantly irrigated corn [most fully dented] in most fields. Infected up to 25% of plants in some hail-damaged field borders. (Poe). MINNESOTA - Prevalence on dent corn [all kernels dented unless stated otherwise] by county (1 field each) September 11-15: Martin--8%, Jackson--3%, Renville--4%, and Sibley--4%. (Stromberg).

ILLINOIS - Common smut prevalence on corn [harvest maturity unless stated otherwise] by county (1 commercial field each) week of September 11: McDonough--5%, Knox--4%, Henry--3%, Peoria--3%, Bureau--3%, La Salle--8% [all kernels dented], Marshall--6%, McLean--3% [all kernels dented], and Tazewell--4%. (Jordan). INDIANA - Prevalence on corn [all kernels dented unless stated otherwise] ears by county September 10-16: Tippecanoe and St. Joseph--0%; White, La Porte, Marshall, Fulton, and Cass--0% [maturity]; Jasper--1%; Porter--trace; and Carroll--2%; averaged trace in 10 sites. Marshall County--2% of stalks barren. (Schall).

HELMINTHOSPORIUM LEAF SPOT (Cochliobolus (Helminthosporium) carbonum) - MINNESOTA - Sibley County--First of season. Asexual prevalence 99%/severity trace in 1 dent corn field September 11-15. (Stromberg). ILLINOIS - La Salle County--asexual prevalence 99%/severity 1-3% on corn [all kernels dented] in 1 commercial field week of September 11. (Jordan).

GIBBERELLA STALK ROT (Gibberella (Fusarium) roseum f.sp. cerealis) - ILLINOIS - Prevalence on corn [harvest maturity unless stated otherwise] by county (1 commercial field each) week of September 11: McDonough--6%, Knox--12%, Henry--4%, Peoria--1%, Bureau--4%, La Salle--3% [all kernels dented], Marshall--2%, McLean--12% [all kernels dented], and Tazewell--18%. (Jordan).

FUSARIUM STALK ROT (Gibberella (Fusarium) moniliforme) - KANSAS - Russell County--prevalence about 50% in 1 sorghum field. (Sim).

STALK ROTS - NEBRASKA - Red Willow, Hitchcock, Dundy, Chase, Hayes, Perkins, Keith, Deuel, Cheyenne, Kimball, Banner, and Scotts Bluff Counties--mostly Fusarium spp. and Gibberella spp. caused premature dying and browning on 10-30% of corn [most fully dented] throughout area surveyed. Evident on scattered individual plants and discrete groups of dying plants. Early evidence believed due to unusually hot and dry period in late August and early September. Ears with evidence of stalk rot usually mature (black line in kernel). (Poe).

MISSOURI - Central and northern areas--prevalence of Fusarium and Diplodia stalk rots 75-95% on corn [dent to mature] stalks. Unusually high incidence attributed to heavy Papaipema nebris (stalk borer) damage. (Foudin). MINNESOTA - Prevalence of Fusarium spp. on dent corn [all kernels dented unless stated otherwise] by county (1 field each) September 11-15: Faribault--6%, Jackson--3%, and Renville--2%. (Stromberg).

INDIANA - Fusarium and Colletotrichum stalk rot prevalence/severity of lodged stalks on corn [maturity unless stated otherwise] by county September 10-16: Tippecanoe--2%/0% [all kernels dented], White--4%/0%, Jasper--0%/0%, Porter--0%/0%, La Porte--4%/0%, St. Joseph--0%/0% [all kernels dented], Marshall--12%/0%, Fulton--2%/0%, Cass--0%/0%, and Carroll--0%/0% [all kernels dented]; averaged 2%/0% in 10 sites. Stalk rots related to insect damage, particularly by EUROPEAN CORN BORER (Ostrinia nubilalis). (Schall).

EAR ROTS - ILLINOIS - Prevalence/severity of Fusarium spp. and Penicillium spp., respectively, on corn [harvest maturity unless stated otherwise] by county (1 commercial field each) week of September 11: McDonough--25%/trace to 1% and 10%/trace, Henry--18%/trace to 1% and 1%/trace, Knox--20%/trace to 1% and 2%/trace, Peoria--70%/trace to 2% and 40%/trace to 1%, Bureau--20%/trace to 1% and 5%/trace, LaSalle--12%/trace and 1%/trace [all kernels dented], Marshall--5%/trace to 1% and 1%/trace to 1%, McLean--6%/trace and 1%/trace [all kernels dented], and Tazewell--30%/trace to 2% and 20%/trace to 1%. Infection of few kernels at ear tip related to insect and bird damage. (Jordan).

INDIANA - Prevalence/severity of ear rots caused by Fusarium spp., Penicillium spp., Cladosporium spp., and others on corn [maturity unless stated otherwise] by county September 10-16: Tippecanoe--14%/trace [all kernels dented], White--28%/trace, Jasper--10%/trace, Porter--12%/trace, La Porte--34%/trace, St. Joseph--18%/trace [all kernels dented], Marshall--8%/trace, Fulton--2%/trace, Cass--30%/trace, Carroll--14%/trace [all kernels dented]; averaged 17%/trace in 10 sites. Disease associated with insect damage in most cases. (Schall).

SOOTY STRIPE (Ramulispora sorghi) - KANSAS - Prevalence on sorghum by county: Nemaha--100%, Doniphan--100%, and Pottawatomie--trace. (Sim).

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - ILLINOIS - Status on corn [all kernels dented] leaves by county (1 commercial field each) week of September 11: McLean--prevalence 99%/severity 6-12% and La Salle--prevalence of stalk rot 1%. (Jordan).

CHARCOAL ROT (Macrophomina phaseolina) - NEBRASKA - Chase County--prevalence 85% on corn [most fully dented] in nonirrigated field September 11-19. (Poe).

SORGHUM DOWNY MILDEW (Sclerospora sorghi) - KANSAS - Pottawatomie County--prevalence 2% in 1 sorghum field. (Sim).

HOLCUS SPOT (Pseudomonas syringae) - KANSAS - Riley County--prevalence trace in 1 sorghum field. (Sim).

MAIZE DWARF MOSAIC POTYVIRUSES - KANSAS - Mitchell County--found in 1 sorghum field. (Sim). MINNESOTA - Goodhue County--prevalence trace in canning sweet corn [dough] field September 11-15. (Berger).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - COLORADO - Morgan County--economic infestations on corn in Wiggins and Bijou hills areas, lodging 5%. (Fithian). MINNESOTA - Counts per 100 corn plants and number of infested corn plants per 100 by district: West-central--28 and 28, southwest--21 and 24, south-central--53 and 33, and southeast--28 and 21. South-central and southeast districts--infested shanks per 100 corn plants averaged 6% and 3%, respectively. Larvae mostly 4th and 5th instars. (Sreenivasam).

WISCONSIN - European corn borer (30+%) caused several hundred hectares (acres) of late sweet corn to be bypassed due to borers in sides of ears. Most bypassed corn regularly treated. (Lovett). KENTUCKY - Bluegrass region--larvae mostly all 4th and 5th instars; stalk breakage and ear drop still light (less than 4% in most fields). (Sloderbeck et al.).

FALL ARMYWORM (Spodoptera frugiperda) - KENTUCKY - Franklin County--larvae heavily damaged 2 rows, about 60 m (200 ft), of late-planted sweet corn [late whorl]. (Sloderbeck). FLORIDA - Alachua County--adults very light in sex pheromone sticky traps, averaged 1 per night per trap in sweet corn area at Alachua. (Mitchell).

BET ARMYWORM (Spodoptera exigua) - FLORIDA - Alachua County--adults increased slowly in sex pheromone sticky traps past 2 weeks, currently 30 per night per trap at Alachua at edge of sweet corn field. (Mitchell).

CORN EARWORM (Heliothis zea) - FLORIDA - Alachua County--adults light, averaged 3-4 per night per blacklight trap at Alachua, about 5% of ears damaged in fall-planted sweet corn. (Mitchell).

CORN ROOTWORMS (Diabrotica spp.) - INDIANA - Tippecanoe County--WESTERN CORN ROOTWORM (D. virgifera) decreased to 272 in 10 sticky traps in 1 field and NORTHERN CORN ROOTWORM (D. longicornis) decreased to 58 in 10 traps. (Meyer).

SMALL GRAINS

DISEASES

TAN SPOT (Pyrenophora trichostoma) - NEBRASKA - Red Willow, Hitchcock, Dundy, Hayes, Chase, Perkins, Keith, Deuel, Cheyenne, Kimball, and Scotts Bluff Counties--pseudothecia on wheat stubble in fallow fields rare to absent September 11-19. Banner County--immature pseudothecia on 20-30% of straw in fallow fields. (Poe).

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - KANSAS - Johnson County--newly hatched larvae averaged 10 per 0.3 row m (row ft) in very early 5-cm (2-in) wheat. (White, Salisbury). Ford County--damaged early wheat and rye. (Brooks).

TURF, PASTURES, RANGELAND

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - ARKANSAS - Drew County--larvae infested various fall pastures and lawns, several hectares (acres) treated. (Wall). Southwestern area--larvae caused great concern to hay growers, infestations especially heavy in Coastal Bermudagrass meadows. (Barnes).

FORAGE LEGUMES

DISEASES

ALFALFA RUST (Uromyces striatus var. medicaginis) - KANSAS - Northeastern and east-central areas--1 of most common alfalfa diseases. Prevalence on alfalfa [plant height] by county: Pottawatomie--1% [15 cm (6 in)] and Wabaunsee--5% [15-25 cm (6-10 in)]. (Sim).

SUMMER BLACK STEM (*Cercospora zebrina*) - KANSAS - Northeastern and east-central areas--1 of most common alfalfa diseases. Prevalence on alfalfa [plant height] by county: Pottawatomie--trace [15 cm (6 in)] and Wabaunsee--trace [20-25 cm (8-10 in)]. (Sim).

INSECTS

BEE T ARMYWORM (*Spodoptera exigua*) - ARIZONA - Maricopa County--larvae 20-123 per 100 sweeps of alfalfa. (Svoboda et al.).

LYGUS BUGS (*Lygus* spp.) - ARIZONA - Nymphs and adults, respectively, on alfalfa alfalfa by county: Maricopa--85 and 165 per 100 sweeps and Yuma--23 and 30 per 100 plants. (McCall et al.). UTAH - Millard County--very heavy on late first crop and many second crop alfalfa fields; counts per sweep: Nymphs 1-8 in 7 of 10 fields in Delta area, nymphs averaged 2-6.5 at Deseret, nymphs and adults averaged 1.3-2 at Sutherland. (Haskell).

SOYBEANS

DISEASES

BROWN STEM ROT (*Phialophora gregata*) - ILLINOIS - Prevalence on soybeans [pod yellowing] by county (1 monitoring plot each) week of September 11: De Kalb--40% on Elf variety, McDonough--9% on Williams, Logan--2% on Clark, Livingston--9% on Clark, and Bureau--4% on Clark. (Jordan).

INDIANA - Brown stem rot prevalence on soybeans [seed full size unless stated otherwise] by county September 10-16: Tippecanoe--0%, White--18%, Jasper--5%, Porter--0% [maturity], La Porte--15% [maturity], St. Joseph--0% [maturity], Marshall--20% [pod yellowing], Fulton--5% [maturity], Cass--65% [maturity], and Carroll--0%; averaged 13% in 10 sites. (Schall).

MINNESOTA - Brown stem rot prevalence on soybeans [physiological maturity unless stated otherwise] by county (1 field each) September 11-15: Faribault--36%, Renville--32%, and Sibley--52%. (Stromberg).

SOYBEAN POD AND STEM BLIGHT (*Diaporthe phaseolorum* var. *sojae*) - ILLINOIS - Prevalence on soybeans [pod yellowing unless stated otherwise] by county week of September 11: One commercial field each, Henry--6%, Peoria--12% [harvest maturity], La Salle--4%, McLean--18% [harvest maturity], Knox--2%, Marshall--15% [harvest maturity], and Tazewell--10% [harvest maturity]; 1 monitoring plot each, De Kalb--2% on Clark variety, McDonough--4% on Clark 63, Logan--2% on Clark 63, and Bureau--2% on L22. (Jordan).

INDIANA - Soybean pod and stem blight prevalence on soybean stems/severity on pods [seed full size unless stated otherwise] by county September 10-16: Tippecanoe--0%, White--0%, Jasper--0%, Porter--0% [maturity], La Porte--0% [maturity], St. Joseph--0% [maturity], Marshall--0% [pod yellowing], and Fulton--5%/0% [maturity], and Cass--10%/0% [maturity]; averaged 2%/0% in 10 sites. (Schall).

SOYBEAN STEM CANKER (*Diaporthe phaseolorum* var. *caulivora*) - ILLINOIS - Prevalence on soybeans [pod yellowing unless stated otherwise] by county week of September 11: One commercial field each, Knox--1%, Henry--3%, Peoria--1% [harvest maturity], La Salle--2%, Marshall--3% [harvest maturity], McLean--4% [harvest maturity], and Tazewell--2% [harvest maturity]; 1 monitoring plot each, De Kalb--4% on Williams variety, McDonough--2% on Williams, Logan--2% on Clark, Livingston--4% on Woodworth, and Bureau--2% on Clark. (Jordan).

SOYBEAN BROWN SPOT (Septoria glycines) - MINNESOTA - Prevalence/severity on soybeans [physiological maturity unless stated otherwise] by county (1 field each) September 11-15: Faribault--100%/10-15%, Martin--100%/5-10% [seed full size], Jackson--100%/10%, and Renville--100%/5%. (Stromberg).

ILLINOIS - Soybean brown spot prevalence/severity on soybeans [pod yellowing] by county week of September 11: One commercial field each, Knox--99%/6-12%, Henry--99%/6-12%, and La Salle--99%/50%; 1 monitoring plot each, De Kalb--99%/50-75% on Williams variety, McDonough--99%/25-50% on Elf, Logan--99%/50-75% on Woodworth, Livingston--0%/50-75% on L22, and Bureau--99%/25-50% on Woodworth. (Jordan).

SOYBEAN DOWNY MILDEW (Peronospora manshurica) - ILLINOIS - Prevalence/severity on soybeans [pod yellowing] by county week of September 11: One commercial field each, Knox--99%/1-3% and Henry--99%/1-3%; 1 monitoring plot each, De Kalb--99%/1-3% on Williams variety, McDonough--99%/trace on Elf, Logan--99%/6-12% on Woodworth, Livingston--99%/1-3% on L22, and Bureau--99%/3-6% on Woodworth. (Jordan).

INDIANA - Soybean downy mildew prevalence on soybeans [seed full size unless stated otherwise] by county September 10-16: Tippecanoe--0%, White--0%, Jasper--0%, Porter--0% [maturity], La Porte--0% [maturity], St. Joseph--0% [maturity], Marshall--0% [pod yellowing], Fulton--0% [maturity], Carroll--0%, and Cass--2% [maturity]; averaged trace in 10 sites. (Schall).

CHARCOAL ROT (Macrophomina phaseolina) - INDIANA - Prevalence on soybeans [seed full size unless stated otherwise] by county September 10-16: Tippecanoe--0%, White--0%, Jasper--0%, La Porte--0% [maturity], St. Joseph--0% [maturity], Marshall--0% [pod yellowing], Fulton--0% [maturity], Cass--0% [maturity], Carroll--0%, and Porter--85% [maturity]; averaged 9% in 10 sites. (Schall).

DIFFUSA POWDERY MILDEW (Microsphaera diffusa) - MINNESOTA - Prevalence/severity on soybeans [physiological maturity unless stated otherwise] by county (1 field each) September 11-15: Jackson--70%/trace to 5%, Renville--90%/trace, Sibley--40%/trace, and Ramsey--100%/5% [seed full size]. (Stromberg).

BACTERIAL PUSTULE (Xanthomonas phaseoli var. sojense) - ILLINOIS - Prevalence/severity on soybeans [pod yellowing] by county week of September 11: One commercial field each, Knox--99%/3-6%, Henry--99%/1-3% and La Salle--99%/6-12%; 1 monitoring plot each, DeKalb--99%/3-6% on Clark variety, McDonough--99%/6-12% on Clark, Logan--99%/1-3% on Clark, Livingston--99%/trace on Clark, and Bureau--99%/12-25% on Clark. (Jordan). MINNESOTA - Prevalence/severity on soybeans [physiological maturity unless stated otherwise] by county (1 field each) September 11-15: Faribault--100%/trace to 3%, Jackson--90%/trace to 3%, and Sibley--100%/trace to 5%. (Stromberg).

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - ILLINOIS - Prevalence/severity on soybeans [pod yellowing] by county week of September 11: One commercial field each, La Salle--99%/1-3%, Knox--99%/trace to 1%, and Henry--99%/1-3%; 1 monitoring plot each, De Kalb--99%/3-6% on Elf variety, McDonough--99%/1-3% on Elf, Logan--99%/1-3% on Elf, Livingston--99%/1-3% on Clark 63, and Bureau--99%/1-3% on Woodworth. (Jordan). MINNESOTA - Prevalence/severity on soybeans by county (1 commercial field each) September 11-15: Faribault--100%/5% [physiological maturity], Martin--100%/5% [seed full size], and Renville--100%/5% [physiological maturity]. (Stromberg).

SOYBEAN MOSAIC POTYVIRUSES - ILLINOIS - Knox [pod yellowing], Henry [pod yellowing], Peoria, La Salle [pod yellowing], Marshall, McLean, and Tazewell Counties--symptoms on few scattered soybeans [harvest maturity unless stated otherwise] in commercial fields week of September 11. (Jordan).

TOBACCO RINGSPOT NEPOVIRUS - KANSAS - Riley County--prevalence of pod lesion symptoms 1-2% in several soybean fields. (Sim). ILLINOIS - Peoria, Marshall, McLean, and Tazewell Counties--bud blight symptoms on few scattered soybean [harvest maturity] plants in commercial fields week of September 11. (Jordan).

INSECTS

VELVETBEAN CATERPILLAR (*Anticarsia gemmatalis*) - MISSISSIPPI - Southern area--larvae increased, infested mainly late soybeans [pod set to pod fill]. Central and northern areas--occasional larvae, no buildup noted. (Anderson). FLORIDA - Jackson County--second generation buildup rapid. (Arnold).

CORN EARWORM (*Heliothis zea*) - MISSISSIPPI - Southern delta counties--larvae continued to damage late soybeans, "hotspots" in central hill section. (Anderson).

SOUTHERN GREEN STINK BUG (*Nezara viridula*) - FLORIDA - Jackson County--mostly this species reached treatable levels, 1 large nymph or adult per 0.3 row m (row ft). (Arnold).

COTTON

INSECTS

BOLL WEEVIL (*Anthonomus grandis grandis*) - MISSISSIPPI - Southern area--heavy populations fed on second growth cotton. Heavy diapause population evident due to heavy weevil populations in some areas and no insecticide treatments. (Mitchell).

BOLLWORMS (*Heliothis* spp.) - ARIZONA - BOLLWORM (*H. zea*) counts on cotton by county: Maricopa--eggs 10-152, larvae 1-30, and adults 4 per 100 plants, Yuma--eggs 150-250 and larvae 4-10 per 100 terminals, and Pinal--eggs 12-27 and larvae 36 per 100 plants. (Brooks et al.). Yuma County--TOBACCO BUDWORM (*H. virescens*) larvae 3-25 per 25 cotton plants. (Davis et al.).

ARKANSAS - Eastern area--*H. zea* and *H. virescens* pressures generally decreased as cotton continued to mature. Southeastern area--eggs up to 160 and larvae 60 per 17 row m (56 row ft), unusual. (Wall, Kimbrough). MISSISSIPPI - State-wide--*Heliothis* spp. decreased greatly with about 80-90% of cotton matured or maturing. Second growth in some fields, due to recent rains, attracted bollworms. (Mitchell).

COTTON LEAFPERFORATOR (*Bucculatrix thurberiella*) - ARIZONA - Status on cotton by county: Maricopa--damage moderate to heavy, Pinal--still present in spots, and Yuma--population heavy in spots. (Hall et al.).

POTATOES, TOMATOES, PEPPERS

INSECTS

A NITIDULID BEETLE (*Glischrochilus quadrisignatus*) - WEST VIRGINIA - New State record. Randolph County--adults and larvae fed on decaying potato seed pieces on 50+% of 30 ha (75 acres) of potatoes at Huttonsville, June 26, 1978. Collected by J.D. Hacker. Determined by J.M. Kingsolver. (Hacker).

BEANS AND PEAS

DISEASES

BEAN RUST (*Uromyces phaseoli* var. *typica*) - NEBRASKA - Prevalence/severity on pinto beans (plants still green) by county Septembér 11-19: Deuel--10%/10%, Keith--25%/30%, and Perkins--trace/5%. (Poe).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - WISCONSIN - Additional 243 ha (600 acres) of snapbeans bypassed for canning due to infestations, total of 728.4 ha (1,800 acres) bypassed. Most fields regularly treated. (Lovett).

DECIDUOUS FRUITS AND NUTS

INSECTS

WALNUT HUSK FLY (*Rhagoletis completa*) - UTAH - New county record. Millard County--black walnuts infested at Fillmore. Collected by J.L. Bushnell, September 15, 1978. Determined by J.B. Karren. (Karren, Knowlton).

WALNUT CATERPILLAR (*Datana integerrima*) - MISSOURI - Central area--full-grown larvae moved down young pecan and walnut trees. Trees partially defoliated by this generation. (Munson).

ORNAMENTALS

INSECTS

A DIASPIDID SCALE (*Chionaspis nysae*) - FLORIDA - New county record. Duval County--infested leaves of ornamental *Nyssa sylvatica* (black gum) tree at Jacksonville, June 6, 1978. Collected by L.S. Woodford. Determined by A.B. Hamon. (Mead).

FOREST AND SHADE TREES

INSECTS

PALES WEEVIL (*Hylobius pales*) - OHIO - Carroll County--pupation and egg hatch underway in Scotch pine stumps on Christmas tree farm. Up to 50 overwintering hibernaculum per stump. (Dunlap).

FALL WEBWORM (*Hyphantria cunea*) - VIRGINIA - Accomack County--second generation larvae very heavy on pecans, silver birch, apple, plum, willow oaks, mimosa, and many other trees. (Allen).

MAN AND ANIMALS

INSECTS

HORN FLY (*Haematobia irritans*) - NEBRASKA - Dawson and Lincoln Counties--averaged 370+ per head on untreated cattle in river pastures. (Campbell).

STABLE FLY (*Stomoxys calcitrans*) - NEBRASKA - Dawson and Lincoln Counties--averaged 20 per leg on untreated cattle in feedlots. (Campbell).

FACE FLY (*Musca autumnalis*) - NEBRASKA - Dawson and Lincoln Counties--averaged 13 per face on untreated cattle. (Campbell).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A EULOPHID WASP (Prospaltella lahorensis) - FLORIDA - Alachua County--dispersed 0.8 km (0.5 mile) around release site by mid-September at Gainesville, where it was colonized in July 1977. Parasitized 50-70% of susceptible hosts, 3rd instar nymphs of Dialeurodes citri (citrus whitefly) in vicinity of release. (Sailer).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - VERMONT - New county record. Orange County--2 late 2nd or early 3rd instars found in barley and oats nurse-cropped alfalfa field at Thetford, June 23, 1978. Collected and determined by P.R. Benedict. (Benedict).

GRASSHOPPERS - KANSAS - Hamilton, Kearny, Wichita, Greeley, Wallace, Sherman, Thomas, and eastern Sheridan Counties--damaged margins in scattered wheat [emerged] fields, damage most consistent between Tribune, Greeley County, and Sharon Springs, Wallace County. Mostly Melanoplus sanguinipes. Most problems due to migrations from nearby weedy wheat stubble fields. Damage ranged from trace to 4.6 m (15 ft) of margin eaten to ground level. Wheat eaten to ground level for average of 5.5 m (60 yards) into 1 field in northern Greeley County, loss of 18%; margin treatment applied earlier. Averages per 0.8 sq m (sq yd) in areas of heaviest grasshopper concentrations ranged trace to 9 in wheat fields and trace to 5 fieldwide in nearby stubble fields. Treatment applied to wheat field margins in all above counties except Sherman and Sheridan. Damage by mostly M. differentialis in 2 small wheat fields in Kearny and Greeley Counties, not bordering stubble fields, but rank weeds thick along margins in both fields; treatment effective. (Bell, Shuman).

JAPANESE BEETLE (Popillia japonica) - OHIO - Adults rapidly decreased, still fed on miscellaneous crops, especially raspberries. (Ladd). WEST VIRGINIA - Boone and Kanawha Counties--larvae 10-40 (averaged 28) per 0.09 sq m (sq ft) in lawns. (Hacker).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Percent cotton bolls infested by county: Maricopa--2%, Pinal--1-8%, and Yuma--2-15%. (Svoboda et al.).

SCREWORM (Cochliomyia hominivorax) - Total of 334 cases reported from continental United States August 27 to September 2 as follows: Colorado 1, Texas 57, New Mexico 116, Arizona 152, California 8. (Meadows). Total of 399 cases confirmed in portion of Barrier Zone in Republic of Mexico. (Williams, Smith). Number of sterile flies released this period totaled 126,551,000 as follows: Texas 60,792,600, New Mexico 19,463,000, Arizona 45,215,400, California 1,080,000. (Meadows). Total of 129,503,800 sterile flies released within Barrier of Mexico. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - CARMINE SPIDER MITE (Tetranychus cinnabarinus) infestations and damage severe on 92.90 sq m (1,000 sq ft) of pole beans and 92.90 sq m of bush beans at Pearl City, Oahu. Infestations moderate to heavy on 464.5 sq m (5,000 sq ft) of sweet corn and 0.10 ha (0.25 acre) of eggplant at same location. Moderate ONION THRIPS (Thrips tabaci) infestations caused moderate to heavy foliar damage to 1 ha (3 acres) of green onion at Pearl City. DIAMONDBACK MOTH (Plutella xylostella) infestations and damage moderate to heavy on 0.2 ha (0.5 acre) of Chinese cabbage at Kamuela, Hawaii Island. Emergence of a BRACONID WASP (Apanteles sp.) moderate from P. xylostella larvae held in laboratory. Damage to Chinese cabbage extensive in last few months. (Matayoski, L. Nakahara).

Forest and Shade Trees - New host records. Light EURASIAN PINE ADELGID (Pinus pini) infestations found at Polipoli, Maui, at 1,920-m (6,300-ft) elevation on Pinus hartwegii, P. montezumae, P. oocarpa, P. maximinoi, and P. teocote, all species of Mexican pine. Collected and determined by A. Hara and J. Stein. (Hara, Stein).

DETECTION

NEW STATE RECORD

INSECTS

A NITIDULID BEETLE (Glischrochilus quadrisignatus) - WEST VIRGINIA - Randolph County. (p. 558).

NEW COUNTY RECORDS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - VERMONT - Orange. (p. 560).

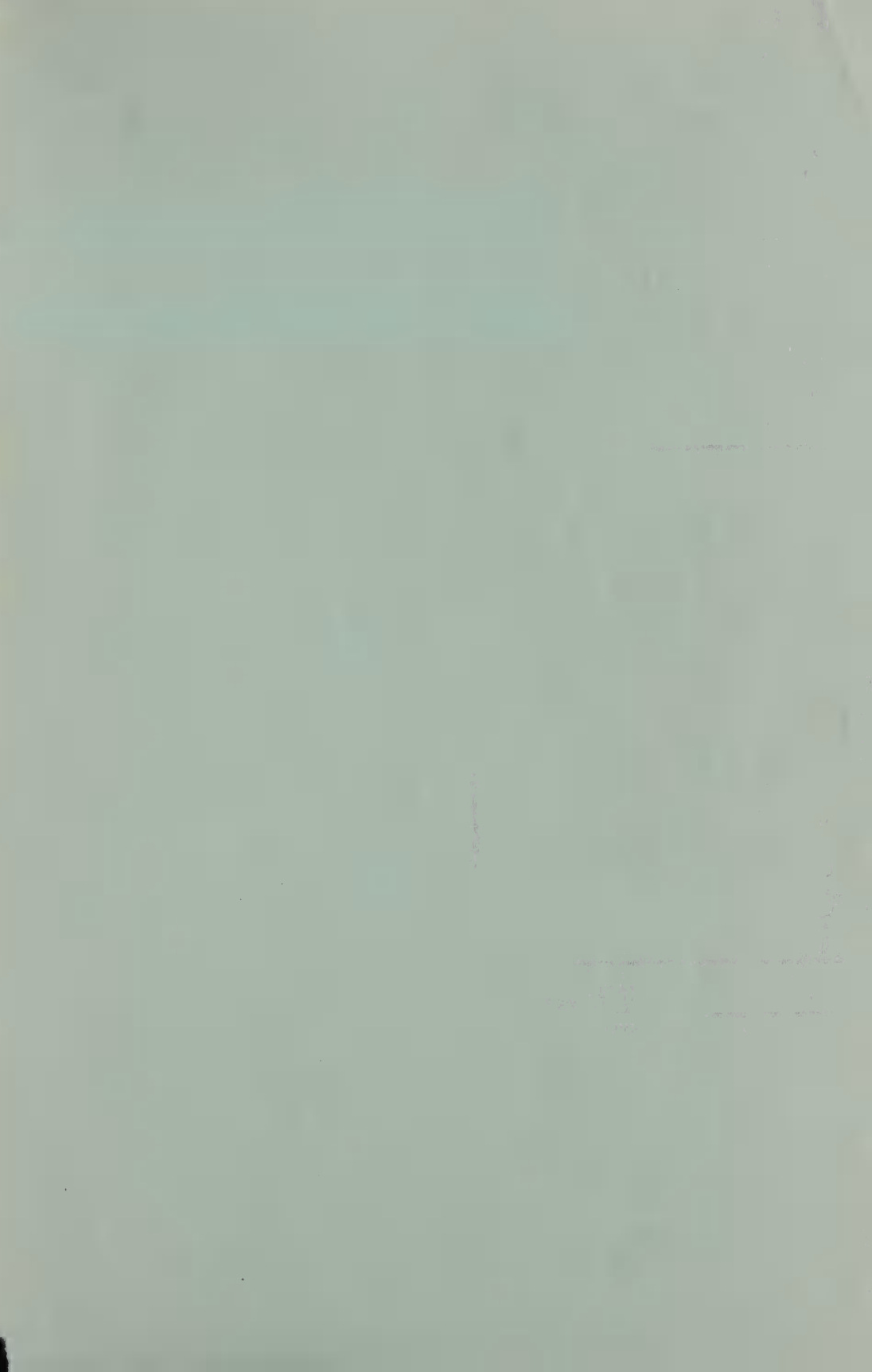
A DIASPIDID SCALE (Chionaspis nyssae) - FLORIDA - Duval. (p. 559).

WALNUT HUSK FLY (Rhagoletis completa) - UTAH - Millard. (p. 559).

Pest Interceptions of Quarantine Significance at Ports of Entry

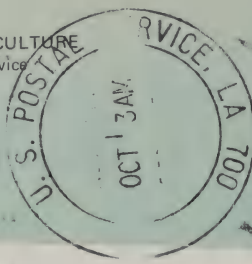
Plant Importation and Technical Support Staff
 Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Phyllachora engleri</u> Speg. a fungus Det. F. Mathews	perfect	on leaves of <u>Anthurium</u> plants	Bolivia	Miami	FL
<u>Aleuroplatus</u> sp. a whitefly Det. S. Nakahara	pupal	on leaves of <u>Tillandsia</u> plants	Honduras	Los Angeles	CA
<u>Bostrychopsis uncinatus</u> (Germar) a bostrychid beetle Det. T.J. Spilman	adult larval	in wood crates of tile	Brazil	Jacksonville	FL
<u>Eulechriops</u> sp. a weevil Det. D.R. Whitehead	adult pupal	in stems of <u>Yucca</u> from cargo	Honduras	Miami	FL
<u>Orthotomicus erosus</u> (Mollaston) a scolytid beetle Det. F. Krim	adult	in wood crates of willow baskets	Portugal	New York	USA
<u>Achatina fulica</u> Bowdich giant African snail Det. R. Munkittrick	adult	on container van	Republic of China	Houston	TX
<u>Lignus alabaster</u> (Rang) an achatinid snail Det. R. Munkittrick	juvenile	with fern plants from baggage	Nigeria	San Francisco	CA
<u>Globodera rostochiensis</u> (Wollenweber) golden nematode Det. W. Friedman	cysts	with soil on plants from baggage	United Kingdom	Bangor	GA



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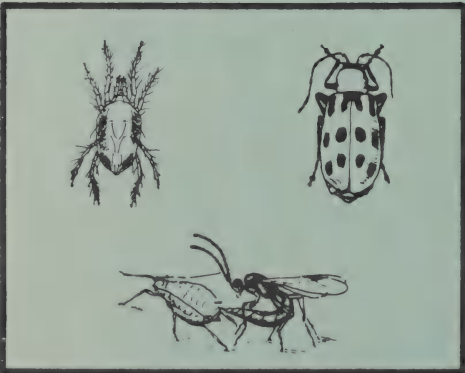
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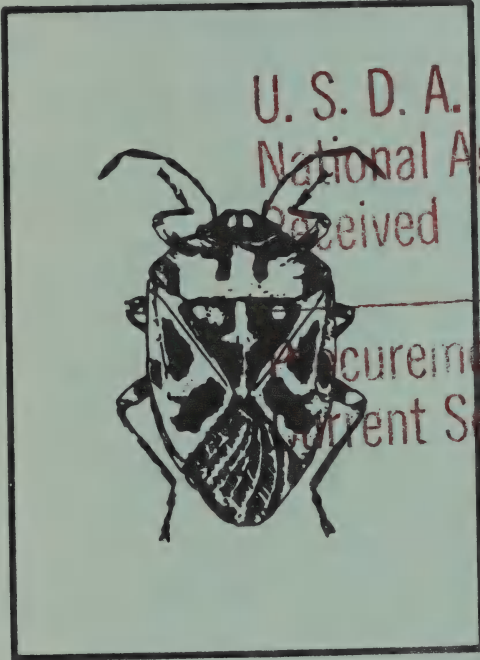
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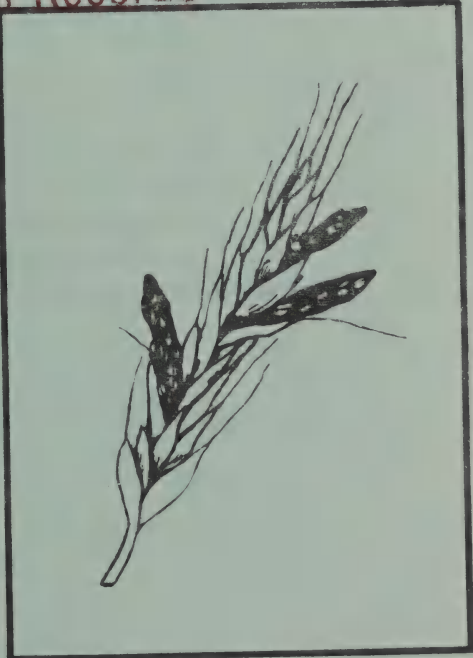
Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

- Prevalence of RED EAR ROT 20% or more on corn in parts of Illinois. (p. 568).
FALL ARMYWORM flights heavy in south-central parts of Kansas. (p. 570).
CHARCOAL ROT prevalent in 20% or more of surveyed soybeans in parts of Kansas, Missouri, Illinois, and Indiana. (p. 572).
GRASSHOPPER damage to wheat margins continued in parts of Kansas. (p. 577).

Detection

New State records include SOYBEAN CYST NEMATODE in Minnesota (p. 574), gamma strain of BEAN ANTHRACNOSE in Michigan (p. 575), and a WEEVIL in North Dakota (p.578). A DIASPIDIID SCALE and a MEALYBUG are new for U.S. Virgin Islands. (p.578).

For new county and island records see pages 578-579.

Special Report

A New Species of *Phytoliriomyza* Hendel Feeding on Jacaranda in California (Diptera: Agromyzidae). (p. 583-586).

Reports in this issue are for the weeks ending September 29 and October 6 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane	Potatoes, Tomatoes, Peppers
Diseases.....567	Diseases.....575
Insects.....569	Insects.....575
Small Grains	Beans and Peas
Diseases.....569	Diseases.....575
Insects.....570	Insects.....575
Turf, Pastures, Rangeland	Cucurbits
Insects.....570	Insects.....576
Forage Legumes	General Vegetables
Diseases.....570	Insects.....576
Insects.....571	Deciduous Fruits and Nuts
Soybeans	Insects.....576
Diseases.....571	Forest and Shade Trees
Insects.....574	Insects.....576
Peanuts	Man and Animals
Insects.....575	Insects.....576
Cotton	
Insects.....575	
Federal and State Programs	
Insects.....577	
Hawaii Pest Report.....579	
Detection.....578	
Corrections.....579	
Light Trap Collections.....580	
Pest Interceptions of Quarantine Significance at Ports of Entry.....582	
A New Species of <u>Phytoliriomyza</u> Hendel Feeding on Jacaranda in California (Diptera: Agromyzidae).....583	

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON MAIZE RUST (Puccinia sorghi) - OHIO - Prevalence/severity on corn [dent unless stated otherwise] by county (1 field each) week ending September 22: Ashland--100%/1-20%, Knox--100%/1-10%, and Perry--100%/1-10% [all kernels dented]; week ending September 29: Clark and Clinton--99%/1-5%, Preble--99%/1% [maturity] and 99%/10-40% [dough], and Ross--99%/1-10%. (Hite). IOWA - Prevalence/severity on surveyed corn [late dent] by county September 6-20: Sioux and Cherokee--99%/3%, Plymouth--trace to 90%/trace, O'Brien--10%/trace, and Muscatine and Lee--90%/trace to 20%. (Williams).

SOUTHERN LEAF BLIGHT (Helminthosporium maydis) - OHIO - Ashland and Knox Counties (1 field each)--prevalence 50%/severity 1-10% on corn [dent] week ending September 22. (Hite).

COMMON SMUT (Ustilago maydis) - SOUTH DAKOTA - Northeastern area--prevalence light throughout corn fields, less than 2% on ears in most fields. Brown County--infected about 10% of ears in 1 field week of September 28. (Jons).

ILLINOIS - Common smut prevalence on corn [harvest maturity unless stated otherwise] by county (1 commercial field each) week of September 18: Vermillion--8%, Iroquois--12%, Kankakee--10%, Will--10% [all kernels dented], Kendall--6%, Kane--5%, Grundy--8%, Livingston--10%, and Ford--7%; week of September 25 (commercial fields): Piatt--8%, De Witt--10%, Shelby--10%, Moultrie--10%, and Coles--12%. (Jordan). OHIO - Prevalence on corn by county (1 field each) week ending September 22: Ashland and Knox--trace [dent] and Perry--3% [all kernels dented]; week ending September 29 [all kernels dented unless stated otherwise]: Clark and Ross--trace, Clinton--2%, and Preble--1% [maturity]. (Hite).

MONILIFORME ROT (Gibberella (Fusarium) moniliforme) - KANSAS - Asexual prevalence on sorghum by county week ending September 29: Dickinson--90% in 1 field (lodging about 1%) and Washington--trace. (Sim).

STALK ROTS - ILLINOIS - Prevalence of GIBBERELLA STALK ROT (Gibberella (Fusarium) roseum f.sp. cerealis) on corn [harvest maturity unless stated otherwise] by county (1 commercial field each) week of September 18: Vermillion--10%, Iroquois--14%, Kankakee--12%, Will--4% [all kernels dented], Kendall--2%, Kane--5% [all kernels dented], Grundy--10%, Livingston--8%, and Ford--10%; week of September 25: Piatt--10%, De Witt--12%, Shelby--30%, Moultrie--5%, and Coles--10%. (Jordan).

INDIANA - Prevalence/severity of stalk rots caused by anthracnose (39%), Fusarium (23%), Gibberella (16%), anthracnose and Gibberella (9%), anthracnose and Fusarium (5%), and other organisms and unknown causes (9%) on corn [maturity unless stated otherwise] by county September 24-30: Montgomery--6%/0%, Knox and Parke--8%/0%, Morgan and Clay--12%/0%, Daviess--22%/0%, Lawrence and Gibson--4%/0%, Dubois--0%/0% [all kernels dented], and Martin--10%/2%; averaged 9%/trace in 10 sites. (Schall). OHIO - Prevalence of stalk rots caused by anthracnose and Gibberella spp. on corn [all kernels dented unless stated otherwise] by county (1 field each) week ending September 29: Clark--12%, Clinton--23%, Preble--7% [maturity], and Ross--2%. Associated with severe Ostrinia nubilalis (European corn borer) damage in many fields. High percentage of stalks broken at entry sites in some fields. (Hite).

RED EAR ROT (Gibberella (Fusarium) roseum f.sp. cerealis) - ILLINOIS-- Prevalence/severity on corn ears [harvest maturity unless stated otherwise] by county (1 commercial field each) week of September 18: Vermilion--5%/trace to 1%, Iroquois--30%/1-3%, Kankakee--20%/trace to 2%, Will--15%/trace to 1% [all kernels dented], Kendall--40%/trace to 2%, Kane--20%/trace to 2% [all kernels dented], Grundy--20%/trace to 1%, Livingston--30%/trace to 2%, and Ford--18%/trace to 1%; week of September 25: Piatt--5%/trace to 1%, De Witt--10%/trace to 1%, Shelby--10%/trace, Moultrie--8%/trace to 1%, and Coles--20%/trace to 1%. (Jordan).

FUSARIUM KERNEL ROT (Gibberella (Fusarium) moniliforme) - ILLINOIS - Prevalence/severity on corn [harvest maturity] ears by county (1 commercial field each) week of September 25: Piatt--10%/trace to 1%, De Witt--10%/trace to 1%, Shelby--20%/trace to 1%, Moultrie--12%/trace to 1%, and Coles--15%/trace to 1%. (Jordan). OHIO - Prevalence/severity on corn by county (1 field each) week ending September 29: Clinton--50%/trace [all kernels dented] and Preble--50-60%/trace [maturity]. Associated with insect and bird damage to ear tips. (Hite).

EAR ROTS - ILLINOIS - Prevalence/severity of Penicillium spp. on corn [harvest maturity unless stated otherwise] ears by county (1 commercial field each) week of September 18: Vermilion--4%/trace to 2%, Iroquois--20%/trace to 2% [harvest maturity], Kankakee--5%/trace, Will--5%/trace to 1% [all kernels dented], Kendall--10%/trace to 1%, Kane--8%/trace [all kernels dented], Grundy--5%/trace, Livingston--5%/trace to 1%, and Ford--8%/trace; week of September 25: Piatt--5%/trace to 1%, De Witt--5%/trace to 1%, Shelby--5%/trace, Moultrie--10%/trace to 1%, and Coles--8%/trace to 1%. Piatt, De Witt, Shelby, Moultrie, and Coles Counties--Cladosporium spp. prevalence 1-3%/severity trace on corn [harvest maturity] ears in 1 commercial field each week of September 25. (Jordan).

INDIANA - Prevalence/severity of ear rots caused by Fusarium spp. (61%), Penicillium spp. (32%), Cladosporium spp., Alternaria spp., Nigrospora spp. and others (7%) on corn [maturity unless stated otherwise] by county September 24-30: Montgomery--16%/trace, Parke--28%/trace, Clay--50%/1%, Daviess--36%/trace, Knox--38%/trace, Gibson--36%/trace, Dubois--56%/1% [all kernels dented], Martin--26%/1%, Lawrence--20%/trace, and Morgan--22%/trace; averaged 33%/trace in 10 sites. Infection of ears related to insect or bird damage. (Schall).

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - IOWA - Prevalence/severity on corn [mid to late dent] leaves by county September 6-20: Muscatine--20%/3% and Clinton--5%/trace. (Williams). ILLINOIS - Prevalence on corn [harvest maturity] by county (1 commercial field each) week of September 25: Piatt--20%, De Witt--15%, Shelby--5%, Moultrie--5%, and Coles--2%. (Jordan). OHIO - Prevalence on corn [all kernels dented unless stated otherwise] by county (1 field each) week ending September 29: Clark, Clinton, and Ross--99% and Preble--99% [maturity]. Severities difficult to estimate due to maturity and saprophytic organisms on leaves. (Hite).

CHARCOAL ROT (Macrophomina phaseolina) - KANSAS - Kiowa County--prevalence 100% on sorghum in dryland field week ending October 6. Lodged about 2% of plants in irrigated field. (Sim). MISSOURI - Audrain, Boone, Callaway, Howard, Monroe, and Randolph Counties--prevalence 20-40% in corn stalks [all

dent to mature] October 2-6. Above normal charcoal rot incidence believed due to high temperature and dry period in late August and September. (Foudin).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - KANSAS - West-central area--second generation infestations generally not serious, infestations much heavier this year than ever recorded during fall survey; average percent plants infested for 5 fields per surveyed county: Wallace--42%, Wichita--36%, Gove--30%, Scott--27%, and Greeley--14%. (Bell). Edwards County--stalk infestations in sorghum ranged 0-30% in 9 sorghum fields. (Salsbury). MINNESOTA - South-central district--fall surveys in 20 corn fields (4 counties) indicated infested plants averaged 60%, larvae averaged 66 per 100 plants, and shank infestation averaged 25%. Ear drop ranged 0-1 per 25 plants. Harvest underway. (Sreenivasam). NORTH CAROLINA - Status on corn by county: Coastal Plain and Piedmont areas--severe in scattered corn fields; Lincoln and Gaston--up to 60% ear drop and stalk breakage; Wilson, Edgecombe, Halifax, and Martin--up to 30% infested plants common in unharvested fields. Harvest progress rapid and will decrease risk of greater losses. (Hunt).

CORN EARWORM (*Heliothis zea*) - IDAHO - Late season populations infested 10-20% of sweet corn ears [maturing] at Twin Falls. (Stoltz, Blickenstaff). UTAH - Box Elder, Davis, and Cache Counties--larvae infested 10% of early canning corn, and 25-75% of later corn week ending September 29. (Duncan). COLORADO - Yuma County--larvae damaged up to 5% of ears in some corn fields September 20-26. (Hantsbarger). OKLAHOMA - Caddo County--larvae 0-4 (averaged less than 1) per head of grain sorghum [soft dough]. (Arnold).

MISSISSIPPI - Winston County--corn earworm larvae averaged 0.09 per head on 40.5 ha (100 acres) of grain sorghum [dough] week ending September 28. Oktibeha, Noxubee, and Lowndes Counties--surveys negative. (Anderson). FLORIDA - Alachua County--damaged 5.7 of 97.1 ha (14 of 240 acres) of treated commercial sweet corn by September 21. (Baker). Palm Beach County--all larval instars infested 90% of corn [55-day maturity] ears in commercial field at Boynton Beach by September 27. (Poe).

FALL ARMYWORM (*Spodoptera frugiperda*) - FLORIDA - Damaged leaves of all sweet corn [55-day maturity] plants; Palm Beach County--infested 12-15% of corn ears in commercial field at Boynton Beach by September 27. (Poe).

CORN ROOTWORMS (*Diabrotica* spp.) - UTAH - Box Elder, Davis, and Cache Counties--WESTERN CORN ROOTWORM (*D. virgifera*) moderately damaged canning corn fields week ending September 29. (Duncan). INDIANA - New county record. Washington County--1 *D. virgifera* adult collected on grain corn near Millport July 6, 1978. Collected by J. Dill. Determined by D. Leva. First adults this year in several west-central and northwestern areas. (Meyer). WEST VIRGINIA - New county record. Jefferson County--NORTHERN CORN ROOTWORM (*D. longicornis*) adults collected on corn at Ranson, August 30, 1978. Collected and determined by J.D. Hacker. (Hacker).

SMALL GRAINS

DISEASES

A SEEDLING BLIGHT (*Helminthosporium* sp.) - KANSAS - Symptoms in nearly every wheat field surveyed week ending October 6. Prevalence by county:

Saline--20-30%, Ottawa--5-10%, and Clay--10-20%. Seed treatment for Helminthosporium sp. less than 25% in fields surveyed. (Sim).

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Status on wheat by county week ending October 6: Southern Murray--destroyed wheat field, Pontotoc--larvae ranged 3-6 per 0.09 sq m (sq ft) of wheat and rye, Garvin--light to moderate on wheat, Ellis--averaged 1 per 0.09 sq m of wheat in some areas, and Jackson--very light on volunteer wheat. (Arnold).

KANSAS - Fall armyworm status on wheat by county week ending September 29: Edwards, Pawnee, and Ford--none in 3 fields [1 tiller]; Pawnee--infested tillers 90% and 0% in 2 volunteer fields; Barton--infested tillers 50% (some fresh eggs) and trace in 2 volunteer fields; Ford--infested tillers 0 to trace in 5 volunteer fields; and Barber, Pratt, Stafford, Edwards, and Kiowa--no larvae in several volunteer fields. Kiowa County--significant adult catch in blacklight trap at Haviland, 45 taken September 28. (Salsbury). Sedgwick County--heavy flights in Mt. Hope according to blacklight trap catches week ending October 6. Damage to small grains and alfalfa by larvae originating from a flight could be serious if mild weather predominates during October; larvae adversely affected by cool weather. (Bell).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - McCurtain County--destroyed large wheat field week ending October 6. South-central counties--damage heavy. (Arnold).

WHEAT STEM MAGGOT (Meromyza americana) - KANSAS - Kiowa County--heavy in wheat [1-2 tiller] in 1 field week ending October 6. (Salsbury, Hesser).

TURF, PASTURES, RANGELAND

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - ARKANSAS - Southwestern area--larvae continued to cause concern to hay growers, especially in Hempstead County week ending September 29. (Wall).

FORAGE LEGUMES

DISEASES

ALFALFA RUST (Uromyces striatus var. medicaginis) - KANSAS - Prevalence on alfalfa by county week ending September 29: Clay--5-10%, Washington--10%, and Republic--10-100%, some defoliation where infection 100%; week ending October 6: Dickinson--1%, Ottawa--70-100% with defoliation, and Clay--100% with defoliation. (Sim).

SUMMER BLACK STEM (Cercospora zebrina) - KANSAS - Prevalence on alfalfa by county (1 field each) week ending September 29: Clay--trace and Washington--5%. (Sim).

SPRING BLACK STEM (Phoma medicaginis) - KANSAS - Saline County--prevalence 5% in 1 alfalfa field week ending October 6. (Sim).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Torrance County--adults 1-4 and larvae 2-3 per 25 sweeps of alfalfa near McIntosh week ending September 29. (Heninger). NORTH DAKOTA - New county records. Renville and Burke Counties--larvae 28 and 20 per 100 sweeps of alfalfa, respectively, in rural areas. Collected and determined by W.J. Brandvik, June 27, 1978. (Brandvik).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larval counts on alfalfa by county week ending September 29: Maricopa--50 per 3 sweeps and Pinal--22 per 100 plants. (Brooks et al.).

FALL ARMYWORM (Spodoptera frugiperda) - MISSOURI - Southwestern area--small larvae 0-16 per 10 sweeps, light to moderate in 3 alfalfa fields week ending September 29. (Munson).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - OKLAHOMA - New county record. Jackson County--few specimens collected from alfalfa near Altus, April 18, 1978. Collected and determined by R.C. Berberet. (Arnold).

PEA APHID (Acyrtosiphon pisum) - NEW MEXICO - Torrance County--adults and nymphs ranged 50-150 per 25 sweeps of alfalfa at McIntosh week ending September 29. (Heninger).

POTATO LEAFHOPPER (Empoasca fabae) - OHIO - Franklin County--adults 1.3 per sweep (above economic threshold) of 25-cm (10-in) alfalfa week ending September 29. No damage expected this year. (Drees).

SOYBEANS

DISEASES

SOYBEAN POD AND STEM BLIGHT (Diaporthe phaseolorum var. sojae) - KANSAS - First of season. Cloud County--prevalence trace in soybean field week ending September 29. Dickinson County--prevalence trace in soybean field week ending October 6. (Sim). MISSOURI - Audrain, Boone, Callaway, Howard, Monroe, and Randolph Counties--prevalence 20-40% on soybean [mostly mature] stems and less than 17% on pods October 2-6. (Foudin).

IOWA - Prevalence of soybean pod and stem blight on soybeans [pod fill to physiologic maturity] by county in surveyed fields September 6-20: Cherokee--70-99%, Calhoun--90%, Cerro Gordo and O'Brien--99%, Jones--trace and Hancock--15-20%. (Williams).

ILLINOIS - Prevalence of soybean pod and stem blight [harvest maturity unless stated otherwise] on stems by county (1 commercial field each) week of September 18: Vermilion--10%, Iroquois--2% [pod yellowing], Kankakee--25% [pod yellowing], Will--12% [pod yellowing], Kendall--30%, Kane--25%, Grundy--40%, Livingston--20%, and Ford--50%; pods with disease symptoms trace to 1% in fields surveyed for soybean pod and stem blight; week of September 25: Piatt--30%, De Witt--90%, Shelby--40%, Moultrie--10%, and Coles--30%. (Jordan).

INDIANA - Incidence of soybean pod and stem blight on stems/incidence on pods on soybeans [harvest maturity unless stated otherwise] by county September 24-30: Montgomery--15%/0%, Parke--10%/0%, Clay--20%/4% [pod yellowing], Daviess--0%/0% [pod yellowing], Knox--60%/0%, Gibson--20%/trace [pod

yellowing], for soybean pod and stem blight, Posey--0%/0% [pod yellowing], Dubois--0%/0%, and Lawrence--0%/0%; averaged 14%/trace in 9 sites. (Schall).

OHIO - Prevalence of soybean pod and stem blight on soybeans by county (1 field each) week ending September 22: Perry--20% on stems [seed full size]. Pycnidia heavy on stems only, occurred with anthracnose on about 20% of stems, stems dead or dying from unknown causes; and Knox--50% on pods [pods yellowing]. Pycnidia on few pods on about 50% of plants, infected pods on lower one-third of most plants. Week ending September 29: Clark and Ross--99% on stems only and Clinton--50-100% on stems only [pod yellowing]. Appeared to cause death of stems due to natural ripening, does not seem to cause moldy seed. Pycnidia on occasional pods. (Hite).

SOYBEAN STEM CANKER (*Diaporthe phaseolorum* var. *caulivora*) - ILLINOIS - Prevalence on soybeans [harvest maturity unless stated otherwise] by county (1 commercial field each) week of September 18: Vermilion--1%, Iroquois--3% [pod yellowing], Will--1% [pod yellowing], Kendall--1%, Grundy--2%, and Ford--2%. (Jordan).

CHARCOAL ROT (*Macrophomina phaseolina*) - KANSAS - Statewide--most wide-spread soybean disease week ending September 29. Prevalence on soybeans by county: Geary--100%, Morris--5%, McPherson--40%, Harvey--60%, Washington--100%, and Cloud--90%. (Sim). MISSOURI - Audrain, Boone, Callaway, Howard, Monroe, and Randolph Counties--prevalence 100% in roots and lower stems of soybeans [mostly mature] October 2-6. (Foudin).

ILLINOIS - Prevalence of charcoal rot on soybeans [harvest maturity] by county (1 commercial field each) week of September 18: Grundy--5%, Livingston--4%, and Ford--10%; week of September 25: Piatt--10%, De Witt--5%, Shelby--20%, Moultrie--20%, and Coles--25%. (Jordan).

INDIANA - Prevalence of charcoal rot on soybeans [harvest maturity unless stated otherwise] by county September 24-30: Montgomery--0%, Parke--35%, Clay--0% [pod yellowing], Daviess--0% [pod yellowing], Knox--80%, Gibson--10% [pod yellowing], Posey--0% [pod yellowing], Dubois--25%, and Lawrence--10%; averaged 18% in 9 sites. (Schall).

SOYBEAN (TRUNCATA) ANTHRACNOSE (*Colletotrichum dematium* var. *truncata*) - MISSOURI - Audrain, Boone, Callaway, Howard, Monroe, and Randolph Counties--prevalence 30-40% on soybean [mostly mature] stems October 2-6. (Foudin). ILLINOIS - Prevalence on soybeans [harvest maturity] by county (1 commercial field each) week of September 18: Vermilion--2%; week of September 25: Piatt--5%, De Witt--20%, Shelby--10%, Moultrie--5%, and Coles--2%. (Jordan).

OHIO - Perry County--prevalence of soybean (*truncata*) anthracnose 15% on soybeans [seed full size] in 1 field week ending September 22. Anthracnose acervuli very heavy on stems affected, affected stems dead from ground up, no distinct lesions. (Hite).

SOYBEAN BROWN SPOT (*Septoria glycines*) - IOWA - Prevalence/severity on soybeans [pod fill to physiologic maturity] by county in surveyed fields September 6-20: Howard--99%/trace to 40%, Palo Alto and O'Brien--99%/trace to 15%, Cherokee--20%/5%, Jones--60-90%/trace to 10%, and Hancock and Des Moines--99%/5%. (Williams). ILLINOIS - Prevalence/severity on soybeans [pod yellowing] by county (1 commercial field each) week of September 18: Iroquois--99%/50%, Kankakee--99%/30%, and Will--99%/40%. (Jordan).

OHIO - *Septoria* brown spot severe where growth heavy and soybean plants lodged week ending September 22. Wet, humid conditions increased disease development. Prevalence/severity on soybeans [pod yellowing unless stated otherwise] by county (1 field each): Ashland--99%/50-60%, Knox--99%/90%, and Perry--99%/80% [seed full size]. Prevalence on soybeans [harvest maturity unless stated otherwise] by county (1 field each) week ending September 29: Clark, Preble, and Ross--99% and Clinton--99% [pod yellowing]. Severities cannot be accurately estimated due to advanced defoliation with natural maturity. (Hite).

BROWN STEM ROT (*Phialophora gregata*) - IOWA - Prevalence on soybeans [pod fill to physiologic maturity] by county in surveyed fields September 6-20: Cherokee--10%, Calhoun--10-30%, O'Brien--75%, Jones--60%, Des Moines--80%, and Cerro Gordo, Kossuth, and Hancock--10-20%. (Williams). ILLINOIS-- Prevalence on soybeans [harvest maturity] by county (1 commercial field each) week of September 18: Vermilion--5%, Iroquois--5% [pod yellowing], Kankakee--3% [pod yellowing], Kendall--5%, Grundy--20%, Livingston--3%, and Ford--4%. (Jordan).

SOYBEAN DOWNY MILDEW (*Peronospora manshurica*) - IOWA - Prevalence/severity on soybeans [pod fill to physiologic maturity] by county in surveyed fields September 6-20: Palo Alto--5%/trace to 10%, Louisa and Des Moines--99%/15%, and Lee--80-99%/3-10%. (Williams). ILLINOIS - Prevalence/severity on soybeans [pod yellowing] by county (1 commercial field each) week of September 18: Iroquois--99%/3-6%, Kankakee--99%/1-3%, and Will--99%/trace. (Jordan). OHIO - Ashland and Knox Counties (1 field each)--prevalence 99%/severity 1-5% in late-planted soybeans [seed development] week ending September 23. (Hite).

DIFFUSA POWDERY MILDEW (*Microsphaera diffusa*) - IOWA - Prevalence/severity on soybeans [pod fill to physiologic maturity] by county in surveyed fields September 6-20: Howard--10%/trace to 25%, and Allamakee--trace to 5%/trace to 10%. (Williams).

SEED PURPLE STAIN (*Cercospora kikuchii*) - ILLINOIS - Piatt, De Witt, Shelby, Moultrie, and Coles Counties--prevalence trace to 1% on soybean [harvest maturity] seed in commercial fields week of September 25. (Jordan). INDIANA - Prevalence of discolored seeds on soybeans [harvest maturity unless stated otherwise] by county September 24-30: Montgomery--0%, Parke--2%, Clay--4% [pod yellowing], Daviess--0% [pod yellowing], Knox--0%, Gibson--0% [pod yellowing], Posey--2% [pod yellowing], Dubois--14%, and Lawrence--36%; averaged 6% in 9 sites. (Schall). OHIO - Knox County--prevalence 5% on soybeans [pod yellowing] in 1 field week ending September 22. (Hite).

SOYBEAN BACTERIAL BLIGHT (*Pseudomonas glycinea*) - IOWA - Prevalence/severity on soybeans [pod fill to physiologic maturity] by county in surveyed fields September 6-20: Cherokee--90%/3-10%, Calhoun--90%/5-10%, Palo Alto--90%/trace to 5%, Jones--80%/trace to 5%, and Des Moines and Lee--99%/15%. (Williams). ILLINOIS - Prevalence/severity on soybeans [pod yellowing] by county (1 commercial field each) week of September 18: Iroquois--99%/1-3%, Kankakee--99%/1-3%, and Will--99%/1-3%. (Jordan).

BACTERIAL PUSTULE (*Xanthomonas phaseoli* var. *sojense*) - KANSAS - Dickinson County--prevalence 40% in late-planted soybean field week ending October 6. (Sim). IOWA - Prevalence/severity on soybeans [pod fill to physiologic maturity] by county in surveyed fields September 6-20: Jones--70%/trace and Hancock--50%/3%. (Williams).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Two new county records. Hickman County--newly infested 5 of 15 soybean fields August 18, 1977: 2 at Centerville, 1 between Coble and Shipps Bend, 1 at Pinewood, and 1 at Littlelot. Lewis County--newly infested 2 of 11 soybean fields at North Riverside, August 19, 1977. All collected by P.D. Foster and determined by R.E. Harrison. (Gordon). Number of newly infested soybean fields surveyed by county week ending September 29: Williamson--1 of 14 and Macon--2 of 9. (Harrison et al.).

MINNESOTA - New State record for soybean cyst nematode. Faribault County--immature female cysts and larvae in center of soybean field about 32 ha (80 acres) near Frost. Collected by W. Lueschen, August 29, 1978. Determined by D.H. MacDonald; confirmed by A.M. Golden. (Sreenivasam).

SOYBEAN MOSAIC POTYVIRUS - ILLINOIS - Prevalence of symptoms on commercial soybeans [harvest maturity unless stated otherwise] by county week of September 18: Vermilion, Iroquois [pod yellowing], Kankakee [pod yellowing], Will [pod yellowing], Kendall, Kane, Grundy, Livingston, and Ford--on few scattered plants; week of September 25: Piatt, De Witt, Shelby, Moultrie, and Coles--on few scattered plants. (Jordan).

INDIANA - Prevalence of mottled soybean [harvest maturity unless stated otherwise] seed caused by soybean mosaic potyvirus by county September 24-30: Montgomery--0%, Parke--0%, Clay--0% [pod yellowing], Daviess--0% [pod yellowing], Knox--0%, Gibson--2% [pod yellowing], Posey--0% [pod yellowing], Dubois--0%, and Lawrence--0%; averaged trace in 9 sites. (Schall).

TOBACCO RINGSPOT NEPOVIRUS - ILLINOIS - Prevalence of bud blight symptoms in commercial soybeans [harvest maturity unless stated otherwise] by county week of September 18: Vermilion, Iroquois, Will [pod yellowing], Kendall, Kane, Grundy, Livingston, and Ford--trace to 2%; week of September 25: Piatt, De Witt, Shelby, Moultrie, and Coles--trace to 1%. (Jordan).

INSECTS

SOYBEAN LOOPER (Pseudoplusia includens) - FLORIDA - Alachua and Levy Counties--treatments applied to about 20% of soybean fields in mostly these counties week ending September 29. (Baker). NORTH CAROLINA - Wilson, Edgecombe, Halifax, and Martin Counties--severely defoliated 3 of 30 soybean fields, total of 24 ha (60 acres) week ending September 29. Most severe infestations in fields that received drift from cotton insecticide treatments. (Hunt).

SOUTHERN ARMYWORM (Spodoptera eridania) - NORTH CAROLINA - Central Tidewater counties--damaging levels on soybeans week ending September 29. Washington, Tyrrell, and Hyde Counties--undamaged pokeweed scarce, soybean defoliation severe where pokeweed destroyed. Extent of infestation unknown, yield loss expected in late soybean fields. Rarely problem in State. (Van Duyn).

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) - MISSISSIPPI - Southern area--larvae heavy in some areas on late-planted soybeans week ending September 29. Damaging populations seem confined to southern part of State. (Anderson).

GREEN STINK BUG (Acrosternum hilare) - MISSISSIPPI - Statewide--adults and nymphs of this species and SOUTHERN GREEN STINK BUG (Nezara viridula) continued increase on soybeans [pod fill]. Oktibbeha and Lowndes Counties--averaged 0.71 per 0.3 row m (row ft). Southern area--4 per 0.3 row m. (Anderson).

PEANUTS

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - Levy County--this species and SOUTHERN ARMYWORM (S. eridania) economic on 16 ha (40 acres) of peanuts 13 km (8 miles) south of Chiefland week ending September 29. (Baker).

COTTON

INSECTS

BOLLWORM (Heliothis zea) - ARIZONA - Larval and egg counts, respectively, on cotton by county week ending September 29: Maricopa--2-36 and 20-120 per 100 plants, Pinal--6 and 111 per 100 terminals, Yuma--7-10 and 0 per 100 terminals, and Graham--2 and 75 per 100 plants. (Pilling et al.).

POTATOES, TOMATOES, PEPPERS

DISEASES

TOMATO ASPERMY CUCUMOVIRUS - CALIFORNIA - Yolo County--infested 0.1% of 20-ha (50-acre) tomato field, September 8. Seldom found in State. (Mayhew).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - MISSISSIPPI - Alcorn County--larval damage moderate to heavy to commercial pimento pepper planting week ending September 29. Larvae bored into stem causing plant to die, also damaged fruit. Controls unsuccessful. (Cochran).

BEANS AND PEAS

DISEASES

BEAN ANTHRACNOSE 'gamma' strain (Colletotrichum lindemuthianum) - MICHIGAN - New State record for gamma strain. Isabella County--reported on Phaseolus vulgaris cv. Redcloud light red kidney bean at Remus, August 31, 1978. Collected by A.L. Andersen. Determined by A.W. Saettler. This strain first found in New York in 1923. Has not apparently been reported from other States since then. (Singh).

INSECTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Beckham County--destroyed commercial snap bean planting. Infested 75% of blackeyed pea planting, only 10% were destroyed. (Arnold).

CUCURBITS

INSECTS

SQUASH BUG (Anasa tristis) - TEXAS - New county record. Bexar County--1 adult collected on squash at residence at San Antonio, July 23, 1978, by N.M. Moritz. Determined by R.L. Hodgdon. (Jackman).

GENERAL VEGETABLES

INSECTS

CORN EARWORM (Heliothis zea) - ARIZONA - Larval and egg counts, respectively, on lettuce by county week ending September 29: Maricopa--1 and 2 per plant, Pinal--4 and 27 per 50 plants, and Graham--1 and 2 per 50 plants. (Berens et al.).

DECIDUOUS FRUITS AND NUTS

INSECTS

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Rogers County--adults increased recently in a pecan orchard. Counts in light trap: 10 on September 28, 34 on September 29, 23 on September 30, 15 on October 1, and 15 on October 2.* (Arnold).

FOREST AND SHADE TREES

INSECTS

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NORTH DAKOTA - New county record. Traill County--adults collected from multilure pheromone sticky board trap in American elm tree in rural area, June 26, 1978. Collected by C.G. Scholl. Determined by R.B. Carlson. (Carlson, Scholl).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - NORTH DAKOTA - New county records. Adults trapped on American elm in rural areas of Griggs County on June 28, 1978, and Steele County on June 1, 1978. Collected and determined by C.G. Scholl. (Scholl).

ELM LEAF BEETLE (Pyrrhalta luteola) - WISCONSIN - New county record. Washburn County--adults on native elm logs brought into home at Spooner, May 19, 1978. Collected by J. Ranallo. Determined by P. Pellitteri. (Lovett).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - OKLAHOMA - Counts per head of cattle by county week ending October 6: Johnston--200-600, Atoka--100-300, Garvin--heavy, and north-central counties--decreased rapidly. (Arnold).

NEBRASKA - Lincoln and Dawson Counties--horn fly averaged about 300 per head on untreated cattle in river pastures week ending September 28 and 270 per head week ending October 5. (Campbell). FLORIDA - Alachua County--adults averaged 113 per head in small beef herd at Gainesville week ending September 29. (Endris).

FACE FLY (*Musca autumnalis*) - NEBRASKA - Dawson and Lincoln Counties--averaged 10 per face on untreated cattle week ending September 29 and 9 per face week ending October 5. (Campbell). OKLAHOMA - Osage County--entering overwintering quarters, very few still on cattle week ending October 6. (Arnold).

STABLE FLY (*Stomoxys calcitrans*) - NEBRASKA - Dawson and Lincoln Counties--averages per leg on untreated cattle in feedlots: 20 week ending September 29 and 18 week ending October 5. (Campbell).

FEDERAL AND STATE PROGRAMS

INSECTS

GRASSHOPPERS - NEW MEXICO - Torrance County--0.5 per 25 sweeps of alfalfa week ending September 29. (Heninger). COLORADO - Eastern Washington County--*Melanoplus* spp. destroyed up to 10 drill row widths of winter wheat on some margins. Adults averaged 6-8 per 0.8 sq m (sq yd). (Pilcher, Hantsbarger). OKLAHOMA - Johnston County--moderate to heavy in home gardens. Garfield and Grant Counties--mostly *M. sanguinipes* 1-5 per 0.8 sq m in yards and gardens. (Arnold).

KANSAS - Grasshopper status on wheat week ending September 29. Hamilton, Greeley, Wichita, Wallace, and Sherman Counties--margin treating common in all but Sherman County. Wallace County--additional 13 m (14 yds) of margin eaten to ground level. Wichita County--margin damage and grasshopper counts unchanged in 1 field with 7 m (8 yds) previously reported lost and 8 grasshoppers per 0.8 sq m (sq yd), in area of heaviest concentration. Both fields treated previously. Much of wheat [3 tillers] more resistant than past period [mostly 1 tiller]. Cooler temperatures probably slowed feeding. Wallace and Sherman Counties--margin damage in few more fields between Sharon Springs and Goodland, respectively. Cheyenne and Phillips Counties--margin damage none to trace along U.S. Highway 36 from Wheeler to Phillipsburg, respectively, but most wheat just emerging.

Stanton County--occasional wheat fields with margin loss of 2-8 m (2-9 yds) due to grasshoppers in western section; some treating. Morton, Stevens, and Grant Counties--very few irrigated fields adjacent to stubble fields with potential for grasshopper problems; many stubble fields undercut at earlier date made fields unfavorable for grasshopper survival. Much planting still underway, not much wheat emerged except in Stanton and Grant Counties. Irrigated wheat much less susceptible to damage due to high plant densities as opposed to dryland wheat. Wheat seeding in Kansas 20% complete September 25 compared with 40% same time in 1977. (Bell).

Grasshopper status in Kansas on wheat week of October 6. Scott, Logan, and Wichita Counties--damage by mostly *M. sanguinipes* amounted to margin losses of 2-11 m (2-12 yds) in scattered areas. Gove County--occasional field margin damage. Sheridan and Trego Counties--seldom seen. Losses mostly where grasshoppers migrated from adjacent stubble fields and occasionally where they migrated from adjacent pastures. (Bell). Greeley County--long distant group flights first noted September 29. Groups of a few up to possibly as many as 1,000 reached altitudes of 4.6-9.1 m (15-30 ft) and flew towards the southwest. (Shuman). Comanche County--mostly *Ageneotettix deorum* caused about 3-4 m (3-4 yds) of wheat [1 tiller] margin loss in 1 field. First report from area. (Salsbury).

JAPANESE BEETLE (Popillia japonica) - TENNESSEE - Eastern counties--larvae heavy, 20-25 per 0.09 sq m (sq ft) in some areas and 0-5, 6, 8, or 10 per 0.09 sq m in others week ending September 29. Carter County--Bacillus sp. (milky disease) symptoms in 5% of larvae in areas with 20 per 0.09 sq m. Heavy populations expected in 1979. (Klostermeyer, Williams).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Infested cotton bolls by county week ending September 29: Maricopa--0-8%, Pinal--1-3%, and Yuma--12%. (Hall et al.).

SCREWORM (Cochliomyia hominivorax) - Total of 720 cases reported from continental United States September 3-16 as follows: Texas 161, New Mexico 192, Arizona 342, California 17, Colorado 3, unknown States 5. (Meadows). Total of 699 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 1,470 cases reported in Mexico south of Barrier Zone. (Williams, Smith).

DETECTION

NEW STATE AND U.S. VIRGIN ISLAND RECORDS

DISEASES

BEAN ANTHRACNOSE 'gamma' strain (Colletotrichum lindemuthianum) - MICHIGAN - Isabella County. (p. 575).

SOYBEAN CYST NEMATODE (Heterodera glycines) - MINNESOTA - Faribault County. (p. 574).

INSECTS

A WEEVIL (Hypera castor) - NORTH DAKOTA - McKenzie County--collected from soil core in rural areas on October 8, 1976. Collected by P.K. Lago and S. Kurtz. Determined by D.R. Whitehead. (Lago, Kurtz).

A DIASPIDID SCALE (Odonaspis ruthae) - U.S. VIRGIN ISLANDS - Collected from undetermined grass species at agriculture station on St. Croix by C.E. Miller, March 18, 1978. Determined by S. Nakahara. Known from continental United States and Puerto Rico. (C.E. Miller).

A MEALYBUG (Brevinnia rehi) - U.S. VIRGIN ISLANDS - Collected from undetermined grass species at Long Point, St. Thomas, by C.E. Miller and R. Cole, June 26, 1978. Determined by S. Nakahara. Known from continental United States and Puerto Rico. (C.E. Miller).

NEW COUNTY AND ISLAND RECORDS

DISEASES

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Hickman and Lewis. (p. 574).

INSECTS

ALFALFA WEEVIL (Hypera postica) - NORTH DAKOTA - Renville and Burke. (p. 571)

AN ANT (Formica pallidefulva pallidefulva) - OKLAHOMA - Pontotoc County-- found near residence near Ada, May 11, 1978. Collected by R. Robinson. Determined by K. Pinkston. (Arnold).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - OKLAHOMA - Jackson. (p. 571).

ELM LEAF BEETLE (Pyrrhalta luteola) - WISCONSIN - Washburn. (p. 576).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - NORTH DAKOTA - Griggs and Steele. (p. 576).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WEST VIRGINIA - Jefferson. (p. 569).

ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) - HAWAII - Molokai. (p. 579).

A RHOPALID BUG (Brachycarenum tigrinus) - NEW JERSEY - Camden County--10 adults taken on grasses at Camden, August 4, 1978, by B.C. Emens. Determined by F. Krim; confirmed by E.R. Hoebeke. (Hoebeke).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NORTH DAKOTA - Traill. (p. 576).

SQUASH BUG (Anasa tristis) - TEXAS - Bexar. (p. 576).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - INDIANA - Washington. (p. 569).

CORRECTIONS

CPPR 3(39):557 - SOYBEAN DOWNY MILDEW (Peronospora manshurica) - INDIANA - "Soybean downy mildew prevalence on soybeans [seed full size]..." should read "Soybean downy mildew prevalence on soybean seed [seed full size]..."

CPPR 3(39):559 - PALES WEEVIL (Hylobius pales) - OHIO - "... pupation and egg hatch underway ..." should read "... pupation and adult eclosion underway ..." (PPQ). "... overwintering hibernaculum ..." should read "... overwintering hibernacula ..." (Dunlap).

HAWAII PEST REPORT

General Vegetables - VEGETABLE LEAFMINER (Liriomyza sativae) moderate to heavy on 0.4 ha (1 acre) of cucumber at Nanakuli and Waianae, Oahu. (Lai, Murai).

Fruits and Nuts - New island record. ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) infestations moderate on citrus tree at Kaunakakai, Molokai, on September 29, 1978. Collected and determined by J.W. Beardsley. (Beardsley).

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Coniothyrium atriplicinum</u> Wint. a fungus Det. F. G. Pollack	imperfect	on debris with <u>Atriplex</u> seed from cargo	Chile	Los Angeles	CA
<u>Aleurodicus dugesii</u> Cockerell a whitefly Det. S. Nakahara	pupal	on leaves of <u>Hibiscus</u> cuttings	Mexico	El Paso	TX
<u>Coccus psidii</u> (Green) a soft scale Det. S. Nakahara	adult	on leaves of <u>Cordyline</u> plants from cargo	Singapore	Los Angeles	CA
<u>Cryptoblabes gnidiella</u> (Milliere) a pyralid moth Det. R. S. Taylor	larval	on pomegranates from baggage	Greece	Detroit	MI
<u>Diachrysa orichalcea</u> (Fabricius) a noctuid moth Det. E. L. Todd	adult	in holds of military aircraft	Azores	Morehead City	NC
<u>Kalotermes flavicollis</u> (Fabricius) a termite Det. D. Smith	adult	with air cargo	France	Los Angeles	CA
<u>Cochlicella ventrosa</u> (Ferussac) a helicid snail Det. R. Munkittrick	adult	on vans of military household goods	Greece	Houston	TX
<u>Otala vermiculata</u> (Müller) a helicid snail Det. R. S. Taylor	adult	in baggage for food	Greece	Detroit	MI

A New Species of Phytoliriomyza Hendel Feeding on Jacaranda
in California (Diptera: Agromyzidae)

George C. Steyskal ^{1/} and Kenneth A. Spencer ^{2/}

ABSTRACT. Some general notes on the genus Phytoliriomyza are given, including a summary of the chief differences between Phytoliriomyza and Liriomyza. The new species Phytoliriomyza jacarandae, found mining in the leaves of Jacaranda mimosifolia D. Don (Bignoniaceae), is described from San Diego, California. One hymenopteran parasite of the fly is recorded.

In November 1972, leaf mines were found on Jacaranda mimosifolia D. Don), a favored ornamental tree, caused by a small yellow fly representing an undescribed species of Phytoliriomyza Hendel.

Two species of Phytoliriomyza have hitherto been known in California - P. arctica (Lundbeck) (identified as immaculata Coquillett) and P. imperfecta (Malloch) (identified as perpusilla Meigen) (Frick 1959). Twelve species have now been confirmed in California by the junior author (Spencer in preparation).

The genera Phytoliriomyza and Liriomyza partially overlap on external characters. Species with the orbital setulae clearly proclinate (arctica group), with the scutellum gray, or with the halteres distinctly darkened, are readily referable to Phytoliriomyza. Others with the orbital setulae irregularly upright and the scutellum yellow were previously included in Liriomyza, but the male terminalia, with a conspicuous comb of bristles on the surstyli and an irregular arrangement of strong spines on the inner margin of the epandrium (cf. Spencer 1969: Fig. 351, 355), indicate their correct generic position in Phytoliriomyza. The new species on Jacaranda has this distinctive arrangement of bristles within the epandrium (Fig. 3c).

Von Tschirnhaus (1971) discovered in males of Liriomyza species a stridulating mechanism consisting of a scraper (a sharp chitinized ridge on the hind femora) and a file (a line of chitinized scales) along the connecting membrane between the abdominal tergites and sternites. This mechanism is lacking in Phytoliriomyza and is the most important single character for separating the 2 genera, but as it cannot be applied to females and is not always easily detectable, its value for the practical taxonomist is limited.

Work in recent years has greatly increased our knowledge of the genus Phytoliriomyza. Eight years ago, only 13 world species were known (Spencer 1969). The total now exceeds 60, with the greatest proliferation of species surprisingly in Australia, where 19 species are known (Spencer in press), and 6 species have been recorded in New Zealand (Spencer 1976b). Ten species are known in Scandinavia (Spencer 1976a).

Jacaranda is not native to California but over 50 species are known in the West Indies and tropical South America. It therefore seems reasonably certain that this new leafminer has either been introduced into California with its host plant or has colonized it from farther south.

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(Fig. 1-5)

Head (Fig. 1): Frons broad, twice width of eye, distinctly projecting along eye in profile; 4 orbital bristles, the upper reclinate, strongest, the lower 3 partially incurved; orbital setulae sparse, reclinate; eye slanting, jaws broad, extended at rear, half height of eye; 3rd antennal segment small, round with distinct fringe of pubescence.

Mesonotum: 3 + 1 differentiated dorsocentrals, 4th small, little more than half length of 3rd, 3 further minute bristles beyond 4th; acrostichals in 2 rows, extending irregularly to 1st dorsocentral.

Wings (Fig. 2): Length from 1.4 mm in male to 1.6 mm in female; discal cell small, last section of vein M_{3+4} 3 times length of penultimate section.

Color: All bristles yellowish; mesonotum entirely pale, basically yellow, with 3 rusty-reddish bands, central band extending just beyond level of 1st dorsocentral; scutellum yellow, without darker patches laterally; humerus and pleura entirely pale yellow, apart from a rusty-reddish triangle at base of sternopleuron; coxae and femora pale yellow, tibiae and tarsi only slightly darker, yellowish orange; squamae, including margin and fringe, pale; halteres whitish yellow.

Male terminalia: Aedeagus (Fig. 3a) with distiphallus curving dorsally, divided but with a membranous connection; sperm pump (Fig. 3b) with blade narrow and base weakly sclerotized; hypandrium with narrow sidearms and a distinct apodeme; surstyli discrete, with 3 weak bristles, inner margin of epandrium with a row of 4 or 5 short, stout spines (Fig. 3c).

Female terminalia: Ovipositor sheath (Fig. 4a) with quadrate black basidorsal marking, otherwise yellow, and with long dorsal apodeme forming closed tube from anterior end to point indicated by arrow in Fig. 4a, into which ovipositor is withdrawn with cerci directed anteriorly (not merely telescoped); rasper extensive and heavy; ovipositor as in Fig. 4d; each pair of egg guides (Fig. 4b) cuneate, sharply pointed, and with smooth margins; spermathecae (Fig. 4c) lenticular, diameter about 0.075 mm.

Host plant and early stages: Jacaranda mimosifolia D. Don (Bignoniaceae); larvae in the 1st instar forming a short linear mine, which later develops into an irregular blotch eventually completely filling a single leaflet; larval mouth hooks with 2 teeth (Fig. 5c); puparium brown, each segmental boundary with band of short strong spinules which increase in width laterally (Fig. 5a) and small circular group of spinules each side of anus (Fig. 5b); posterior spiracles each on short projection, with 3 bulbs.

Holotype ♂, California: San Diego, 1.XI.1972 (Buckner/Kenyon), reared from leaf mines on J. mimosifolia; paratypes: 22 ♂, 26 ♀, same data; 15 ♀, San Diego, 9.XI.1972 (G. Buxton/R. Buckner), swept from jacaranda tree. Holotype No. 75470 and paratypes in U.S. National Museum; further paratypes in collections of the California Academy of Sciences, San Francisco; Department of Agriculture, Sacramento; and junior author.

The parasite Zagrammosoma nigrolineatum Crawford (Eulophidae, Chalcidoidea, Hymenoptera) has been reared from Phytoliriomyza jacarandae. This minute wasp has also been reared in California from Asphondylia sp. (Cecidomyiidae, Diptera) and from the microlepidoptera Nepticula sp. and Recurvaria milleri Busck in other host plants. We are indebted to Dr. Gordon Gordh for the determination of this parasite.

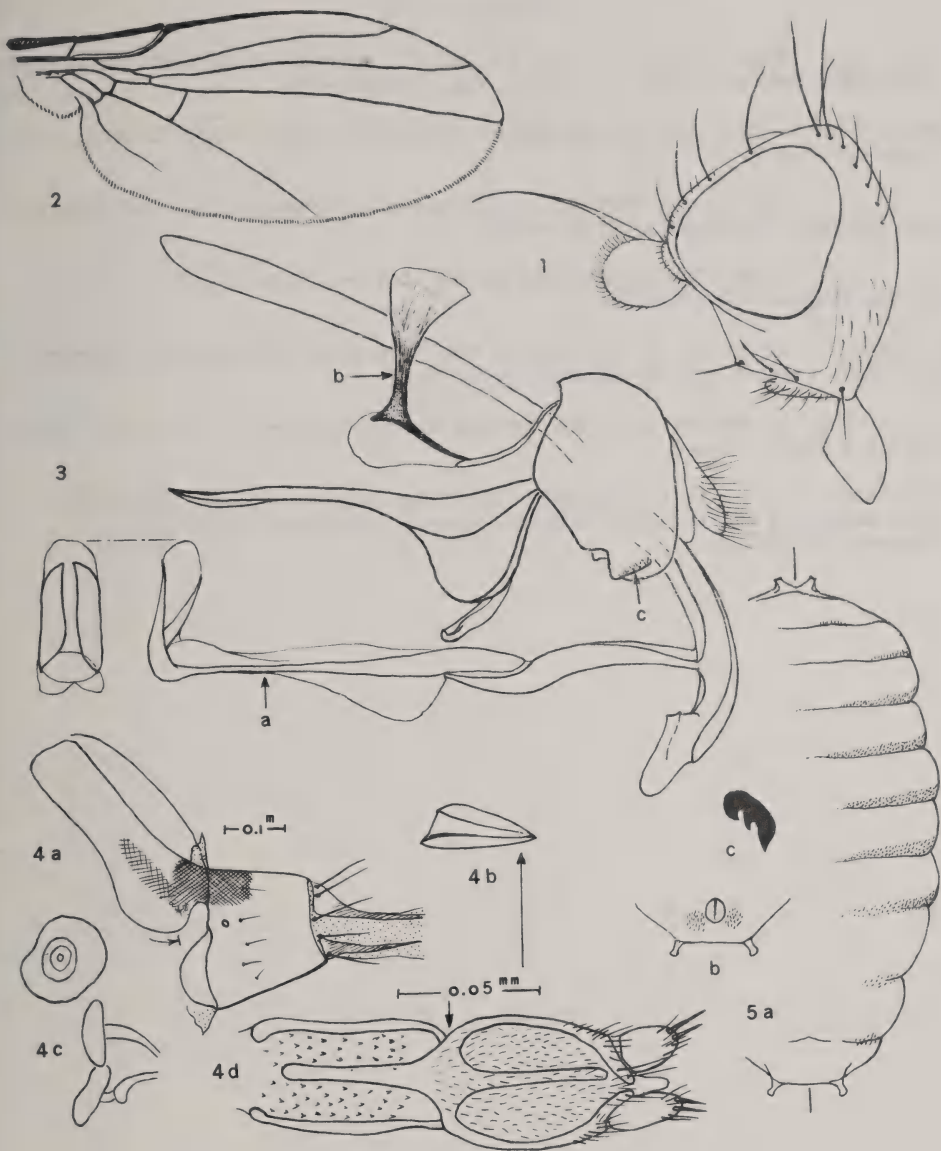


Fig. 1-5. *Phytomyza jacarandae* Steyskal & Spencer. 1, head. 2, wing. 3, male terminalia: a, aedeagus; b, sperm pump; c, row of spines on inner margin of epandrium. 4, female terminalia: a, lateral view, less ovipositor; b, egg guide; c, spermathecae; one in abductal view; d, ovipositor, ventral view. 5, puparium: a, dorsal view, less part of left side; b, ventral view of posterior end; c, larval mouth hook removed from puparium.

References Cited

- Frick, K.E. 1959. Synopsis of the species of agromyzid leafminers described from North America. Proc. U.S. Natl. Mus. 108:347-465.
- Spencer, K.A. 1969. The Agromyzidae of Canada and Alaska. Mem. Entomol. Soc. Canada 64:1-307.
- _____. 1976a. The Agromyzidae (Diptera) of Fennoscandia and Denmark. Fauna Entomol. Scandinavica 5(1):1-304.
- _____. 1976b. The Agromyzidae of New Zealand (Insecta: Diptera). J.R. Soc. New Zealand 6(2):153-211.
- _____. In press. A revision of the Australian Agromyzidae (Diptera). Spec. Publ. Western Australian Mus., Perth 6.
- _____. In preparation. The Agromyzidae of California (Diptera). Univ. California Publ. Entomol.
- Tschirnhaus, M. von. 1971. Unbekannte Stridulationsorgane bei Dipteren und ihre Bedeutung für Taxonomie und Phylogenetik des Agromyziden. Beitr. Entomol. 21:551-579.

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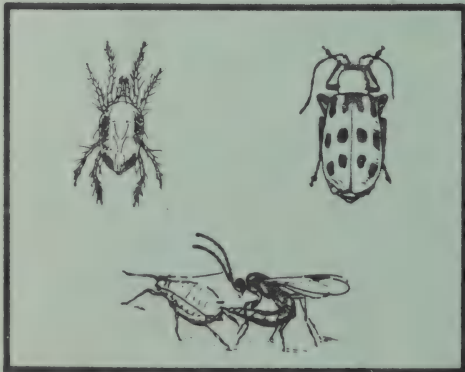


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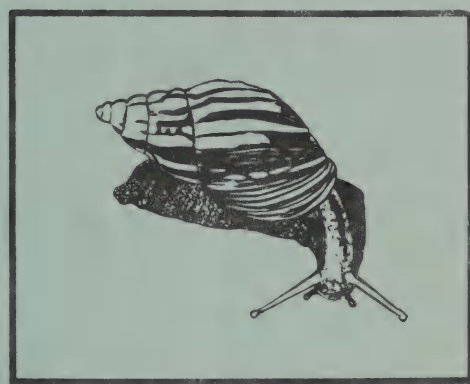
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October 20, 1978

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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

Prevalence of FUSARIUM KERNEL ROT 50% or higher on corn in parts of Ohio. (p. 589-590).

Detection

New State records include BLUE ALFALFA APHID in Washington (p. 591) and EUROPEAN CHAFER in Michigan (p. 595).

For new county records see page 595.

Reports in this issue are for the week ending October 13 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Potatoes, Tomatoes, Peppers	
Diseases.....	589	Insects.....	592
Insects.....	590		
		Cole Crops	
Small Grains		Insects.....	593
Diseases.....	590		
		Deciduous Fruits and Nuts	
Forage Legumes		Insects.....	593
Insects.....	591		
		Ornamentals	
Soybeans		Insects.....	593
Diseases.....	591		
Insects.....	592	Forest and Shade Trees	
		Insects.....	593
Cotton			
Insects.....	592		
Federal and State Programs			
Insects.....	593		
Hawaii Pest Report.....	594		
Detection.....	595		
Light Trap Collections.....	596		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	597		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON MAIZE RUST (Puccinia sorghi) - OHIO - Prevalence/severity on corn [all kernels dented] by county (1 field each) week ending October 6: Hancock--99%/1-5%, Williams--99%/1-2%, Henry--99%/trace to 1% [maturity], and Seneca--99%/1-5% [maturity]. (Hite).

COMMON SMUT (Ustilago maydis) - OHIO - Prevalence on corn [maturity unless stated otherwise] by county (1 field each) week ending October 6: Henry--trace, Logan--10%, Paulding--3%, Seneca--12%, Van Wert--16%, Crawford--1-2% [all kernels dented], Delaware--1% [all kernels dented]. Unusually heavy in some corn fields. Infected stalks barren in some cases, but most with reduced ears. In fields where prevalence heaviest, infection appeared on stalk several cm (inches) below ear and seem to have developed late in season. (Hite).

CHARCOAL ROT (Macrophomina phaseolina) - ILLINOIS - Prevalence on corn [harvest maturity] by county (1 commercial field each) week of October 2: Perry--30%, St. Clair--5%, and Jackson--20%. (Jordan).

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) - ILLINOIS - Perry and Washington Counties--prevalence 2-5% on corn [harvest maturity] in commercial fields week of October 2. (Jordan).

STALK ROTS - ILLINOIS - Prevalence of GIBBERELLA STALK ROT (Gibberella (Fusarium) roseum f.sp. cerealis) and DIPLODIA STALK ROT (Diplodia maydis), respectively, on corn [harvest maturity] by county (1 commercial field each) week of October 2: Perry--10% and 5%, Washington--20% and 10%, St. Clair--30% and 10%, and Jackson--20% and 5%. (Jordan).

OHIO - Prevalence of Fusarium spp. and anthracnose stalk rots on corn [all kernels dented unless stated otherwise] by county (1 field each) week ending October 6: Crawford--18%, Delaware--25%, Hancock--30%, Hardin--95%, Williams--2%, Henry--5% [maturity], Logan--60-75% [maturity], Paulding--4% [maturity], Seneca--20% [maturity], and Van Wert--59% [maturity]. Stalk breakage severe in many fields, up to 95% in some fields. Stalks most frequently broken above ear in association with EUROPEAN CORN BORER (Ostrinia nubilalis) damage. High incidence of stalk rot appears associated with European corn borer damage to basal portion of stalks. Stalk rot severe in some fields, even where no European corn borer damage. (Hite).

EAR ROTS - ILLINOIS - Prevalence/severity of Penicillium spp. ear rot on corn [harvest maturity] ears by county (1 commercial field each) week of October 2: Perry--10%/trace to 2%, Washington--30%/trace to 5%, St. Clair--5%/trace to 2%, and Jackson--5%/trace to 1%. Asexual prevalence/severity of FUSARIUM KERNEL ROT (Gibberella (Fusarium) moniliforme) on corn [harvest maturity] ears in commercial fields by county week of October 2: Perry--5%/trace to 1%, Washington--10%/trace to 1%, St. Clair--10%/trace to 2%, and Jackson--12%/trace to 1%. Prevalence/severity of RED EAR ROT (Gibberella (Fusarium) roseum f.sp. cerealis) on corn [harvest maturity] ears by county (1 commercial field each) week of October 2: St. Clair--10%/trace to 2%, Perry--10%/trace to 1%, Jackson--20%/trace to 2%, and Washington--20%/trace to 2%. (Jordan).

OHIO - Asexual prevalence of Gibberella (Fusarium) moniliforme and other fungi on corn [all kernels dented unless stated otherwise] ear tips by county (1 field each) week ending October 6: Crawford--50%, Delaware--50%, Hancock--50-75%, Williams--99%, Henry--60% [maturity], Logan--50% [maturity], Paulding--90% [maturity], Seneca--99% [maturity], and Van Wert--70% [maturity]. Most kernel rots directly related to EUROPEAN CORN BORER (Ostrinia nubilalis), CORN EARWORM (Heliothis zea), and other insect damage. Bird damage heavy in some fields. Ears rotted when in contact with soil and when lodging severe due to stalk rot and European corn borer. Predominant fungi G. (Fusarium) moniliforme and Penicillium spp., others undoubtedly involved. (Hite).

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Percent sorghum plants internally infested by county: Jefferson--8% in 1 field, Atchison--0% in 1, Doniphan--4-16% in 3, Brown--12% in 1. (Hilbert).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - NEW MEXICO - Union, Quay, and Curry Counties--damage extensive where not effectively controlled in 40 corn fields. Lodging from less than 8% in some Curry County fields to 90% in some Quay and Union County fields. Larvae mostly in stalks below ground level, but still feeding from tassel to ground level in green stalks. (Nielsen).

CORN EARWORM (Heliothis zea) - UTAH - Cache County--infested 100% of late sweet corn in 1 field at Logan. (Thornley). MISSOURI - Southwestern area--larvae light to moderate, 0-14 per 100 heads, in 2 late-planted sorghum fields. (Munson).

FALL ARMYWORM (Spodoptera frugiperda) - NEW MEXICO - Quay and Curry Counties--larval damage heavy on corn, still feeding in stalks of late-maturing corn. (Nielsen).

CHINCH BUG (Blissus leucopterus leucopterus) - OKLAHOMA - Kiowa County--150-200 per plant in field of sudangrass. (Arnold).

SMALL GRAINS

DISEASES

RYE LEAF RUST (Puccinia recondita f.sp. secalis) - WISCONSIN - Central Sands area--general infection of winter rye, prevalence almost 100%/severity 2-3%. (Lovett).

WHEAT LEAF RUST (Puccinia recondita f.sp. tritici) - KANSAS - Kiowa, Harvey, and Pratt Counties--prevalence trace on volunteer wheat. (Salsbury).

A SEEDLING BLIGHT (Helminthosporium sp.) - KANSAS - Prevalence on wheat [1 tiller unless stated otherwise], seed treated unless stated otherwise, by county (2 fields each, second field indicated by <>): Mitchell--0% <0%, not treated>; Osborne--10% <5%>; Rooks--95% <20%, not treated>; Graham--10% [2 tiller] <50% [2 tiller]>; Sheridan--both 20% [2 tiller], not treated; Thomas--0%, not treated <20%>; Sherman--both 0% [3 tiller], not treated; Cheyenne--20% [3 tiller] <0% [3 tiller]>; Rawlins--0%, not treated <10%, not treated>; Decatur--0% [2 tiller], not treated <0%>; Norton--0%, not treated <0% [2 tiller]>; Phillips--0% [2 tiller] <0%>; and Smith (1 field)--10% [2 tiller]. (Salsbury).

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Custer, Garvin, and Murray Counties--mostly light to moderate on young wheat. (Arnold). KANSAS - Status on wheat by county: Ottawa--seriously damaged spots in 1 field near Delphos, treated (Gates); Sedgwick, Harvey, Kiowa, Kingman, Harper, and Sumner--none in 9 fields [1-3 tiller]. (Salsbury).

HESSIAN FLY (Mayetiola destructor) - KANSAS - Kiowa County--eggs averaged 1-3 per unfolded leaf in whorls of wheat [2 tiller]. (Salsbury).

GREENBUG (Schizaphis graminum) - KANSAS - Sedgwick, Harvey, Kiowa, Kingman, Harper, Sumner, and Doniphan Counties--none on wheat [1-3 tiller]. (Salsbury, Hilbert).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Status on wheat by county: Bryan--heavy on 100+ ha (300+ acres), most replanted; Blaine--damage in some areas. (Arnold).

CHINCH BUG (Blissus leucopterus leucopterus) - OKLAHOMA - Le Flore County--killed 2 to 3-ha (6 to 8-acre) spot in wheat field in northern area. (Arnold).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - KANSAS - Kiowa, Sumner, Shawnee, Atchison, and Riley Counties--no adults on alfalfa. (Salsbury et al.). WISCONSIN - Rock County--larvae 2-7 per 25 sweeps of 20-cm (8-in) alfalfa. (Lovett). INDIANA - First eggs of fall season collected October 6, averaged 2.7 (ranged 0-14) per 6.5 sq cm (sq in) sample of alfalfa. (Meyer).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Status on alfalfa by county: Maricopa--1 larva per plant, Pinal--37 larvae per 100 sweeps, and Yuma--light. (McCall et al.). OKLAHOMA - Harmon County--heavy on seedling alfalfa; several fields treated, 1 field completely destroyed. (Arnold).

ALFALFA CATERPILLAR (Colias eurytheme) - MISSOURI - West-central and southwestern areas--light on alfalfa, larvae 2-11 per 10 sweeps. (Munson).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - WASHINGTON - New State record. Klickitat County--adults and nymphs heavy in 2-ha (5-acre) alfalfa field interseeded with wheat at Wishram, May 17, 1978. Collected by K. Pike and M. Glazer. Determined by M.B. Stoetzel. (Pike, Glazer).

SOYBEANS

DISEASES

SOYBEAN POD AND STEM BLIGHT (Diaporthe phaseolorum var. sojae) - ILLINOIS - Prevalence on soybeans [harvest maturity] by county (1 commercial field or monitoring plot each) week of October 2: Perry--20%, Washington--20%, Jackson--10%, and St. Clair--40%. (Jordan).

MOLDS (Diaporthe spp.) - OHIO - Hardin County--prevalence 99%/severity 1-5% on lower pods in 1 soybean [harvest maturity] field week ending October 6, prevalence 90%/severity 5% on upper pods in second field. (Hite).

CHARCOAL ROT (Macrophomina phaseolina) - ILLINOIS - Prevalence on soybeans [harvest maturity] by county (1 commercial field or monitoring plot each) week of October 2: Perry--90%, Washington--50%, Jackson--99%, and St. Clair--40%. (Jordan).

SOYBEAN (TRUNCATA) ANTHRACNOSE (Colletotrichum dematium var. truncata) - ILLINOIS - Prevalence on soybeans [harvest maturity] by county (1 commercial field or monitoring plot each) week of October 2: Perry--5%, Washington--5%, St. Clair--10%, and Jackson--2%. (Jordan).

SEED PURPLE STAIN (Cercospora kikuchii) - ILLINOIS - Perry, Washington, St. Clair, and Jackson Counties--prevalence 1-2% on soybean [harvest maturity] seed in commercial fields or monitoring plots week of October 2. (Jordan).

DIFFUSA POWDERY MILDEW (Microsphaera diffusa) - OHIO - Henry County--prevalence 99% in field of late-maturing soybeans [seed full size] week ending October 6. Only incidence this season. (Hite).

SOYBEAN CYST NEMATODE (Heterodera glycines) - MISSOURI - New county record. Ralls County--infestation found in 3 of 5 commercial soybean [mature] fields at Center, August 22, 1978. Collected by D. Webel. Determined by C. Block and E. Palm. (Foudin).

TOBACCO RINGSPOT NEPOVIRUS - ILLINOIS - Prevalence on soybeans [harvest maturity] by county (1 commercial field or monitoring plot each) week of October 2: Perry--4%, and Washington, St. Clair, and Jackson--trace. (Jordan).

INSECTS

GREEN STINK BUG (Acrosternum hilare) - OKLAHOMA - Muskogee and Wagoner Counties--averaged about 1 per 0.3 row m (row ft) in late-maturing soybeans. (Arnold). MISSISSIPPI - Statewide--adults and nymphs of this species and SOUTHERN GREEN STINK BUG (Nezara viridula) continued to cause problems on soybeans [pod fill]. Populations heavier than in previous years. (Anderson).

COTTON

INSECTS

BOLLWORM (Heliothis zea) - ARIZONA - Eggs and larvae, respectively, on cotton by county: Maricopa--2-50 and 10 per 100 plants, Graham--1-300 and 10-40 per 100 terminals, and Yuma--10-50 and 0 per terminal. (Pilling et al.).

POTATOES, TOMATOES, PEPPERS

INSECTS

TOMATO FRUITWORM (Heliothis zea) - FLORIDA - Manatee and Hillsborough Counties--more of a problem than usual on tomatoes in greater Ruskin area. (Schuster). Control difficult. (Mead).

TOMATO PINWORM (Keiferia lycopersicella) - FLORIDA - Manatee and Hillsborough Counties--heavy in pheromone traps in greater Ruskin area, but suppressive chemicals kept populations below threshold level on tomatoes. (Schuster).

COLE CROPS

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - St. Johns County--riddled buds of young cabbage plants in old sorghum fields in Hastings area, populations developed from volunteer sorghum and corn, 100 males caught in 3 sex pheromone traps in 2 days. (Workman).

DECIDUOUS FRUITS AND NUTS

INSECTS

WALNUT HUSK FLY (Rhagoletis completa) - WISCONSIN - Dane County--larvae migrated from walnut husks, presumably to pupate, October 7-8. (Lovett).

ORNAMENTALS

INSECTS

WOOLLY WHITEFLY (Aleurothrixus floccosus) - FLORIDA - New host record for State. Dade County--pupae moderately infested 4 Dieffenbachia sp. (dumb cane) in nursery at Homestead. (Glenn).

FOREST AND SHADE TREES

INSECTS

INTRODUCED PINE SAWFLY (Diprion similis) - NORTH CAROLINA - Larval status on white pine by county: Avery--common and from Caldwell west to Jackson--infestations widely scattered. Damage appeared concentrated in upper crowns. Damage to woodland not currently considered economic. (Rogers et al.).

SATIN MOTH (Leucoma salicis) - OREGON - Wallowa County--very heavy larval populations severely skeletonized leaves of cottonwoods in Enterprise and Joseph areas. (Goeden).

BRONZE BIRCH BORER (Agrilus anxius) - WEST VIRGINIA - Cabell County--larvae infested about 90% of 150 trees, 80% tree mortality. (Gibson).

FEDERAL AND STATE PROGRAMS

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - New county record. Collier County--eggs, larvae, and pupae collected on 10 citrus trees at Immokalee, September 27, 1978, by A.L. Pollier. Determined by J. O'Neil. Estimated at least 3 generations have been present. (Mead).

GRASSHOPPERS - OREGON - Eastern and central areas--economically infested rangeland (adults of mostly Melanoplus sanguinipes except for Camnula pellucida in Lake County 8 or more per 0.8 sq m (sq yd)) in hectares (acres) by county: Grant--49,841.1 (123,160), Morrow--45,583.8 (112,640), Gilliam--4,662.0 (11,520), Wheeler--40.5 (100), Jefferson--7,511.0 (18,560), Wasco--31,695 (78,320), Umatilla--42,477.5 (104,964), Wallowa--24,605 (60,800), and Lake--4,249.2 (10,500). (Goeden).

KANSAS - Damage to wheat mostly by M. sanguinipes by county. Finney--moved from adjacent weedy stubble fields and ate 4 and 5 m (4 and 6 yd) of margin of 2 fields to ground level in northern area. Lane--margin loss ranged 2-4 m (2-4 yd) in 4 fields. Scott--margin loss trace to 4 m in 4 fields [mostly 2-3 tiller]. Western area--little further damage expected this fall due to cooler weather. (Shuman). Norton, Rooks, and Osborne--maximum loss of 2-3 drill row margins. (Sim). Sedgwick, Harvey, Kiowa, Kingman, Harper, and Sumner--margin damage not significant in 9 fields surveyed. (Salsbury). Douglas County--M. differentialis ate 5 m (5 yd) of margin of 1 field [3 tiller] to ground level near Lawrence, first damage in eastern area of State. (Bell). Various areas--grasshopper damage slight this fall on wheat; treatments effective. (Gates).

SCREWORM (Cochliomyia hominivorax) - Total of 424 cases reported from continental United States September 17-23 as follows: Texas 152, New Mexico 134, Arizona 126, California 9, unknown States 3. (Meadows). Total of 535 cases reported in Mexico south of Barrier Zone. (Williams, Smith).

HAWAII PEST REPORT

General Vegetables - VEGETABLE LEAFMINER (Liriomyza sativae) infestations heavy on 2 ha (5 acres) of bearing tomato at Pulehu, Maui. CARMINE SPIDER MITE (Tetranychus cinnabarinus) infestations moderate to heavy and foliar damage moderate on 0.4 ha (1 acre) of eggplant at Kahuku, Oahu. TOMATO PINWORM (Keiferia lycopersicella) infestations and damage (75-80% defoliation) severe on 0.10 ha (0.25 acre) of eggplant at Kahuku. Infestations and foliar damage heavy on 2 ha of young tomato plants at Pulehu, despite spray program. About 25-33% of fruits damaged in adjacent 2 ha of bearing tomato. (Miyahira, L. Nakahara).

Fruits and Nuts - Moderate COCONUT SCALE (Aspidiotus destructor) infestations caused light to moderate foliar damage on 1 ha (3 acres) of bearing papaya at Kahuku. Up to 20-25% of leaves moderately to heavily infested on some trees. Generally, 10% of leaves moderately infested while another 5-10% of leaves seem to have dropped prematurely due to infestations. New host record for State for a WHITEFLY (Orchamoplatus mammaeferus). All stages moderately infested Litchi chinensis (litchi) at Wilhelmina Rise (Honolulu), Oahu, October 2, 1978. Collected by K. Teramoto and L. Nakahara. Determined by S. Higa. No damage directly due to this pest observed to date. (L. Nakahara).

Forest and Shade Trees - EUGENIA CATERPILLAR (Phlegetonia delatrix) and CHINESE ROSE BEETLE (Adoretus sinicus) damage moderate to heavy (50-75% defoliation) to young terminal leaves on 100+ roadside Java plum trees at Kipahulu, Maui. Larvae light, probably due to predation by Polistes sp. (a vespid wasp). Foliar damage by A. sinicus heavy (50-90% defoliation) on roadside Java plum and false kamani at same location. (Miyahira).

DETECTION

NEW STATE RECORDS

INSECTS

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - WASHINGTON - Klickitat County. (p. 591).

EUROPEAN CHAFER (Rhizotrogus majalis) - MICHIGAN - Oakland County--3 adults collected under stump at Ferndale, host unknown, June 27, 1978. Collected by J. Joslin. Determined by R.S. Taylor. Survey planned for 1979 to determine distribution. (Hanna).

NEW COUNTY RECORDS

DISEASES

SOYBEAN CYST NEMATODE (Heterodera glycines) - MISSOURI - Ralls. (p. 592).

INSECTS

CITRUS BLACKFLY (Aleurocanthus woglumi) - FLORIDA - Collier. (p. 593).

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Arhopalus</u> sp. a cerambycid beetle Det. D. M. Anderson	pupal	in wood crates of tools	India	New York	NY
<u>Buprestis</u> sp. a buprestid beetle Det. J. M. Kingsolver	larval	in wood crates of flanges	India	New York	NY
<u>Chrysobothris</u> sp. a buprestid beetle Det. J. M. Kingsolver	larval adult	in wood crates of marble products	Pakistan	San Francisco	CA
<u>Heterotermes tenuis</u> (Hagen) a termite Det. D. R. Smith	adult	in lumber	Puerto Rico	Jacksonville	FL
<u>Opogona</u> sp. a tineid moth Det. D. M. Weisman	larval	in roots of <u>Colocasia esculenta</u>	Dominican Republic	New York	NY
<u>Plagionotus</u> sp. a cerambycid beetle Det. D. M. Anderson	larval	in dunnage	Europe	Savannah	--
<u>Trogoderma granarium</u> Everts khapra beetle Det. J. M. Kingsolver	larval	on bales of sheepskins	Sudan	New York	NY
<u>Veronicella moreleti</u> Crosse & Fischer a slug Det. R. Munkittrick	adult	on leaves of <u>Chamaedorea</u>	Guatemala	Houston	--

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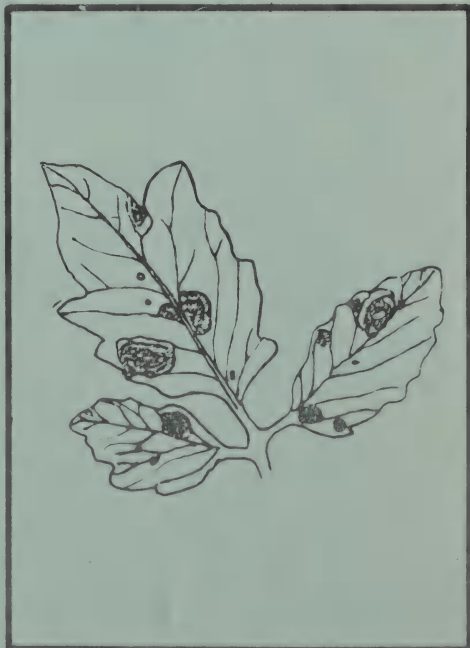
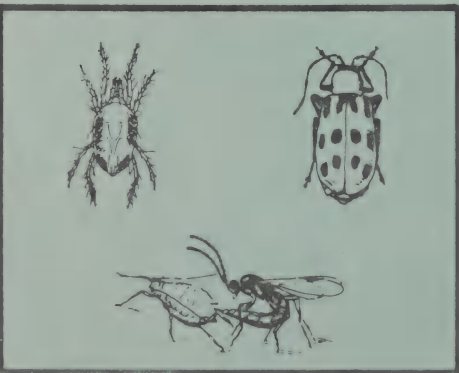
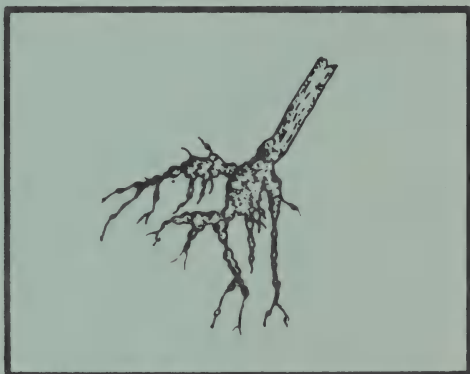
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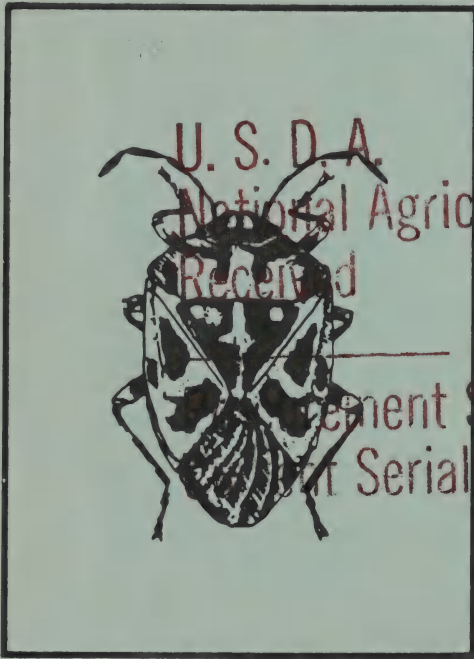
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Cooperative PLANT PEST REPORT

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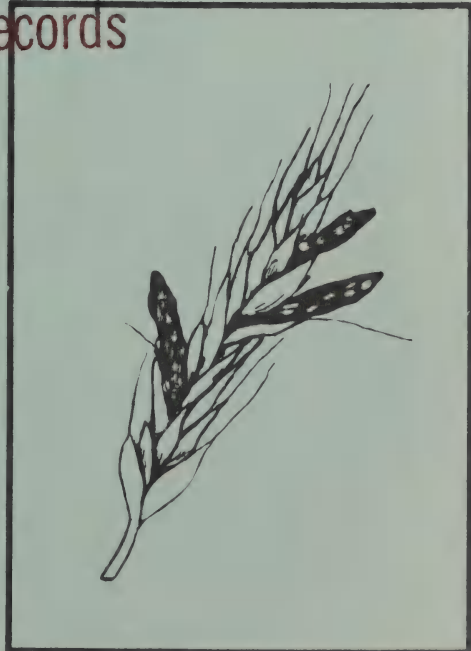
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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

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Correspondence should be directed to:

CPPR
New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
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Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Current Conditions

FUSARIUM STALK ROTS on 30% or more of corn in parts of Nebraska. (p. 601).

Detection

A TREEHOPPER is new for U.S. Virgin Islands. (p. 605).

For new county records see p. 606.

Reports in this issue are for the week ending October 20 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Cole Crops	
Diseases.....	601	Insects.....	604
Insects.....	602		
Small Grains		General Vegetables	
Diseases.....	602	Insects.....	604
Insects.....	602		
Forage Legumes		Deciduous Fruits and Nuts	
Insects.....	603	Insects.....	605
Soybeans		Ornamentals	
Diseases.....	603	Insects.....	605
Insects.....	604	Man and Animals	
Cotton		Insects.....	605
Insects.....	604		
Beneficial Organisms and Their Enemies			
Insects.....	605		
Federal and State Programs			
Insects.....	605		
Detection.....	606		
Corrections.....	606		
Light Trap Collections.....	607		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	608		

CORN, SORGHUM, SUGARCANE

DISEASES

STALK ROTTS - NEBRASKA - Most important corn disease in State, September 23 to October 6. Prevalence of *Fusarium* spp. and other stalk rotts as stated on corn [maturity] by county (irrigated fields unless stated otherwise): Harlan--14% including GIBBERELLA STALK ROT (*Gibberella* (*Fusarium*) *roseum* f.sp. *cerealis*) and CHARCOAL ROT (*Macrophomina phaseolina*), Phelps--45% including gibberella stalk rot and charcoal rot, Dawson--30-40%, Lincoln--15-55%, Keith--55%, Garden--35%, Morrill--28%, Box Butte--30%, Brown--40-50%, Rock--80% including charcoal rot, Holt--45-85% including gibberella stalk rot and charcoal rot, Antelope--12-21% including charcoal rot; nonirrigated fields: Knox--20-45% including charcoal rot, Cedar--12-36% including charcoal rot, Pierce--15%, Madison--32% including charcoal rot, Stanton--30%, Cuming--14-50% including charcoal rot, and Dodge--34% including charcoal rot. Prevalence of stalk rotts caused mostly by *Fusarium* spp. and charcoal rot on corn [maturity] by county in all fields surveyed October 7-13: Lancaster--40-65%, Gage--25-30%, Pawnee--6-15%, Johnson--40%, Otoe--10-20%, and Cass--35-45%. Many plants showed stalk rot damage associated with EUROPEAN CORN BORER (*Ostrinia nubilalis*). (Poe).

ILLINOIS - GRAMINICOLA ANTHRACNOSE (*Colletotrichum graminicola*) prevalence on corn [harvest maturity] stalks by county (1 commercial field each) week of October 9: Douglas and Crawford--40%, Cumberland and Jasper--5%, Clark--50%, Wayne--20%, and Hamilton--10%. GIBBERELLA STALK ROT (*Gibberella* (*Fusarium*) *roseum* f.sp. *cerealis*) prevalence on corn [harvest maturity] by county (1 commercial field each) week of October 9: Douglas and Hamilton--30%; Cumberland, Jasper, Clark, and Clay--20%; Crawford--15%; Effingham--10%; and Wayne--40%. DIPLODIA STALK ROT (*Diplodia maydis*) prevalence on corn [harvest maturity] by county (1 commercial field each) week of October 9: Douglas and Hamilton--20%; Cumberland and Clay--5%; Jasper, Effingham, and Wayne--10%; and Crawford and Clark--15%. CHARCOAL ROT (*Macrophomina phaseolina*) prevalence on corn [harvest maturity] stalks by county (1 commercial field each) week of October 9: Jasper--20%, Clark--2%, Clay and Hamilton--5%, and Wayne--40%. (Jordan).

EAR ROTTS - NEBRASKA - Statewide--kernel and ear rotts generally absent this season except for RED EAR ROT (*Gibberella* (*Fusarium*) *roseum* f.sp. *cerealis*) on up to 30% of corn with virus-caused CORN LETHAL NECROSIS in Harlan and Franklin Counties September 23 to October 6. (Poe).

ILLINOIS - RED EAR ROT (*Gibberella* (*Fusarium*) *roseum* f.sp. *cerealis*) prevalence/severity on corn [harvest maturity] ears by county (1 commercial field each) week of October 9: Douglas and Wayne--25%/trace to 2%, Cumberland and Crawford--5%/trace, Jasper--10%/trace, Clark--20%/trace to 1%, Effingham--30%/trace to 5%, Clay--30%/trace to 2%, and Hamilton--15%/trace. Asexual prevalence/severity of FUSARIUM KERNEL ROT (*Gibberella* (*Fusarium*) *moniliforme*) on corn [harvest maturity] ears by county (1 commercial field each) week of October 9: Douglas--10%/trace to 1%, Cumberland--5%/trace, Jasper and Hamilton--10%/trace, Crawford--5%/trace, Clark--15%/trace, Effingham and Clay--20%/trace to 2%, and Wayne--25%/trace to 1%. Prevalence/severity of *Penicillium* spp. ear rotts on corn [harvest maturity] by county (1 commercial field each) week of October 9: Douglas--10%/trace to 1%; Cumberland--2%/trace; Jasper, Clark, and Hamilton--5%/trace; Crawford--2%/trace to 1%; Effingham--50%/trace to 5%; and Clay and Wayne--20%/trace to 2%. (Jordan).

INSECTS

EUROPEAN CORN BORER - See STALK ROTS previous page.

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - COLORADO - Baca County--in average of 70% of corn and girdled 25% of untreated plants. (Schweissing).

CORN ROOTWORMS (Diabrotica spp.) - MINNESOTA - NORTHERN CORN ROOTWORM (D. longicornis) and WESTERN CORN ROOTWORM (D. virgifera) adult averages per 0.4 ha (acre) in 1978 (and 1977) by district: West-central--7,801 (36,411 in 1977), central--20,842 (30,951), east-central--5,095 (30,314), southwest--34,331 (36,392), south-central--16,816 (33,216), and southeast--34,109 (56,452); statewide average of 21,499 (37,289). Ratio of D. longicornis to D. virgifera 89:11 in 1978 and 83:17 in 1977. Lodging less than 1% in all districts except 1.60% in south-central district compared with 0.65% in 1977. Adult surveys taken in 57 counties and 221 corn fields in corn previous year. (Sreenivasam).

SMALL GRAINS

DISEASES

WHEAT LEAF RUST (Puccinia recondita f.sp. tritici) - KANSAS - First time this fall on seeded wheat. Prevalence by county: Jefferson--5% [5 tiller], Douglas--trace [3 tiller], and Comanche--trace in 2 volunteer wheat fields. (Sim). NEBRASKA - Johnson, Otoe, and Cass Counties--prevalence trace to 2% in very early planted wheat [tillering] October 7-13. (Poe).

SPECKLED LEAF BLOTCH (Septoria tritici) - NEBRASKA - Johnson and Otoe Counties--prevalence 70%/severity moderate October 7-13 in some early planted wheat planted directly into wheat stubble from 1977 crop. (Poe).

TAN SPOT (Pyrenophora trichostoma) - NEBRASKA - Pseudothecia on wheat by county September 23 to October 6: Western area--on stubble in fallow fields in several counties; Sioux, Dawes, and Sheridan--fully formed and light to moderate; and Box Butte and Morrill--trace to light on stubble. (Poe).

WHEAT STREAK MOSAIC VIRUS - See WHEAT CURL MITE next page.

INSECTS

WHEAT STEM SAWFLY (Cephus cinctus) - NORTH DAKOTA - Percent hard red spring wheat stubble fields with cut stems, average (range) percent stems cut per field, and number of fields sampled by county: Burke--18%, 0.06% (0-0.40%), and 11; Divide--43%, 6.95% (0.24%), and 7; Mountrail--11%, 1.62% (0-14.63%), and 9; and Williams--27%, 0.68% (0-9.2%), and 22. (Brandvik, Scholl).

GREENBUG (Schizaphis graminum) - IDAHO - Twin Falls County--averaged 1-2 per sweep in volunteer barley field near Filer. (Homan, Stoltz). KANSAS - Counts on wheat by county: Sedgwick--averaged 10 per 0.3 row m (row ft) in 1 field [3 tiller], heaviest this fall; Clark--trace in 1 field, none in 2 others [1-2 tiller]; Comanche and Kiowa--none in 2 fields [2-3 tiller] (Salsbury); Franklin--1 in 1 field (White); Jefferson--averaged 1 per 0.3 row m [5 tiller] and Douglas--none [3 tiller]. (Hilbert).

AN APHID (Rhopalosiphum padi) - IDAHO - Twin Falls County--averaged 1-2 per sweep in volunteer barley near Filer. (Stoltz). KANSAS - Jefferson County--averaged 10 per 0.3 row m (row ft) in wheat [5 tiller]. (Hilbert).

WHEAT CURL MITE (Eriophyes tulipae) - KANSAS - Counts of this vector of WHEAT STREAK MOSAIC VIRUS by county: Kiowa--heavy in 1 volunteer wheat field, none on adjacent seeded wheat; Comanche and Clark--none in volunteer wheat fields. (Sim).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Eddy County--adults 0-8 per 25 sweeps in 8 of 32 alfalfa fields. Adult occasionally collected during summer. (Nielsen).

BEE TARMITE (Spodoptera exigua) - ARIZONA - Larval counts on alfalfa by county: Maricopa--20 per 10 plants and Pinal--16 per 100 plants. (McCall et al.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - OKLAHOMA - Greer County--damaged small research plots of alfalfa between heavily infested plots of wheat and rye. (Arnold).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Maricopa County--larvae 18-40 per 10 sweeps of alfalfa. (McCall et al.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Nymphs and adults, respectively, on alfalfa by county: Maricopa--20 and 8 per 10 plants, Pinal--0 and 180 per 100 plants, and Graham--0 and 18 per 10 plants. (McCall et al.). NEW MEXICO - Eddy County--adults 3-43 per 25 sweeps in 32 alfalfa fields. (Nielsen).

PEA APHID (Acyrtosiphon pisum) - NEW MEXICO - Eddy County--alate and apterous adults and nymphs from fewer than 2 per sweep to 18+ per sweep in 32 alfalfa fields. Otero County--apparent increase in Tularosa area. (Nielsen).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Wabaunsee County--averaged 5 per sweep of 25-cm (10-in) alfalfa. (Bell).

LYGUS BUGS (Lygus spp.) - ARIZONA - Nymphs and adults, respectively, on alfalfa by county: Maricopa--80 and 100 per 10 sweeps, Pinal--0 and 80 per 100 plants, and Graham--11 and 16 per 10 plants. (McCall et al.).

SOYBEANS

DISEASES

SOYBEAN POD AND STEM BLIGHT (Diaporthe phaseolorum var. sojae) - ILLINOIS - Prevalence on soybean [harvest maturity] stems by county (1 commercial field each) week of October 9: Cumberland--5%, Jasper and Clark--20%, Effingham and Wayne--25%, Clay--10%, and Saline--50%. Prevalence trace to 1% on pods. (Jordan).

SOYBEAN (TRUNCATA) ANTHRACNOSE (Colletotrichum dematium var. truncata) - NEBRASKA - Prevalence on soybeans [maturity] by county September 23 to October 6: Cedar--10%, Pierce--15%, Madison--50%, Cuming--45%, and Dodge--35%; October 7-13: Lancaster--79%, Gage--65%, Pawnee--90%, Johnson--70%, Otoe--55%, and Cass--60%; no significant loss for latter period. Acervuli associated with stem lesions in infected plants. (Poe). ILLINOIS - Prevalence on soybean [harvest

maturity] stems of soybean (*truncata*) anthracnose by county (1 commercial field each) week of October 9: Cumberland, Effingham, and Clay--2%; Jasper and Clark--5%; and Wayne and Saline--10%. (Jordan).

CHARCOAL ROT (*Macrophomina phaseolina*) - NEBRASKA - Lancaster County--prevalence 10-15% in some soybean [harvest maturity] fields October 7-13; no significant loss. (Poe). ILLINOIS - Prevalence on soybean [harvest maturity] stems by county (1 commercial field each) week of October 9: Cumberland--40%; Jasper, Effingham and Wayne--50%; Clark--70%; and Clay and Saline--90%. (Jordan).

SEED PURPLE STAIN (*Cercospora kikuchii*) - ILLINOIS - Prevalence on soybean [harvest maturity] seed by county (1 commercial field each) week of October 9: Cumberland, Jasper, and Clark--2%; Effingham, Clay, and Wayne--5%; and Saline--10%. (Jordan).

TOBACCO RINGSPOT NEPOVIRUS - ILLINOIS - Prevalence of bud blight symptoms on soybeans [harvest maturity] by county (1 commercial field each) week of October 9: Cumberland, Jasper, and Clay--trace; Clark--2%; and Effingham, Wayne, and Saline--1%. (Jordan).

INSECTS

GREEN STINK BUG (*Acrosternum hilare*) - MISSISSIPPI - Statewide--adults and nymphs of this species and SOUTHERN GREEN STINK BUG (*Nezara viridula*) continued to cause problems in isolated fields of late soybeans. Heavier this season than in recent years. Recent cool weather significantly decreased activity, but not populations. Soybean harvest about 20-25% complete. (Anderson).

COTTON

INSECTS

BOLLWORM (*Heliothis zea*) - ARIZONA - Eggs on cotton by county: Maricopa--30 with 10 larvae per 100 plants and Graham--0-50 per 100 terminals. (Svoboda et al.).

COLE CROPS

INSECTS

BEET ARMYWORM (*Spodoptera exigua*) - ARIZONA - Status on broccoli and cabbage by county: Pinal--controls applied, Yuma--eggs 4 and larvae 4 per 50 plants, and Maricopa--eggs 12, larvae 12, and adults 18 per 33 plants. (Kirkpatrick et al.).

CABBAGE LOOPER (*Trichoplusia ni*) - ARIZONA - Status on broccoli and cabbage by county: Pinal--controls applied, Yuma--larvae 1 per plant, and Maricopa--eggs 100, larvae 12, and adults 18 per 33 plants. (Kirkpatrick et al.).

GENERAL VEGETABLES

INSECTS

BEET ARMYWORM (*Spodoptera exigua*) - ARIZONA - Eggs and larvae, respectively, on lettuce by county: Maricopa--4 and 12 with 18 adults per 33 plants at Queen Creek and Graham--1 and 1 per 15 plants. (Berens et al.).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Eggs and larvae, respectively, on lettuce by county: Maricopa--87 and 18 with 23 adults per 33 plants in Queen Creek, Pinal--21 and 2 per 100 plants, Yuma--1 and 4 per plant, and Graham--5 and 2 per plant. (Berens et al.).

DECIDUOUS FRUITS AND NUTS

INSECTS

AMERICAN PLUM BORER (Euzophera semifuneralis) - UTAH - New county record. Salt Lake County--collected on plum at Salt Lake City by E. Ashmead, August 23, 1978. Determined by D.M. Weisman. (Karren, Knowlton).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Dane County--some larvae from treated apples at 2 northern sites, infestation less than 2%. (Lovett).

ORNAMENTALS

INSECTS

A TREEHOPPER (Umhonia crassicornis) - U.S. Virgin Islands - New record. Collected from Calliandra sp. (a powderpuff) at college on St. Thomas Island by C.E. Miller and R. Freeman, June 27, 1978. Determined by C.E. Miller; confirmed by J.P. Kramer. Previously introduced into Florida and Puerto Rico. (C.E. Miller).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - OKLAHOMA - Counts per head of cattle by county: Pittsburg--50-600, Johnston--50-200, Pushmataha--20-400, and Le Flore--50-1,000. (Arnold). FLORIDA - Alachua County--110 per head October 9 and 56 per head October 16 on small beef herd at Gainesville. (Grippe).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

A BLISTER BEETLE (Hornia minutipennis) - OKLAHOMA - New county record. Garvin County--larvae collected from bee (species unknown) nests in dirt bank under bridge near Purdy, June 28, 1978. Collected and determined by D.C. Arnold. (Arnold).

FEDERAL AND STATE PROGRAMS

INSECTS

GRASSHOPPERS - OKLAHOMA - Kiowa County--Melanoplus sanguinipes 8-10 per 0.8 sq m (sq yd) in fencerows and field borders in Roosevelt area. Little damage to young wheat. (Arnold). KANSAS - Status on wheat by county: Comanche--destroyed 5 m (5 yds) of margin in 1 field; Clark--margin loss ranged 2-3 m (2-3 yds) in several fields, maximum of 4 m (4 yds) lost (M. differentialis major species in 1 case each in Clark and Comanche Counties and M. sanguinipes and Ageneotettix deorum in 1 case in Clark County) (Salsbury); Kearny--margin losses from M. sanguinipes in scattered dryland fields 0.9-4 m (1-4 yds); Cheyenne--up to 2 m lost; and Rawlins--marginal feeding trace. (Shuman).

SOUTH DAKOTA - Estimated hectares (acres) infested by grasshoppers by county during West River survey: Fall River--47,914.8 (118,400), Haakon--9,324.0 (23,040), Meade--38,073 (94,080), Pennington--68,796.6 (170,000), Shannon--52,609.2 (130,000), Todd--518.0 (1,280), Tripp--18,130 (44,800), Washabaugh--41,278.0 (102,000), and Ziebach--4,921.0 (12,160). Figures include private, State, and public domain acreage. (Winks).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Eddy County--no larvae or infested cotton bolls in 61.0 row m (200 row ft) in 20 cotton fields from Carlsbad to Malaga. (Nielsen).

DETECTION

NEW U.S. VIRGIN ISLAND RECORD

A TREEHOPPER (Umbonia crassicornis) - U.S. VIRGIN ISLANDS - St. Thomas Island. (p. 605).

NEW COUNTY RECORDS

AMERICAN PLUM BORER (Euzophera semifuneralis) - UTAH - Salt Lake. (p. 605).

A BLISTER BEETLE (Hornia minutipennis) - OKLAHOMA - Garvin. (p. 605).

CORRECTIONS

CPPR 3(40-41):586 - change last CPPR credit line to read 3(40-41):583-586, 1978.

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Physalospora pandani</u> Ell. & Ev. a fungus Det. F. G. Pollack	imperfect	on leaves of <u>Pandanus</u>	Tahiti	Honolulu	HI
<u>Ceratitis capitata</u> (Wiedemann) Mediterranean fruit fly Det. V. L. Blackburn	larval	in figs from baggage	Portugal	Boston	USA
<u>Cerconota anonella</u> (Sepp.) a stenomid moth Det. R. P. Higgins	larval	in <u>Annona</u> fruit from baggage	Costa Rica	Miami	FL
<u>Hylurgops palliatus</u> (Gyllenhal) a scolytid beetle Det. F. Krim	adult	in wood cases of machinery	West Germany	New York	--
<u>Hypothenemus</u> sp. a scolytid beetle Det. R. P. Higgins	adult larval	in <u>Albizia</u> seed from baggage	Brazil	Miami	FL
<u>Kalotermes flavicollis</u> (Fabricius) a termite Det. D. R. Smith	adult	in wood crates with marble	Italy	Baltimore	MD
<u>Pityogenes chalcographus</u> (L.) a scolytid beetle Det. E. J. Ford	adult	in wood pallets with nickel	Finland	Baltimore	MD
<u>Thrips major</u> Uzel a thrips Det. V. L. Blackburn	adult	on <u>Lathyrus</u> flowers from baggage	United Kingdom	Boston	MA

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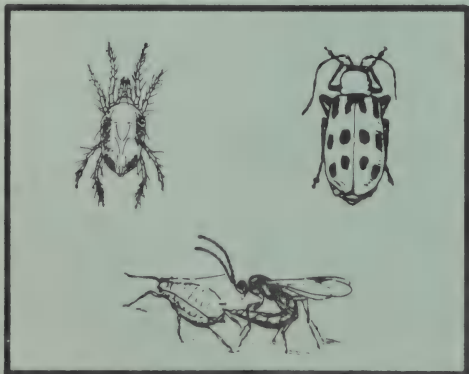


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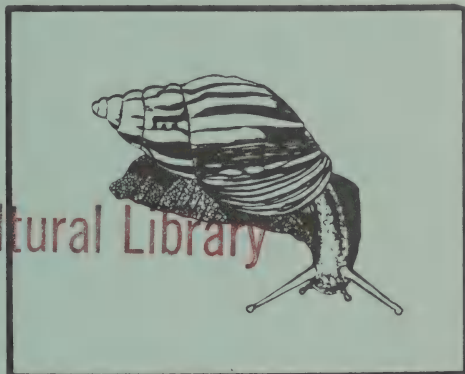
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Cooperative PLANT PEST REPORT

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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

Data included in this publication are compiled from reports submitted by cooperating State, Federal and other agricultural and industrial specialists. Accuracy of the reports is not verified prior to publication.

Cooperative Plant Pest Report supersedes *Cooperative Economic Insect Report*, which was discontinued with Volume 25, Numbers 49-52, 1975.

Correspondence should be directed to:

CPPR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Federal Building #1
Hyattsville, Maryland 20782

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

Detection

- A DIASPIDID SCALE in Texas is new for the United States. (p. 617).
- Also new for the United States is an ORTHEZIID SCALE in Texas. (p. 622).
- WINTER MOTH is recorded for the first time in the United States in Oregon. (p. 618).
- A WHITEFLY is new to the continental United States. (p. 617).

New State records include a DIASPIDID SCALE, 2 PIT SCALES, an APHID (p. 617), and KIRKALDY WHITEFLY (p. 618) in Texas, a CERAMBYCID BEETLE in West Virginia and Montana (p. 618), a CECIDOMYIID MIDGE in California (p. 618), an ENCARTID WASP in Oklahoma (p. 619), a WHITEFLY and a BITING LOUSE in Hawaii (p. 620), a LYGAID BUG in Oklahoma, a MEALYBUG in Florida, a PSYCHID MOTH in Massachusetts, a RHOPALOSOMATID WASP in North Dakota, a TEPHRITID FLY in Utah, and HARMEL in California (p. 623).

For new county and island records see page 623-624.

Special Reports

Summary of Pest Conditions in the United States - 1977

- Introduction (p. 625).
- Special Pests of Regional Significance (p. 625-635).
- Corn, Sorghum, Sugarcane (p. 635-650).
- Small Grains (p. 651-654).
- Turf, Pastures, Rangeland (p. 654-656).
- Forage Legumes (p. 656-662).
- Soybeans (p. 662-668).
- Peanuts (p. 668).

Distribution of Goss Wilt. Map. (p. 636).

Distribution of Maize Chlorotic Maize Virus. Map. (p. 650).

Reports in this issue are for the weeks ending October 27 through November 17 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Peanuts	
Diseases.....	611	Diseases.....	616
Insects.....	612		
Small Grains		Small Fruits	
Diseases.....	613	Insects.....	616
Insects.....	613	Ornamentals	
Turf, Pastures, Rangeland		Insects.....	617
Insects.....	614	Forest and Shade Trees	
Weeds.....	614	Insects.....	618
Forage Legumes		Man and Animals	
Insects.....	614	Insects.....	619
Soybeans		Beneficial Organisms and Their Enemies	
Diseases.....	615	Insects.....	619
Insects.....	616		
Federal and State Programs			
Insects.....	619		
Hawaii Pest Report.....	620		
Detection.....	622		
Corrections.....	668		
Light Trap Collections.....	621		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	624		
Summary of Pest Conditions in the United States - 1977			
Special Pests of Regional Significance			
Diseases.....	625		
Insects.....	625		
Corn, Sorghum, Sugarcane			
Diseases.....	635		
Insects.....	638		
Small Grains			
Diseases.....	651		
Insects.....	652		
Turf, Pastures, Rangeland			
Insects.....	654		
Forage Legumes			
Insects.....	656		
Soybeans			
Diseases.....	662		
Insects.....	664		
Peanuts			
Insects.....	668		
Distribution of Goss Wilt (map).....	636		
Distribution of Maize Chlorotic Maize Virus (map).....	650		

CORN, SORGHUM, SUGARCANE

DISEASES

COMMON MAIZE RUST (Puccinia sorghi) - MICHIGAN - Prevalence/severity on corn by county August 30 and September 6-8: Monroe--trace/- [dent], St. Joseph--trace/- [all kernels dented], Van Buren--80-90%/5-10% [blister], Calhoun--trace/- [dent], Washtenaw--1-2%/0.5-1% [dent], Lenawee--trace/- [dough], and Branch--trace/- [all kernels dented]. (Singh).

NORTHERN LEAF BLIGHT (Helminthosporium turcicum) - MICHIGAN - Prevalence on corn by county August 30 and September 6-8: Berrien--trace [all kernels dented], Calhoun--trace [dent], and Washtenaw--trace [dent]. (Singh).

COMMON SMUT (Ustilago maydis) - MICHIGAN - Prevalence on corn by county August 30 and September 6-8: Monroe--trace [dent], Lenawee--trace [dough], Branch--trace [all kernels dented], St. Joseph--1-2% [all kernels dented], Berrien--trace [all kernels dented], Van Buren--trace [blister], Calhoun--trace [dent], and Washtenaw--trace [dent]. (Singh).

STALK ROTS - KANSAS - Number of corn fields surveyed for Fusarium and Gibberella stalk rots, number of fields infected, percent of plants infected, and percent of plants lodged, respectively, by district from mid-September through mid-October: Northeast--25, 3, 0-5%, and 0%; east-central--27, 0, 0%, and 0%; north-central--23, 15, 9.6-67.2%, and 0-6.4%; central--24, 9, 0-26%, and 0-4%; south-central--25, 14, 12.8-28%, and 0-0.8%; northwest--25, 3, 0-4%, and 0%; west-central--25, 6, 0-11.2%, and 0-0.8%; and southwest--25, 0, 0%, and 0%. (Sim).

DIPLODIA STALK ROT (Diplodia maydis) - KANSAS - Number of corn fields surveyed, number of fields infected, percent of plants infected, and percent of plants lodged, respectively, by district from mid-September through mid-October: Northeast--25, 2, 0-1.6%, and 0%; east-central--27, 1, 0-1.6%, and 0%; north-central--23, 3, 0-8%, and 0-0.8%; central--24, 9, 0-38.4%, and 0-0.8%; south-central--25, 2, 0-5.6%, and 0%; and northwest, west-central, and southwest--25 fields each district, 0 for each, 0% for each, and 0% for each. (Sim).

CHARCOAL ROT (Macrophomina phaseolina) - KANSAS - Number of corn fields surveyed, number of fields infected, percent of plants infected, and percent of plants lodged, respectively, by district from mid-September through mid-October: Northeast--25, 7, 0-20%, and 0-0.8%; east-central--27, 26, 1.2-52.8%, and 0%; north-central--23, 6, 0-23%, and 0-0.8%; central--24, 6, 0-9.6%, and 0-1.6%; south-central--25, 9, 0-16%, and 0-0.8%; northwest--25, 1, 0-0.8%, and 0%; west-central--25, 2, 0-17.6%, and 0-0.8%; and southwest--25, 3, 0-2.4%, and 0%. (Sim).

CORN EYESPOT (Kabatiella zeae) - MICHIGAN - Prevalence/severity on corn by county August 30 and September 6-8: Branch--60-70%/35-40% [all kernels dented], St. Joseph--trace/- [all kernels dented], Berrien--trace/- [all kernels dented], Calhoun--trace/- [dent], and Washtenaw--1-2%/0.5-1% [dent]. (Singh).

YELLOW LEAF BLIGHT (Phyllosticta maydis) - MICHIGAN - Prevalence/severity on corn by county August 30 and September 6-8: Berrien--25-30%/10-15% [all kernels dented], Kalamazoo--trace/- [all kernels dented], Calhoun--trace/- [dent], and Washtenaw--trace/- [dent]. (Singh).

GRAMINICOLA ANTHRACNOSE (*Colletotrichum graminicola*) - MICHIGAN - St. Joseph County--prevalence 5-10%/severity 1-2% on corn [all kernels dented] August 30 and September 6-8. (Singh).

STEWART'S WILT (*Erwinia stewartii*) - MICHIGAN - Berrien County--prevalence trace on corn [all kernels dented] August 30 and September 6-8. (Singh).

INSECTS

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - TEXAS - New county records. All specimens collected from field corn. Dallam--2 collected 24 km (15 miles) west of Dalhart, September 13, 1978; Hartley--2 collected 6 km (4 miles) south of Hartley, September 12; Oldham--1 collected 3 km (2 miles) west of Wildorado, September 12; and Deaf Smith--1 collected 13 km (8 miles) south of Vega, September 4. All above collected by C.D. Patrick. Sherman--1 collected 12 km (7.5 miles) north-northeast of Stratford, September 5, 1978; Hansford--2 collected 16 km (10 miles) south-southwest of Spearman, September 7; Hutchinson--4 collected 5 km (3 miles) southwest of Pringle, September 6; Potter--1 collected 24 km northeast of Amarillo, September 12; and Randall--1 collected 6 km southwest of Bushland, September 7. All collected by R. Hennig and R. Henderson. Ochiltree--2 collected 16 km south-southwest of Farnsworth, September 7, 1978; Lipscomb--2 collected 8.9 km (5.5 miles) south-southeast of Follett, September 7; and Roberts--1 collected 23 km (14 miles) west of Miami, September 6. Collected by D. Burnett and N. Prior. Carson--1 collected 14 km (8.5 miles) west of Panhandle, September 5; and Gray--1 collected 2.4 km (1.5 miles) south of Pampa, September 8. Collected by A. Field and D. Arnold. All determined by D.M. Weisman. (Jackman).

SOUTH CAROLINA - Greenville County--European corn borer larvae heavily infested grain sorghum field week ending November 3. Infested about 30% of plants, multiple infestations on some stalks. (Gilreath). KENTUCKY - New county records. Breathitt--near Lost Creek, Clay--near Hima, Laurel--near London, Leslie--near Hosea, Perry--near Avawam, and Rockcastle Counties--near Renfro Valley. One larva each collected from cornstalks. Collected and determined by P.E. Sloderbeck, November 9, 1978. (Sloderbeck).

CORN EARWORM (*Heliothis zea*) - INDIANA - Counts of this species and FALL ARMYWORM (*Spodoptera frugiperda*), respectively, on grain corn, combined percent infested ears, and combined percent loss by district for 1978 season: North-northwest--1 and 0, 0.16%, and 0.0052%; north-northcentral--0 and 0, 0%, and 0%; north-northeast--5 and 0, 0.80%, and 0%; northwest--11 and 0, 3.04%, and 0.0598%; north-central--1 and 0, 0.16%, and 0.0007%; northeast--0 and 1, 0.80%, and 0.0118%; southwest--14 and 1, 5.44%, and 0.1114%; south-central--2 and 0, 0.32%, and 0.0086%; southeast--4 and 0, 1.92%, and 0.0427%; south-southwest--15 and 2, 8.80%, and 0.0760%; south-southcentral--11 and 0, 3.36%, and 0.0418%; south-southeast--12 and 2, 0.48%, and 0.1636%; total--76, 6, State mean 2.77% and 0.0457%. (Meyer).

CORN ROOTWORMS (*Diabrotica* spp.) - ILLINOIS - New county record for WESTERN CORN ROOTWORM (*D. virgifera*). Saline County--collected on field corn 3.7 km (2.3 miles) southwest of Texas City Road at Eldorado on southeast side of U.S. Highway 45, July 19, 1978. Collected by K. Black. Determined by J.K. Bouseman. (Black).

WISCONSIN - Statewide--corn lodging 3.3% due to *Diabrotica* spp. larval feeding, increased slightly over 1977. Populations heavier in 1977 but strong root

systems prevented much lodging then. Soil conditions in 1978 probably contributed to increased lodging. Percent plants lodged in late September and early October by district: Northwest--0%, north-central--0%, northeast--0.3%, west-central--4.9%, central--0.2%, east-central--2.4%, southwest--4.7%, south-central--3.5%, and southeast--6.5%; State average 3.3%. (Lovett).

SORGHUM MIDGE (Contarinia sorghicola) - NORTH CAROLINA - Status by area for week ending October 27: Southern Piedmont--heavily sporadic, infested 40% of sorghum heads in 6.1-ha (15-acre) fields with damage only in late-maturing fields. Damage from few hollow seeds per head to 100% destroyed seeds over many ha (acres). (Outz, Hunt).

CORN LEAF APHID (Rhopalosiphum maidis) - INDIANA - Percent severe infestations on corn (most of tassel blackened), moderate (parts of tassel blackened), light (living aphids on plant), and total percentage for 1978 season by district: North-northwest--1.76%, 4.48%, 19.36%, and 25.60%; north-northcentral--4.80%, 9.12%, 23.36%, and 37.28%; north-northeast--2.40%, 6.24%, 24.16%, and 32.80%; northwest--10.88%, 12.16%, 22.56%, and 45.60%; north-central--5.76%, 4.64%, 5.60%, and 16%; northeast--5.60%, 12.96%, 38.88%, and 57.44%; southwest--22.08%, 21.76%, 23.68%, and 67.52%; south-central--10.40%, 14.88%, 19.20%, and 44.48%; southeast--2.56%, 9.28%, 24.64%, and 36.48%; south-southwest--8.32%, 7.84%, 8.48%, and 24.64%; south-southcentral--14.88%, 17.12%, 25.92%, and 57.92%; south-southeast--10.56%, 16.80%, 17.12%, and 44.48%; State mean 8.33%, 11.44%, 21.08%, and 40.85%. (Meyer).

SMALL GRAINS

DISEASES

TAN SPOT (Pyrenophora trichostoma) - NORTH DAKOTA - Western area--Pseudothecia prevalent on wheat stubble in harvested strips adjacent to seedling winter wheat; present on stubble in minimum tillage winter wheat fields week of October 23. (Jons).

WHEAT STREAK MOSAIC VIRUS - NORTH DAKOTA - Prevalence in winter wheat by county week of October 23: Adams--trace in 2 fields and Bowman--5% in 1 field. (Jons).

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Caddo County week ending November 10--ranged 0-2 per 0.3 row m (row ft) in 1 wheat field and Grant County--light numbers also still present. (Arnold). ARKANSAS - Independence County--larvae caused serious damage to recently emerged wheat planted in standing soybean fields week ending November 10. (Barnes).

HESSIAN FLY (Mayetiola destructor) - OKLAHOMA - Payne County week ending November 10--fully mature larvae infested about 5% of wheat plants in a research plot in Stillwater area. (Arnold).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Week ending November 10: Caddo County--up to 100 per 0.3 row m (row ft) in spots in wheat fields in some areas; some fields treated; and Jackson and Harmon Counties--infestations very light, scattered. Week ending November 17: Texas County--ranged 3,000-4,000 per 0.3 row m and killed a 0.25 section of wheat in Straight area; southern Washita County--ranged 300-400 per row m in several fields of 20 to 25-cm (8 to 10-in)

wheat and Blaine, Dewey, and Custer Counties--ranged up to 250 per row m in scattered fields. Spots killed in some western Blaine County fields. (Arnold).

SOUTH DAKOTA - Greenbug and an APHID (Rhopalosiphum padi) infested some winter wheat fields week ending November 2. R. padi populations increased on winter wheat last several weeks in some areas. Stanley County--infestations damaged some fields in Hayes area. If Indian summer weather continues, damaging populations in some fields will lead into December. (Walgenbach).

AN APHID (Rhopalosiphum padi) - WASHINGTON - Klickitat County--heavy, 400-800 per 0.3 row m (row ft) in untreated wheat fields in Bickleton area week ending October 30. (Pike). OKLAHOMA - Week ending November 10: Custer County--heavy in 1 spot in 1 wheat field. Week ending November 17: Southern Washita County--500-600 per 0.3 row m (row ft) in several wheat fields. (Arnold).

TURF, PASTURES, RANGELAND

INSECTS

SOUTHERN CHINCH BUG (Blissus insularis) - CALIFORNIA - New county record. Monterey County--adults collected while sweeping grasses at Zmudowski State Beach, Moss Landing, September 25, 1978. Collected by B. Oliver. Determined by A. Hardy. (Gill).

WEEDS

PURPLE STARHISTLE (Centaurea calcitrapa) - CALIFORNIA - New county record. Glenn County--collected from pasture at Orland, September 21, 1978. Collected by W. Duckworth and E. Simpson. Determined by T.C. Fuller. First established infestation of this noxious weed. (Gill).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - TEXAS - Pecos and Reeves Counties--adults 1-18 and larvae 2-16 per 50 sweeps of alfalfa week ending October 23. (Foster). OKLAHOMA - First of season. Stephens County--eggs averaged 1 per 0.09 sq m (sq ft) in alfalfa November 9. (Arnold). FLORIDA - Alachua County--1 adult per 100 sweeps of alfalfa collected at Gainesville, November 15. (Mead). WISCONSIN - Dane County--adults 0.8 per sweep of alfalfa at night in southern area week ending November 3. Fall egg laying underway. (Lovett).

BEE T ARMYWORM (Spodoptera exigua) - ARIZONA - Larval counts on alfalfa by county week ending October 27: Maricopa--10 per 10 plants and Pinal--28 per 100 sweeps. (Brooks et al.).

FALL ARMYWORM (Spodoptera frugiperda) - MISSOURI - Franklin County--light, larvae 3-8 per 10 sweeps of alfalfa week ending November 4. (Munson).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Pinal County--larvae 114 per 100 sweeps of alfalfa week ending October 27. (Brooks et al.). TEXAS - Pecos and Reeves Counties--1-47 per 50 sweeps of alfalfa week ending October 23. (Foster).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Status on alfalfa by county week ending October 27: Pinal--nymphs 26 per 100 plants and Graham--adults 27 per 10 plants. Adults on alfalfa by county week ending November 3: Pinal--30-52 per 100 plants and Yuma--25 per 10 sweeps. Pinal County--adults 95 per 100 alfalfa plants week ending November 10. (Brooks et al.). TEXAS - Pecos and Reeves Counties--25-99 per 50 sweeps of alfalfa week ending October 23. (Foster). FLORIDA - Alachua County--adults 11 per 100 sweeps of alfalfa collected at Gainesville, November 15. (Mead).

SPOTTED ALFALFA APHID (Therioaphis maculata) - TEXAS - Pecos and Reeves Counties--10-200 per 50 sweeps of alfalfa week ending October 23. (Foster). OKLAHOMA - Tillman County week ending November 10--moderate in fall-planted alfalfa. Some fields will be treated. Washita County--light. (Arnold). FLORIDA - Populations rapidly increased with cooler weather of previous weeks. Alachua County--about 6,000 per 100 sweeps in untreated alfalfa field at Gainesville, November 15. (Mead).

PEA APHID (Acyrtosiphon pisum) - TEXAS - Pecos and Reeves Counties--5-170 per 50 sweeps of alfalfa week ending October 23. (Foster).

LYGUS BUGS (Lygus spp.) - ARIZONA - Nymphs and adults, respectively, on alfalfa by county week ending October 27: Pinal--16 and 72 per 100 sweeps and Graham--6 and 10 per 10 plants; week ending November 3: Pinal--37 and 30-41 per 100 sweeps and Yuma--8 and 24 per 100 sweeps; week ending November 10: Pinal--32 and 74 per 100 sweeps. (Brooks et al.). FLORIDA - Alachua County--32 TARNISHED PLANT BUG (L. lineolaris) per 100 sweeps of alfalfa at Gainesville, November 15. (Mead).

SOYBEANS

DISEASES

SOYBEAN STEM CANKER (Diaporthe phaseolorum var. caulivora) - MICHIGAN - Prevalence on soybeans by county August 30 and September 6-8: Berrien--trace [seed full size], Calhoun--trace [seed full size], and Washtenaw--trace [seed full size]. (Singh).

SOYBEAN POD AND STEM BLIGHT (Diaporthe phaseolorum var. sojae) - MICHIGAN - Prevalence on soybeans (infected stems only) by county August 30 and September 6-8: Berrien--trace [seed full size] and Kalamazoo--trace [seed full size]. (Singh).

PHYTOPHTHORA ROOT AND STEM ROT (Phytophthora megasperma var. sojae) - MICHIGAN - Prevalence on soybeans by county August 30 and September 6-8: Monroe--1-2% [seed development], Lenawee--15-20% [seed development], Berrien--trace [seed full size], Calhoun--trace [seed full size], and Washtenaw--trace [seed full size]. (Singh).

SOYBEAN BROWN SPOT (Septoria glycines) - MICHIGAN - Prevalence/severity on soybeans by county August 30 and September 6-8: Monroe--1%/trace [seed development], Lenawee--90-95%/35-40% only on lower leaves [seed development], Branch--trace/- [seed full size], St. Joseph--25-30%/5-10% only on lower leaves, Berrien--5-7%/15-20% [seed full size], Van Buren--1-2%/5-10% [seed full size], Kalamazoo--5-10%/1-2% [seed full size], Calhoun--trace/- [seed full size], and Washtenaw--trace/- [seed full size]. (Singh).

SOYBEAN DOWNY MILDEW (Peronospora manshurica) - MICHIGAN - Prevalence/severity on soybeans by county August 30 and September 6-8: Lenawee--65-70%/5-7% [seed development], Berrien--10-15%/15-20% [seed full size], Van Buren--trace/- [seed full size], Kalamazoo--25-30%/15-20% [seed full size], Calhoun--15-20%/2-5% [seed full size], and Washtenaw--5-10%/45-50% [seed full size]. (Singh).

DIFFUSA POWDERY MILDEW (Microsphaera diffusa) - MICHIGAN - First of season. Prevalence/severity on soybeans by county August 30 and September 6-8: Washtenaw--5-10%/45-50% [seed full size]. (Singh).

SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) - MICHIGAN - Prevalence/severity on soybeans by county August 30 and September 6-8: Branch--60-70%/15-20% [seed full size], Berrien--60-70%/25-30% [seed full size], Van Buren--70-80%/30-35% [seed full size], and Washtenaw--15-20%/10-15% [seed full size]. (Singh).

TOBACCO RINGSPOT NEPOVIRUS - MICHIGAN - Prevalence on soybeans by county August 30 and September 6-8: Lenawee--trace [seed development], Kalamazoo--trace [seed full size], and Calhoun--trace [seed full size]. (Singh).

SOYBEAN MOSAIC POTYVIRUS - MICHIGAN - Prevalence on soybeans by county August 30 and September 6-8: Calhoun--trace [seed full size] and Washtenaw--trace [seed full size]. (Singh).

INSECTS

A CERAMBYCID BEETLE (Dectes texanus texanus) - ARKANSAS - Average percent mature soybean stems infested by larvae and number of fields surveyed (20 stems per field) by county week ending October 27: Chicot--25% and 2, Ashley--55% and 1, Lincoln--5% and 2, Desha--0% and 2, Arkansas--0% and 2, Prairie--0% and 2, and Lonoke--5% and 2; no lodging observed. (Mayse).

GREEN STINK BUG (Acrosternum hilare) - MISSISSIPPI - Many areas--this species and SOUTHERN GREEN STINK BUG (Nezara viridula) fed on maturing soybeans week ending October 26, economic in isolated fields. (Anderson).

PEANUTS

DISEASES

A BLIGHT (Sclerotinia sp.) - OKLAHOMA - Hughes County--prevalence near 100%/severity slight to moderate in 16-20 ha (40-50 acres) of peanut field with Florunner and Spanish peanuts week ending October 27. (Sturgeon, Williams).

PEANUT RUST (Puccinia arachidis) - OKLAHOMA - Caddo County--prevalence 10%/severity trace in surveyed peanut fields week ending November 3. (Sturgeon, Williams).

SMALL FRUITS

INSECTS

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - New county record. Glenn County--larvae on dooryard grapevine at Orland, October 16, 1978. Collected by F. Thomas and S. Carlson. Determined by R.E. Somerby. (Gill).

ORNAMENTALS

INSECTS

NUTGRASS BILLBUG (Sphenophorus cariosus) - FLORIDA - Lake County--larvae severely infested 100% of 1,000 Cyperus alternifolius (umbrella-plant) stems in a nursery at Leesburg week of October 30. (Bentley).

A DIASPIDID SCALE (Mycetaspis apicata (Newstead)) - TEXAS - New United States record. Cameron County--collected from Pithecellobium flexicaule (Texas ebony) at Brownsville, May 26, 1978, by S. Nakahara. Determined by S. Nakahara. Species reported from Brazil, Guyana, Mexico, and Panama on various hosts. Economic importance unknown. (S. Nakahara).

A DIASPIDID SCALE (Odonaspis penicillata) - TEXAS - New State record. Cameron County--taken from bamboo at Brownsville during May 1978 (exact date unknown). New county record. Hidalgo County--taken from bamboo at Weslaco during May 1978. All collected and determined by S. Nakahara. (S. Nakahara).

A DIASPIDID SCALE (Selenaspis albus) - CALIFORNIA - New county record. Santa Barbara County--collected from Euphorbia stellaespina (starspine euphorbia) at Carpinteria, October 5, 1978, by K. Meehan and P. Okuye. Determined by R.J. Gill. (Gill).

PIT SCALES (Asterolecanium spp.) - TEXAS - New State records. Cameron County--A. miliaris robustum and A. pseudomiliaris taken from bamboo at Brownsville, May 25, 1978. Collected and determined by S. Nakahara. (S. Nakahara).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - ALABAMA - New county record. Montgomery County--on ornamental oak at Montgomery, June 3, 1977. Collected and determined by M.L. Williams. (McQueen).

AN APHID (Neophyllaphis podocarpi) - TEXAS - New State record. Cameron County--taken from Podocarpus sp. at Brownsville, May 27, 1978. Collected and determined by S. Nakahara. (S. Nakahara).

A WHITEFLY (Parabemisia myricae (Kuwana)) - CALIFORNIA - New continental United States record. Orange County--collected on gardenia in nursery at Santa Ana, October 6, 1978, by T. McRoberts and H. Garrett. New county record for Los Angeles County--collected from Robertson navel orange in nursery at San Gabriel by F. Cunningham and J. Kincaid, October 12. Also infested home gardens adjacent to these nurseries. First non-nursery find at Santa Ana on October 17 on orange tree by D.H. Byers and G. Drake. Infested area in Los Angeles County encompassed about 91 sq km (35 sq miles). Major identifications by R.J. Gill. Many determinations from 91 sq km area in Los Angeles by E. Chao. Additional finds up to November 3 at Alhambra and in nurseries at Pasadena, Baldwin Park, and Azusa. Some additional hosts were birch, loquat, satsuma plum, hibiscus, flowering pear, mulberry, camellia, and avocado. (Gill, Robbins).

This whitefly presumably established in Hawaii based on collection from coffee at Keaau, Hawaii Island, in early 1900's and 7 quarantine interceptions since 1954. Known from Japan, Malaysia, and Republic of China. Some hosts include mulberry, citrus, tea, persimmon, pear, cherry, peach, plum, fig, camphor, and oak. Economic importance unknown. (S. Nakahara).

KIRKALDY WHITEFLY (Dialeurodes kirkaldyi) - TEXAS - New State record. Cameron County--taken from Jasminum sp. at Brownsville during latter part of May 1978. New county records. Hidalgo and Starr Counties--taken from Jasminum sp. at McAllen and Rio Grande City, respectively, during latter part of May 1978. All collected and determined by S. Nakahara. (S. Nakahara).

A THRIPS (Scirtothrips inermis) - CALIFORNIA - New county and host records for State. Monterey County--nymphs and adults 20 per leaf of ornamental Myoporum sp. taken at Monterey, September 28, 1978. Collected by B. Oliver, B. Hobza, and W. Marvin. Determined by T. Kono. (Gill).

FOREST AND SHADE TREES

INSECTS

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - CALIFORNIA - New county record. Orange County--adults reared from larvae and pupae collected on old established ornamental Monterey pines at Santa Ana, August 28, 1978. Collected by D. Byers and D. Park. Determined by R.E. Somerby. (Gill).

SPRUCE NEEDLEMINER (Endothenia albolineana) - NORTH DAKOTA - New county records. Larvae light on native grown Colorado blue spruce in nurseries. Sheridan County--collected at Martin, May 17, 1978. Foster County--collected at Carrington, May 18. Both collected by C.G. Scholl and determined by D. Kopp. (Kopp, Scholl).

WINTER MOTH (Operophtera brumata (Linnaeus)) - OREGON - New United States record. Multnomah County--males collected at Portland by S.G. Jewitt, December 1, 1958, by R.L. Furniss, December 7, 1973, and by K.J. Goeden, November 16, 1978. All determined by D.C. Ferguson. First two collections previously misidentified as a GEOMETRID MOTH (O. occidentalis). Currently, adults readily taken. Preliminary delimiting surveys underway in greater metropolitan area. (Penrose, Lattin). Known from northern Africa, Canada, most of Europe, and Japan. Some hosts are apple, plum, cherry, quince, pear, apricot, peach, oak, birch, walnut, beech, and elm. Severe defoliation has caused economic loss. (PPQ).

A CERAMBYCID BEETLE (Neoclytus mucronatus mucronatus) - WEST VIRGINIA - New State record. Kanawha County--one adult collected from white birch at Charleston, September 8, 1978. Collected by D. Dixon. Determined by T.J. Spilman. (Hacker).

A CERAMBYCID BEETLE (Parandra brunnea) - MONTANA - New State record. Yellowstone County--adults collected from very old and large boxelder tree at Billings, September 7, 1978. Collected by R. Adams. Determined by J. Chemsak. (Jensen).

A CECIDOMYIID MIDGE (Dasineura gleditchiae) - CALIFORNIA - New State record. Santa Clara County--larvae infested 100% Gleditsia spp. (honeylocusts) in nursery at San Jose, June 12, 1978. Collected by D. Bass. Determined by M. Wasbauer. Also found at Cupertino. Infestation firmly established in many locations on same host in San Francisco Bay region, apparently in area for some time. (Gill).

A DIASPIDIID SCALE (Diaspidiotus mcombi) - ALABAMA - New county record. Butler County--collected on Pinus virginiana (Virginia pine) at Greenville, May 31, 1975. Collected and determined by M.L. Williams. (McQueen).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - OKLAHOMA - Counts per head of cattle by county week ending November 3: Major--200 and Payne and Noble--50-100. (Arnold).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - First of season. Payne County--larvae and nymphs heavy on calves at Lake Carl Blackwell area October 27. Partially engorged female also found. (Arnold).

BLACKLEGGED TICK (Ixodes scapularis) - OKLAHOMA - First of season. Payne County--3 adults collected from calves at Lake Carl Blackwell area October 27. (Arnold).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

AN ENCYRTID WASP (Ixodiphagus texanus) - OKLAHOMA - New State record. Nowata County--reared from a nymph of Haemaphysalis leporispalustris (rabbit tick) collected from a sparrow at Nowata, May 15, 1978. Collected by J.L. Bowman. Determined by E.E. Grissell. (Arnold).

FEDERAL AND STATE PROGRAMS

INSECTS

CEREAL LEAF BEETLE (Oulema melanopus) - WISCONSIN - New county record. Waukesha County--larva collected from oats in Merton Township, June 20, 1978. Collected by H.G. Bennett. Determined by R. Taylor. (Lovett). NEW HAMPSHIRE - New county record. Hillsborough County--larvae collected from oat field at Milford, June 23, 1978, by C. Tatham. Determined by T.L. Burger. Larvae parasitized by Tetrastichus julis (a eulophid wasp). (J.F. Burger).

GRASSHOPPERS - TEXAS - Pecos and Reeves Counties--0-3 per 50 sweeps of alfalfa week ending October 23. (Foster).

MINNESOTA - Grasshoppers stayed below economic levels statewide in 1978. Wilkin County--economic levels of 8 or more per 0.8 sq m (sq yd) in scattered alfalfa fields in western area. Adult surveys in 62 counties and 322 fields of mostly alfalfa, August 14-25. Adult averages per 0.8 sq m in field and margins, respectively, by district: Northwest--3.77 and 6.77, west-central--2.08 and 6.02, central--0.68 and 1.55, east-central--0.57 and 2.47, southwest--1.04 and 2.70, south-central--0.76 and 2.28, and southeast--0.56 and 1.80. Average statewide 1.40 and 3.37, noneconomic throughout. Predominant species Melanoplus femurrubrum 79%, M. bivittatus 14%, M. differentialis 40%, and total 3% for M. sanguinipes, Dissosteira carolina, and Mermiria sp. Egg pods in 8 counties and 15 fields in northwest, west-central, and southwest districts--averaged 0.10 and 0.03 per 0.09 sq m (sq ft) in field and margins, respectively, October 9-20; below economic levels. (Sreenivasam).

GYPSY MOTH (Lymantria dispar) - WISCONSIN - Waukesha County--26 egg masses collected from intensive survey week ending November 3. (Lovett).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Pecos and Reeves Counties--infested 2-5% of cotton in most fields week ending October 23; infestations 50-100% in 2 fields at Coyanosa. (Foster).

SCREWORM (Cochliomyia hominivorax) - Total of 1,170 cases reported from continental United States October 1-28 as follows: Texas 295, New Mexico 191, Arizona 630, California 52, unknown State 2. (Meadows). Total of 1,486 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 2,866 cases reported in Mexico south of Barrier Zone. (Williams, Smith). Number of sterile flies released September 24 to October 21 totaled 526,075,800 as follows: Texas 306,944,200; New Mexico 27,044,100; Arizona 177,770,300; California 14,317,200. (Meadows). Total of 518,525,400 sterile flies released within Barrier of Mexico. (Williams, Smith).

HAWAII PEST REPORT

New State Records. Infestations of a WHITEFLY (Aleurodicus dispersus) discovered on Terminalia catappa (tropical-almond) in Kukui area of Honolulu, Oahu, on September 26, 1978, by K. Teramoto. Determined by J.W. Beardsley, confirmed by S. Nakahara. Possible vector of COCONUT LETHAL YELLOWING MYCOPLASMA on coconut palms in Florida. On Oahu, preliminary surveys up to October 13 showed infestations in Pawaa, Nuuanu, Palama, Kukui, Iwilei, Kapalama, Waiakamilo, and Kalihi Valley areas of Honolulu. Infestations with all stages on 64 plant species. Infestations moderate to heavy only on tropical-almond, Indian laurel, sea grape, plumeria, coconut, guava, and citrus. Preliminary surveys showed no indication of presence of coconut lethal yellowing mycoplasma on coconut palms in infested areas. (L. Nakahara).

Specimens of a BITING LOUSE (Kurodaia flammei) collected on Asio flammeus sandwichensis (Hawaiian owl) on Kauai (city unknown) during April 1978 by D. Haas. Determined by K.C. Emerson. (Hardy).

Turf and Pasture - GRASS WEBWORM (Herpetogramma licarsisalis) infestations moderate on 1 ha (3 acres) of kikuyagrass pasture at Kokomo, Maui, week ending November 10. Damage moderate to heavy along borders. Adults of the parasite Eucelatoria armigera (a tachinid fly) also heavy. (Miyahira, McGrath).

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) foliar damage and infestations heavy (almost 100% of leaves infested) on 2 ha (5 acres) of tomato [near flowering] at Pulehu, Maui, week ending October 27. (Miyahira, McGrath). DIAMONDBACK MOTH (Plutella xylostella) infestations moderate and foliar damage moderate to heavy on 0.10 ha (0.25 acre) of mustard cabbage at Mikilua and on 0.20 ha (0.50 acre) of daikon at Waianae, Oahu, week ending November 17. (S. Nakahara).

Fruits and Nuts - Infestations by A DIASPIDID SCALE (Fiorinia fioriniae) moderate to heavy on 2 avocado trees 15 m (50 ft) tall at Waianae, Oahu, week ending November 17. Leaves and fruits infested, many fruits deformed. (S. Nakahara).

Ornamentals - STRIPED MEALYBUG (Ferrisia virgata) infestations light to heavy on stems and foliage of Citharexylum spinosum (fiddlewood) in Panaa-McCully and Waikiki areas of Honolulu, Oahu, week ending November 3. Predation by Cryptolaemus montrouzieri (mealybug destroyer) heavy. (Higa, Teramoto).

Man and Animals - New island record. WESTERN YELLOWJACKET (Vespula pensylvanica) adults collected on ranch land 762.0 m elevation (2,500 ft) at Kaloko (N. Kona), Hawaii Island, during October 1978 by C. Mederios. Determined by S. Higa. (Matayoshi, Miyahira).

Beneficial Insects - Surveys for a TEPHRITID FLY (Procecidochares alani) in September 1978 showed activity to be very high at elevations of 457.2-1,036 m (1,500-3,400 ft). Up to 85-100% of pamakani terminals sampled found to be galled at Kaloka, Honomalino, Palani, and Hualalai, Hawaii Island. (Matayoshi). CACTUS MOTH (Cactoblastis cactorum) infestations moderate to heavy at Keamoku, Hawaii Island, week ending November 3. Larval damage noticeable and adult egg "sticks" heavy on cactus leaf pads. First noticeable buildup of infestations since gradual recurrence of cacti several years ago. (Yoshioka, Matayoshi).

LIGHT TRAP COLLECTIONS

CALIFORNIA - Bellota, 11/7, 611-26 C (43-80 F), BL - ARMYWORM (Pseudaletia unipuncta) 48, BEET ARMYWORM (Spodoptera exigua) 77, BLACK CUTWORM (Agrotis ipsilon) 59, CORN EARWORM (Heliothis zea) 1, VARIEGATED CUTWORM (Peridroma saucia) 1. FLORIDA - Gainesville, 11/9-15, BL - ARMYWORM 1, BLACK CUTWORM 8, FALL ARMYWORM (Spodoptera frugiperda) 4, GRANULATE CUTWORM (Feltia subterranea) 2. TEXAS - College Station, 11/8-14, BL - ARMYWORM 78, BLACK CUTWORM 11, CABBAGE LOOPER (Trichoplusia ni) 0, CORN EARWORM 0, FALL ARMYWORM 24, SALT MARSH CATERPILLAR (Estigmene acrea) 0, TOBACCO BUDWORM (Heliothis virescens) 0, TOBACCO HORNWORM (Manduca sexta) 0, TOMATO HORNWORM (Manduca quinquemaculata) 0, YELLOWSTRIPED ARMYWORM (Spodoptera ornithogalli) 2.

DETECTION

NEW UNITED STATES AND CONTINENTAL U.S. RECORDS

INSECTS

A DIASPIDID SCALE (Mycetaspis apicata (Newstead)) - TEXAS - Cameron County. (p. 617).

AN ORTHEZIID SCALE (Orthezia pseudinsignis Morrison) - TEXAS - Cameron County - collected from unknown plant near Brownsville, May 22, 1978, by G. Burgess and S. Nakahara. Determined by S. Nakahara. This polyphagous species known from Guatemala, Mexico, and Peru. Occasionally intercepted from Mexico on various hosts. Economic importance unknown. (Burgess, S. Nakahara).

WINTER MOTH (Operophtera brumata (Linnaeus)) - OREGON - Multnomah County. (p. 618).

A WHITEFLY (Parabemisia myricae (Kuwana)) - CALIFORNIA - Orange County. (p. 617).

NEW STATE RECORDS

INSECTS

AN APHID (Neophyllaphis podocarpi) - TEXAS - Cameron County. (p. 617).

A BITING LOUSE (Kurodaia flammei) - HAWAII - Kauai Island. (p. 620).

- A CECIDOMYIID MIDGE (Dasineura gleditchiae) - CALIFORNIA - Santa Clara County. (p. 618).
- A CERAMBYCID BEETLE (Neoclytus mucronatus mucronatus) - WEST VIRGINIA - Kanawha County. (p. 618).
- A CERAMBYCID BEETLE (Parandra brunnea) - MONTANA - Yellowstone County. (p.618).
- A DIASPIDID SCALE (Odonaspis penicillata) - TEXAS - Cameron County. (p. 617).
- AN ENCYRTID WASP (Ixodiphagus texanus) - OKLAHOMA - Nowata County. (p. 619).
- KIRKALDY WHITEFLY (Dialeurodes kirkaldyi) - TEXAS - Cameron County. (p. 618).
- A LYGAEID BUG (Lygaeus belfragei) - OKLAHOMA - Cimarron County--1 specimen collected at Kenton on an unidentified weed, August 18, 1964. Collected and determined by D.C. Arnold. (Arnold).
- A MEALYBUG (Phenacoccus solenopsis) - FLORIDA - Dade County--pupae infested Ambrosia sp. (ragweed stems) at North Miami Beach, August 15, 1978. Collected by P. Karayeanes. Determined b A.B. Hamon; confirmed by D.R. Miller. (Hamon).
- PIT SCALES - Asterolecanium miliaris robustum and A. pseudomiliaris - TEXAS - Cameron County. (p. 617).
- A PSYCHID MOTH (Apterona helix) - MASSACHUSETTS - Berkshire County--found attached indiscriminately to above ground surfaces such as domiciles, oriental trees, flowers, and variety of garden produce at Lenox, August 21, 1978. About 1,000 collected by 2 workers in 30 minutes. Collected by D. Adamski and R. Mankowski. Determined by D.R. Davis. (Adamski).
- A RHOPALOSOMATID WASP (Olixon banksii) - NORTH DAKOTA - Dunn County--4 specimens taken from pit fall trap between alfalfa field in rural area, July 28, 1978. Collected by S. Kurtz, P. Lago, and T. Smith. Determined by A.S. Menke. Larvae attack crickets. (Scholl).
- A TEPHRITID FLY (Rhagoletis berberis) - UTAH - Cache County--collected in Malaise trap half-way up Green Canyon a few km (miles) from Logan, July 4, 1969. Collected by W.J. Hanson. Determined by R.H. Foote. (Knowlton, Hanson).
- A WHITEFLY (Aleurodicus dispersus) - HAWAII - Oahu Island. (p. 620).
- WEEDS
- HARMEL (Peganum harmala) - CALIFORNIA - San Diego County--this perennial weed collected in herb nursery at Vista, September 15, 1978. Collected by D. Demmer. Determined by G.D. Barbe. This weed is toxic to livestock. When the host was brought into this locality is unknown. (Gill).
- NEW COUNTY AND ISLAND RECORDS
- INSECTS
- CEREAL LEAF BEETLE (Oulema melanopus) - WISCONSIN - Waukesha; NEW HAMPSHIRE - Hillsborough. (p. 619).
- A DIASPIDID SCALE (Diaspidiotus mcombi) - ALABAMA - Butler. (p. 618).

A DIASPIDID SCALE (Odonaspis penicillata) - TEXAS - Hidalgo. (p. 617).

A DIASPIDID SCALE (Selenaspis albus) - CALIFORNIA - Santa Barbara. (p. 617).

EUROPEAN CORN BORER (Ostrinia nubilalis) - TEXAS - Dallam, Hartley, Oldham, Deaf Smith, Sherman, Hansford, Hutchinson, Potter, Randall, Ochiltree, Lipscomb, Roberts, Carson, and Gray. KENTUCKY - Breathitt, Clay, Laurel, Leslie, Perry, and Rockcastle. (p. 612).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - ALABAMA - Montgomery. (p. 617).

A KIRKALDY WHITEFLY (Dialeurodes kirkaldyi) - TEXAS - Hidalgo and Starr. (p. 618).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - CALIFORNIA - Orange. (p. 618).

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes) - NORTH DAKOTA - Mountrail County--adults collected from attractant trap in rural area on August 1, 1978. Collected and determined by W.J. Brandvik. (Brandvik).

SOUTHERN CHINCH BUG (Blissus insularis) - CALIFORNIA - Monterey. (p. 614).

SPRUCE NEEDLEMINER (Endothenia albolineana) - NORTH DAKOTA - Foster and Sheridan. (p. 618).

A THRIPS (Scirtothrips inermis) - CALIFORNIA - Monterey. (p. 618).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - ILLINOIS - Saline. (p. 612).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - Glenn. (p. 616).

WESTERN YELLOWJACKET (Vespula pensylvanica) - HAWAII - Hawaii. (p. 621).

A WHITEFLY (Parabemisia myricae) - CALIFORNIA - Los Angeles. (p. 617).

WEEDS

MEDITERRANEAN ONION (Allium paniculatum) - CALIFORNIA - Napa County--infestations of 0.10 ha (0.25 acre) scattered over 0.4 ha (1 acre) on private land not under cultivation except for small garden plot at Callistoga. Present since 1974. Collected by H. Stabo. Determined by D. Barke. (Hasbrouck).

PURPLE STARThistle (Centaurea calcitrapa) - CALIFORNIA - Glenn. (p. 614).

SCOTCH THISTLE (Onopordum acanthium) - CALIFORNIA - San Diego--scotch thistle [0.6 to 2-m (2 to 6-ft) tall] found in vacant lot at Vista, June 5, 1978. Collected and determined by D. Barke. (Hasbrouck).

SPOTTED KNAPWEED (Centaurea maculosa) - CALIFORNIA - Monterey County--this noxious weed collected along roadside at Spreckels, October 2, 1978. Collected by B. Oliver. Determined by T.C. Fuller. (Gill).

Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	Life Stage	Host	Probable Origin	Port of Entry	Destination
<u>Orchamoplatus mammaeferus</u> (Q & B) a whitefly Det. J. Dooley	adult	on leaves of <u>Codiaeum</u>	Tahiti	Los Angeles	--
<u>Phloeosinus rudis</u> Blfd. a scolytid beetle Det. D.M. Anderson	adult larval	in dunnage with lawn mowers	Japan	Jacksonville	FL
<u>Pineus harukawai</u> Inouye an adelgid Det. M.B. Stoetzel	adult	on cuttings of <u>Pinus pumila</u>	Japan	Beltsville	DC
<u>Thrips obscuratus</u> (Crawford) a thrips Det. S. Nakahara	adult	on strawberries from cargo	New Zealand	Los Angeles	CA
<u>Tranes</u> sp. a weevil Det. D.R. Whitehead	adult	on plants of <u>Macrozamia</u> from cargo	Australia	Hoboken	FL
<u>Vinsonia stellifera</u> (Westwood) a soft scale Det. J. Dooley	adult	on leaves of <u>Aspasia</u> from cargo	Panama	Los Angeles	CA
<u>Veronicella carusi</u> Simorth a slug Det. R.D. Munkittrick	juvenile	on tropical plants from cargo	Malaysia	San Francisco	FL
<u>Heterodera avenae</u> Wollenweber oat cyst nematode Det. W. Friedman	cyst	with soil on shamrock plants	United Kingdom	Los Angeles	CA

INTRODUCTION

The summary of pest conditions, beginning in this issue, will be continued in the next issue of the "Cooperative Plant Pest Report." This summary was compiled by the New Pest Detection and Survey Staff from annual summaries submitted by various State and Federal cooperators. A list of individuals who assisted in assembling data will appear near the end of the last section of this summary. The New Pest Detection and Survey Staff appreciates the assistance of all individuals who have participated in the preparation of material for the 1977 summary.

SPECIAL PESTS OF REGIONAL SIGNIFICANCEHighlights

Large ARMYWORM infestations did not develop in Nebraska, Illinois, or Indiana in spite of heavy flights or heavy larval populations. Armyworm infested wheat and grass pastures in Mississippi. Damage to small grains and corn occurred in Alabama, Wisconsin, North Carolina, Virginia, and Pennsylvania. Populations of CORN EARWORM on corn were heavy in Washington, below normal in Idaho, heavy in Oklahoma, and the heaviest ever for North Carolina. Much sorghum was treated in Kansas. On soybeans, treatments were needed in Oklahoma and North Carolina, and populations were heavy in Virginia and Delaware. Corn earworm was an important pest of tomatoes in Alabama. GREENBUG was lighter than usual in Washington and Oklahoma, became a pest of grain in Idaho, and was very heavy in Indiana and Florida. POTATO LEAFHOPPER destroyed many potato plantings in Ohio.

DISEASES

CURLY TOP VIRUS infection in sugar beet fields increased sharply in several CALIFORNIA counties, including Los Angeles, Fresno, and Monterey. The prevalence in heavily infected fields ranged from 40% to 99%. Up to 20% of the tomatoes in the southern San Joaquin Valley were infected. Several fields of susceptible sugar beets killed by this virus in IDAHO were abandoned near Twin Falls, Twin Falls County.

INSECTS

ARMY CUTWORM (*Euxoa auxiliaris*) populations on small grains in Wichita County, TEXAS, ranged up to 0.2 per row ft in early January and late February. Infestations in OKLAHOMA were very light in all areas from late January to early March, except in Washita County. Here populations ranged 1-5 per row ft in some wheat fields in early March.

Larvae in NORTH DAKOTA infested 50% of 20 winter wheat fields in the southwest and west-central districts. Populations ranged up to 1 (averaged less than 1) per sq ft with less than 10% damage; some controls were applied. Populations were trace in 22 southwestern area winter wheat fields by April 29; damage was less than 1%.

ARMYWORM (*Pseudaletia unipuncta*) adults were trapped at 20-60 per night in Hale County, TEXAS, the week of July 7. Populations on corn were light across the South Plains and the Panhandle. Light, continuous populations of this species, BEET ARMYWORM (*Spodoptera exigua*), YELLOWSTRIPED ARMYWORM (*S. ornithogalli*) and FALL ARMYWORM (*S. frugiperda*) occurred on alfalfa through the Trans-Pecos area. The armyworm population peaked in Reeves and Ward Counties at 1,000 per 100 sweeps on September 9.

Armyworm damage to small grains in OKLAHOMA continued from early May to early June. Populations ranged 2-15 per sq ft in some fields in several north-central, central, and west-central counties and in a few southwestern and south-central counties. Damage was light in many of the fields surveyed but some fields were treated in most of these areas. In KANSAS the only economic infestations on small grains were concentrated in the north-central district.

First generation armyworm larvae caused no damage in NEBRASKA. A very large adult flight in this State (5,000+ adults in 2 light traps in Hamilton and Rock Counties) and an adjacent eastern State on June 13 indicated that the flight apparently covered the eastern one-third of Nebraska. The potential for larval infestations appeared very high but few economic infestations were seen. Most feeding was restricted to grassy weeds.

No economic armyworm infestations occurred in NORTH DAKOTA. Small larvae ranging up to 3 (averaged 1.5) per sq ft, were first noted on small grain in the northeastern area on June 24. By July 1 larvae (0.25-1.0 inch long) ranged up to 4 (averaged 2) per sq ft in the east-central district and up to 7 (averaged 1) per sq ft in the central district.

In ARKANSAS armyworm larvae ranged 3-6 per sq ft on wheat in the southeastern area in late April, and 7-8 per sq ft in the northeastern and east-central areas.

Heavy numbers of armyworm adults in MISSISSIPPI were first captured in light traps at Mississippi State and Stoneville the week of April 7. Larval damage to wheat began the last week in April when larvae averaged 0.3 per row ft in Clay, Monroe, and Lowndes Counties. By mid-May, populations of 1-9 larvae per sq ft infested heading wheat in Tate, Tunica, De Soto, and other northern counties. Controls were effective. Larvae were first reported feeding on large acreages of ryegrass pastures, the week of April 21. The following week, larvae ranged 10-62 per sq ft on 2,000 acres of ryegrass in Franklin County. Defoliation ranged 40-90% on 400 acres in Wilkinson County the week of May 5. Bermudagrass pastures were also damaged in Monroe, Noxubee, and Clay Counties. Damage increased significantly from 1976. Populations had decreased by mid-May. Controls applied to about 2,500 acres of ryegrass pasture were effective.

The overwintered armyworm population in ALABAMA damaged 15% of the 120,000-acre wheat and 30,000-acre oat crop during 1977. Damage was most serious in the southern area. Damage in TENNESSEE began on corn, small grains, pastures, alfalfa, and peppers in early May and continued until the first of June. Of 64 counties, 17 reported damage to 7,771 acres with controls applied to 6,116 acres. Damage to corn in KENTUCKY was reported in late May and early June, with the heaviest infestation levels at about 10%; only about 4% of the acreage was damaged. Damage to wheat statewide was much lighter than normal. Larvae averaged less than 5 per 50 sweeps in the central area during May. About 4% of the wheat acreage was damaged.

Armyworm infestations in ILLINOIS were first noted on wheat in late April in the southern area. By the second week of May, small larvae were widespread across the southern one-third of the State in lush areas of the fields. Although larvae ranged up to 6 per row ft in the worst areas, large infestations in wheat did not develop. Some damaging infestations occurred in grassy no-till corn. The first adult in INDIANA was collected March 29; flights peaked during the weeks ending May 19, June 16, and August 11. It was not economic although the peak flight of 1,400 adults per week per trap in Tippecanoe County was not much below that for 1976 (1,600 per week per trap), an outbreak year.

Heavy adult catches in WISCONSIN in late May and early June pointed to outbreaks. In late June, 4 armyworms per sq ft infested lodged oats in Marathon County where larvae were small and few were parasitized; about 1,000 acres of oats were treated. Shawano, Oconto, Marinette, and Green Lake Counties also had problems in oats.

Armyworm in NORTH CAROLINA began cutting heads of wheat in Camden, Washington, Beaufort, Pasquotank, and Pamlico Counties May 12-18; about 15,000 acres were treated in this area. A heavy flight during mid-June in the Coastal Plains resulted in larvae on lush grass by early July. Damage was most prevalent on silking corn in the southern half of the Coastal Plains (south of Wayne and Hyde Counties); damage was also observed in the Piedmont and mountains. Defoliation occurred primarily in spots 0.25 to 2 acres in size with some 20-acre fields stripped of foliage to the ear. Lenoir County reported 5,000 acres of damage, ranging from noneconomic to above economic levels. Infestations of 8 larvae per corn plant were observed in fields up to 256 acres in size. Damage subsided by late July.

Armyworm outbreaks on small grains in VIRGINIA continued to be light and scattered in Northumberland County through June 1, about 300-400 acres of small grains were treated. On the Eastern Shore (Accomack and Northampton Counties), however, damage to small grains was the heaviest that has occurred in many years. The first adults in DELAWARE were collected in blacklight traps in mid-March. By late April, collections averaged 50 per night in many areas. Infestations in PENNSYLVANIA damaged up to 50% of no-till corn in Centre County by early July.

The first ASTER LEAFHOPPER (Macrostelus fascifrons) migrants in WISCONSIN were found on rye on April 11 in Dane and Grant Counties. The main migration apparently bypassed this State. The light populations in the southern area never seriously threatened susceptible vegetables.

Unusually heavy BEET LEAFHOPPER (Circulifer tenellus) populations in CALIFORNIA damaged tomatoes in the western and southern foothill areas of Kern County. Overwintering populations in IDAHO were light. Much damage was caused at the bud stage to bean and pea varieties of no or low resistance.

CORN EARWORM (Heliothis zea) adults in WASHINGTON increased over the past years as indicated by light trap collections. Early in the spring, corn was heavily infested in all areas east of the Cascades except the Kittitas Valley. Rare isolated infestations were reported in western Washington. Populations in IDAHO were about 50-60% of normal. Larvae at Parma reached 100 per 100 ears on late-planted corn, previously averaging 150-200 per 100 ears. Spray programs in the southwestern area were more extensive than normal because fringe areas where corn earworm is less of a problem could not be planted because of drought.

Weather conditions being more synchronized with its life cycle before early September, the proper photoperiod for diapause existed. Consequently, a normal year for 1978 (150-200 larvae per 100 ears on late-planted corn) is expected in the southwestern area. In Latah County, larvae, normally fewer than 5 per 100 ears, reached 100 per 100 ears at Moscow.

Light continuous corn earworm populations occurred through the Trans-Pecos area of TEXAS. Larvae peaked in Reeves and Ward Counties on September 9 at 160 per 100 sweeps of alfalfa. Infestations were observed on late-blooming sunflowers on September 22 in the Panhandle area.

Corn earworm in OKLAHOMA heavily infested corn (50-100% of ears) from mid-June to mid-July in many areas. Infestations on grain sorghum ranged light to moderate in most areas, with scattered heavy infestations (1-2 per head) in a few west-central, northwestern, and Panhandle counties from late August to early September. Moderate to heavy populations damaged soybeans in the east-central counties and a few north-central, northeastern, and southeastern counties in August and September. Infestations of 3-7 per row ft damaged up to 50% of the pods in some fields; about 25% of the surveyed fields in the east-central counties needed treatment. Larvae infested alfalfa from early May to early October with heavy numbers in scattered fields in several areas from August through early October. Corn earworms and other lepidopterous larvae heavily damaged a sunflower field in Kingfisher County in mid-September.

Corn earworm infestations caused substantial acreages of sorghum to be treated across southern KANSAS. Infestations were unusually heavy in sorghum heads in the south-central and southwestern areas during August and September. Economic infestations in sorghum heads were first noted in Comanche county in mid-August. Adults were heavy in Pratt, Pawnee, and Kiowa Counties by early August and in Finney and Stevens Counties by mid-August. Statewide yield losses due to ear feeding were the heaviest in the southwest (3.4%) and south-central (3.1%) districts. Soybean and pod damage was reported only in Elk County where about 1,875 acres were treated.

The first corn earworm adult of the season in NEBRASKA was reported in Hamilton County, on June 4. Larvae were active in scattered corn fields in Fillmore, Dawson, and Buffalo Counties on June 21. The heaviest first generation infestations occurred in the southeast district where up to 40% of the corn plants in 1 field had damaged whorls by June 26. Populations were lighter in the western half of the State with about 33% of the corn fields infested. Second generation larvae damaged up to 10% (averaged 1-2%) of the ears in these fields.

Corn earworm in northeastern ARKANSAS ranged light to moderate on sorghum in late July, but was above the economic threshold in the southwestern area. This species and TOBACCO BUDWORM (H. virescens) were feeding on soybean foliage in the southeastern area by late June; H. zea outnumbered H. virescens by 8 to 1. In mid-August only 40 of 8,000 acres of soybeans in the northeastern area needed treatment. By late August, several fields in the southwestern area were above treatment level. H. virescens accounted for 20% of the Heliothis population in the southeastern area in early September. Corn earworm damaged commercial okra fields in the eastern area in early September.

Corn earworm larvae in MISSISSIPPI first appeared on corn ears in mid-June in Oktibbeha, Noxubee, Hinds, and Madison Counties. By late July, larvae were noted at 1+ per ear in Leflore, Oktibbeha, Hinds, Leake, and Lauderdale

Counties and 2.1 per ear on late-planted corn in Noxubee and Kemper Counties August 25. This species and H. virescens were first reported on soybeans in Pearl River County during the week of July 21; larvae averaged 4 per 15 row ft on soybeans in early bloom. Populations peaked during the first half of September with extensive pod damage; larvae were up to 48 per 25 sweeps in Lowndes County. These species infested soybeans in significantly heavier populations than in 1976. Control attempts gave moderate results statewide with many areas reporting ineffective applications. Many controls were applied too late to control early instar larvae due to poor field scouting. Larvae decreased statewide by mid to late September.

Corn earworm was an important pest of tomatoes throughout ALABAMA. All 12,000 commercial acres and home gardens received 15 or more treatments.

In 51 TENNESSEE counties, corn earworm damaged 281,050 acres of soybeans (163,100 acres treated), 32,197 acres of corn (2,415 acres treated), 29,000 acres of cotton (18,500 acres treated), 300 acres of snap beans (200 acres treated), 50 acres of peppers (30 acres treated), 95 acres of tomatoes (95 acres treated), and 2,000 acres of vegetables (none treated). This species and FALL ARMYWORM (Spodoptera frugiperda) damaged 6,250 acres of corn (2,750 acres treated), 39,000 acres of soybeans (33,000 acres treated), and 1,000 acres of cotton (855 acres treated). Corn earworm in KENTUCKY infested up to 95% of the ears in some late-planted fields; larvae averaged 1-2 per ear. Very little treatment was applied on field or silage corn.

The first corn earworm adult in INDIANA was taken in a blacklight trap August 3; flights peaked during the week of September 8. Although noneconomic on grain corn, corn earworm was an important pest of sweet corn and tomatoes in August and early September. Along with the EUROPEAN CORN BORER (Ostrinia nubilalis), infestations on snap beans in the Vincennes area, Knox County, made the pods unsalable.

Corn earworm populations in FLORIDA were much heavier than usual in the Hastings area, St. Johns County. It was the main budworm that caused much damage to short season variety of field corn at Mayo, Lafayette County, involving 140 irrigated acres early in May.

Corn earworm infestations in NORTH CAROLINA were the heaviest recorded in pretassel corn throughout the Coastal Plains and Piedmont counties. The heaviest infestation occurred in and south of Johnston, Wayne, and Pitt Counties. Infested plants ranged 15-90% (averaged 30%) in 25 randomly selected fields in Sampson, Bladen, Johnston, Wilson, and Edgecombe Counties (5 fields per county), May 28 to June 1. During the past 30 years, infestations in pretassel corn have not exceeded 5% over an entire county. Test plots comparing infested and noninfested plants revealed no significant difference in yield. Damage to sorghum heads began August 10 and peaked about August 19. Corn earworm and SORGHUM WEBWORM (Celama sorghiella), the predominant lepidopterous larvae, infesting sorghum heads, ranged 5-8 per head in every county with sorghum. The heaviest losses occurred in Union, Anson, and Stanly Counties where most grain sorghum is grown.

Frequent monitoring of corn earworm populations in field corn in North Carolina during mid-July indicated a greater than average potential for damage in soybeans should drought continue in North Carolina. The weather changed very little. By July 22 (7-10 days early), adults were detected in soybean fields

scattered over the entire Coastal Plains and Piedmont areas. Most egg laying by corn earworm in soybeans occurred July 22 to August 20, the longest and heaviest third generation egg laying period ever experienced. Second instar larvae were detected in Duplin and Sampson Counties on July 27. By August 5, the threshold level (2 larvae per row ft) was met in most southern Piedmont and Coastal Plains fields. Populations of 9 per row ft were observed in open canopy blooming fields. Due to drought stress, about 85% of the fields had open canopies, compared with 50% during a year with average rainfall. During August 7-15, of 150 open canopy, blooming or past bloom fields (5-40 acres) in North Carolina from Brunswick County in the south to Halifax County in the north and Union County in the west, 75% of the fields had 2-25 larvae per row ft.

Light trap catches of corn earworm exceeded 1,000 in 6 of 10 traps in North Carolina on August 12, declining slightly by August 15-18. Pupation then began in most areas, but the very long egg laying period resulted in all stages occurring in most fields surveyed. Economic numbers remained until September 3 in scattered late Piedmont and central and northern Coastal Plains fields. About 85% of the soybean acreage (about 30% was treated in 1975 and 1976) received one or more treatments. The majority of these controls was directed toward corn earworms.

Corn earworm defoliation on peanuts in North Carolina reached the economic damage level in about 50% of the 165,000 acres of peanuts grown in the State. Spots of 0.25 to 2 acres in size with 70% foliar loss and 10 larvae per ft occurred in Edgecombe, Halifax, and Sampson Counties. Multiple treatments were needed to bring the populations in some fields under control. Egg laying and hatch occurred throughout August.

Although heavy corn earworm infestations on soybeans were predicted in VIRGINIA, the infestations occurred earlier than expected. Due to severe drought drying field corn, many second generation adults laid eggs on early planted soybeans instead of corn. Consequently, second generation larvae damaged early planted soybeans in the prebloom, bloom, and early pod stages infested. Over 100 acres were infested in Lancaster County; some at treatment levels; two samples in separate fields yielded 16 and 29 larvae per 3 row ft. Damage was heavy in Richmond County.

By August 25, up to 26 corn earworm per 3 row ft had been collected and 10-12 per 3 row ft were common in most susceptible soybeans from Mathews County to Westmoreland County, Virginia. Larvae ranged from newly hatched to 1.5 inches long. Adults were heavy. The problem was expected to continue until frost. Although in most years 1 well-timed spray is adequate, many fields were treated twice and some fields were treated 3 times. During the week of August 15, between 3,000-5,000 acres were sprayed in Westmoreland County. By September 1, third generation larvae arrived in Westmoreland, Northumberland, and Richmond Counties on schedule and in enormous numbers, usually 10-12 per row ft. Damage was particularly heavy in Greensville County. A total of 2,555 adults was taken in a blacklight trap in Accomack County September 3-5. The 19-year count for this station was only 657 per season. By September 9, larval populations dropped below earlier peaks and spraying decreased as soybeans matured. However, there were some reports of larvae infesting beans that were tough and opening beans where the pod was turning brown. Occasional damage continued to occur as late as October 7.

Corn earworm infestations in DELAWARE occurred earlier than usual and was very heavy in most trap collections by the first week of August. Ear infestations in

Kent and Sussex Counties were generally heavy for corn earworm. Over 50% of the soybean fields had serious economic injury, especially in Sussex County. Controls were applied to most fields in the area. Infestations in PENNSYLVANIA were up to 20% in sweet corn fields in the southeastern area in July.

Heavy CORN LEAF APHID (Rhopalosiphum maidis) populations occurred in TEXAS on sorghum in Tom Green and Runnels Counties by June 1. Infestations in OKLAHOMA were generally light to moderate on sorghum except for some heavy infestations in the southwestern area during August.

Corn leaf aphid in northwestern ARKANSAS averaged 50 per plant in experimental sorghum fields in early June. While in the northeastern area, heavy predation kept aphid populations relatively light. By mid-June, populations were heavy in sorghum and corn in the southwestern and northeastern areas. By late June, unusually heavy infestations (5,000 per plant) occurred in northeastern sorghum fields, but very little damage was noted. Populations decreased rapidly in the northeastern area by early July due primarily to natural enemies and weather.

Corn leaf aphid colonies in ILLINOIS were established in the northern two-thirds of the State during late June. Infestations in the central district averaged 28% with fewer than 20 aphids per whorl. Populations remained generally light, although by the third week of July some fields were treated. This pest was of no further concern after the corn pollination. Corn leaf aphid in INDIANA infested about 32% of the grain corn in 300 fields during the annual corn insect damage survey. Infestations were light in all but 3% and mostly too late to be of any significance. Infestations on susceptible corn (Kentucky 27) at susceptible maturity levels averaged 308 per stalk in a Tippecanoe County experimental plot. The average was 581 in 1976 and 935 in 1975. Infestations up to 6 per cornstalk were noted in northwestern PENNSYLVANIA in September.

GREENBUG (Schizaphis graminum) infestations in WASHINGTON were scarce on cereals developing in the spring or early summer. Populations did not develop extensively except in parts of Grant County, isolated spots in Benton County, and some areas of Walla Walla County. In the Walla Walla area, 10+ per plant (about 80 per linear ft of row) were noted on 3-leaf-stage plants. Treatments were applied in Walla Walla and Grant Counties. This infestation was the lightest since greenbug became a problem.

Greenbug in TEXAS was light on small grains with over 50 per row ft in very few spots in the Rolling Plains from January 1 until March 7. Populations in the south-central and Rolling Plains areas peaked March 7 with 100-800 per row ft on small grains. Counts remained heavy and widespread in the Rolling Plains until April 4 when the maximum counts were 50 per row ft. Greenbug populations developed early on sorghum with 15-18 per plant on 80% of the plants across the Blacklands area by April 1 and rapidly increased to 200-350 per leaf in several fields by May 26. Light populations occurred across the Panhandle and South Plains area in mid to late May and in all areas through June. A rapid increase began in early July in the Blacklands, Panhandle, South Plains, and San Angelo areas. This increase continued there until parasites decreased the populations drastically by mid-August.

Greenbug was light in wheat in OKLAHOMA during January. Infestations in the southwestern and west-central areas began to increase during February and varied during March from 500 to 5,000 per row ft in some fields with light numbers in other fields; many fields were treated. By the end of March, parasites and predators were active and greenbugs were beginning to decrease.

During early and mid-April heavy greenbug infestations were found in some isolated areas in the northwestern, north-central, and central areas. Infestations had disappeared in most areas by the end of April.

Fall greenbug infestations on wheat in Oklahoma were very light and scattered from late August through October but increased rapidly during November. By the first of December, infestations were general and widespread in the western half of the State except for the Panhandle area. Populations in most fields were light to moderate but heavy (200-5,000 per row ft) in some parts of at least 12 counties in the southwestern, west-central, northwestern, central, and north-central areas. Some fields had been treated in most of these counties.

Greenbug infested sorghum in Oklahoma from late April until mid-August. Heavy infestations were present for about 2 weeks in late July and early August in some parts of the Panhandle counties and in a few scattered fields in Washita, and Kiowa Counties. Overall infestations on sorghum in 1977 were the lightest recorded since greenbugs appeared on sorghum in the State in 1968.

The very heavy greenbug flights in IDAHO during early to mid-July were blamed for transmitting MAIZE DWARF MOSAIC POTYVIRUS to late-planted processing sweet corn in Twin Falls and Jerome Counties. Yields were 25% of normal. Greenbug, a new pest of grain in the southern and eastern areas, seriously damaged late-planted barley and some wheat. Heavy populations were first found in the Bell Rapid irrigation project, and then spread throughout the southern and eastern areas. Average yields of late-planted grain decreased 10-25%. Most populations were treated too late to prevent yield loss. In mid-July, lady beetles and fungal diseases destroyed the remaining populations in nontreated fields. Greenbugs totaled 1,507 in 5 aphid trap pans July 11, 18, 25, and August 1. Fall populations began to develop and by mid-November were not yet damaging.

Greenbug in northeastern ARKANSAS was up to 20 per sorghum seedling on resistant and nonresistant varieties in late April. By early May, damage was readily apparent in many fields. Infestations continued in May in the northeastern and east-central areas with up to 25 aphids per plant. Many treated sorghum fields were reinfested in mid-May. Heavy rains in late May apparently stopped problems in the northeastern area. Greenbug did not appear on KANSAS wheat until mid-April to mid-May when infestations were light to heavy. Some damaging infestations occurred in all districts but most commonly on the shortest late-planted wheat. Scattered seedling sorghum fields needed treatments from early May to early June over most of the State. From mid-July through mid-August, treatments were needed in some fields statewide, but most were concentrated in the southwestern area.

Greenbug infestations in NEBRASKA were present in wheat early in the year. The first specimens were detected in the southeast district April 12. Moderate weather conditions favored population development. Populations peaked, ranged 68-1,200 (averaged 549.3) per 100 sweeps, in 6 wheat fields in Gage, Pawnee, and Richardson Counties May 2. Most yield losses were not severe and resulted from destruction of some leaf tissue and stunting of the plant. Populations began to decrease after May 2 due to an increase of *Hippodamia* spp. (lady beetles), *Chrysopa* spp. (green lacewings), and particularly *Lysiphlebus testaceipes* (an aphidiid wasp). Greenbugs were virtually undetectable in wheat by the end of May.

Significant greenbugs did not appear on sorghum in Nebraska until the end of June. By July 13, infestations ranged up to 1,500 per plant in scattered fields in the southeast, east, central, northeast, and south districts. Fewer aphids and less damage were noted on resistant varieties than on susceptible varieties. Populations peaked in most areas the last week in July. L. testaceipes parasitism averaged 2% in southeast district sorghum fields on July 19. Parasite populations increased gradually and eliminated or reduced infestations to insignificant levels in most of the State by August 7.

In SOUTH DAKOTA the early season buildup of parasite populations and the lack of large windborne flights of greenbugs during May and June resulted in major infestations developing in northeastern and north-central areas on sorghum-sudan forage plantings; treatments were needed on seedlings. Treatments applied at planting time to an undetermined acreage of sorghum in the south-central area, prevented heavy populations until mid-July. Some cases of biotype D specimens were reported in fields treated with a systemic insecticide-acaricide at planting. On spring and winter wheat greenbug generally stayed below economic levels. A heavy infestation on late-maturing sorghum threatened the fall planting but did not become severe on seedling winter wheat. About 250,000 acres were treated at planting with systemic treatments decreasing greenbug and grasshopper damage.

Greenbug populations in NORTH DAKOTA ranged up to 430 per row ft of small grains in Cass and Traill Counties (east-central district) as of July 1. More than 90% of the aphids were this species. Extensive treatment was conducted in parts of Cass, Traill, and Steele Counties. By July 8, trace populations were noted in Foster and Griggs Counties.

Greenbug in ILLINOIS was light to moderate in several milo fields in the southern one-half of the State in late May. Treatment was recommended in isolated cases. Very heavy populations on sorghum in INDIANA made a single treatment necessary at the end of May. Milo was equally heavily infested. Predators and parasites kept the population in check after the initial treatment.

Greenbug in FLORIDA increased rapidly during March 18-24. Growth was destroyed on several hundred acres of grain rye used for off-season or early season grazing for cattle on a ranch near Port St. Joe, Gulf County. Damage this heavy by greenbug is unusual in the State.

The first POTATO LEAFHOPPER (Empoasca fabae) infestation in ILLINOIS was noted on small grains in the west-southwest district during the second week of April. Adults averaged 1+ per sweep by the first week of May in several central and east-southeast district fields. Adults, 1-3 per sweep, were common from fields in the southern two-thirds of the State by the second week in May. Occasional fields in the western area needed treatment by the first week in June. Adults were noted at 100 per 100 sweeps in most of the northern area by the second week in June and averaged 50 per 100 sweeps in the northeast district. The heaviest population of the season, 1,000 nymphs and adults per 100 sweeps, occurred in a McLean County field. Populations tended to stabilize during the last half of June.

The first potato leafhopper migrants of the growing season in WISCONSIN were observed on May 16 in several southwestern and south-central area alfalfa fields. Significant damage to irrigated potatoes and snap beans was prevented by scheduled chemical applications.

The first potato leafhopper adults of the season in KENTUCKY were noted April 30 in Fayette County. Populations approached economic levels in early June, decreased in July, and remained relatively light through August. About 22% of the alfalfa acreage was noticeably stunted or yellowed but only about 2% of the acreage was treated.

Treatment was needed for potato leafhopper in INDIANA for only 1 cutting of alfalfa in probably 50% of the fields in the northern one-third area and possibly the northern one-half area and in only 20% of the fields in the southern one-third of the State. The results were similar in Knox County surveys. Usually infestations are economic on 1 entire to several cuttings of alfalfa.

The first potato leafhopper for the season in OHIO was detected on May 10. Economic thresholds of 1 leafhopper per sweep were recorded statewide during the second week of June. "Hopperburn" damage to alfalfa became noticeable in the western area during late July due to very dry conditions. Many potato plantings were completely destroyed. Activity in NEW YORK was heavier than normal. The first activity reported was a heavy hatch in a Tompkins County apple orchard on May 31. Activity on alfalfa became apparent throughout the central and western regions during June 24-30. Adults averaged 0.6 and nymphs 0.4 per sweep during a mid-summer sampling of 10 sites in the Finger Lakes area.

SPOTTED ALFALFA APHID (*Therioaphis maculata*) was moderate to heavy on alfalfa in some areas of the southwestern, west-central, south-central, and central counties of OKLAHOMA during March and April. Chemical controls, cutting, and predators eliminated most infestations by the end of April. Heavy infestations were again found in some west-central and northwestern counties (especially Alfalfa County) during October and November; some fall-planted fields were treated in Alfalfa County.

TOBACCO BUDWORM (*Heliothis virescens*) was light on flue-cured tobacco in FLORIDA early in the season due to a dry and cool spring. By mid-season, populations had increased and were heavy late in the season. This species caused about 34% of the losses due to insects on flue-cured tobacco and 60% of the losses on shade-grown tobacco, about the same as in 1976. Infestations on flue-cured tobacco in northwestern Alachua County were the heaviest in several years.

The first TOBACCO HORNWORM (*Manduca sexta*) of the season on tobacco in KENTUCKY was found in McCracken County on June 8. The populations approached economic levels in late June and again on late-planted tobacco during August. Problems were the heaviest in the western area and light in the northern and eastern areas. About 44% of the acreage was treated. The first adult in INDIANA was collected July 14 in Tippecanoe County. The heaviest flight was from August 12 to September 8. The main pest of flue-cured tobacco in FLORIDA, it caused 40% of the losses due to insects. Heavier than in 1976, it was considered the most important pest causing foliar losses.

Tobacco hornworm began increasing during July in the central Coastal Plains of NORTH CAROLINA. Infestations peaked in Lenoir and Bladen Counties and over the Coastal Plains during late July. The threshold level was reached in 22 of 259 fields in Lenoir County, and in 29 of 144 fields in Bladen County during July 22-29. Controls were successful where properly applied.

Damaging TOMATO HORNWORM (*Manduca quinquemaculata*) populations on tobacco in NORTH CAROLINA predominantly occurred in the northern Piedmont area. The

populations peaked about August 5 with 9 of 36 fields at threshold. The first tomato hornworm adult in INDIANA was collected July 19 in Tippecanoe County. There was no peak of flight activity.

CORN, SORGHUM, SUGARCANE

Highlights

COMMON MAIZE RUST was probably the most widespread disease on corn in North Dakota, Iowa, Indiana, and Michigan. New finds of MAIZE DWARF MOSAIC VIRUS were reported for North Dakota, Iowa, and Michigan. EUROPEAN CORN BORER increased in Kansas, Nebraska, South Dakota, Kentucky, Indiana, and Delaware. FALL ARMYWORM was unusually heavy on corn and sorghum in Mississippi, Alabama, Indiana, Kentucky, North Carolina, and New York. BLACK CUTWORM and CHINCH BUG were possibly the most serious in years in Kansas.

DISEASES

COMMON MAIZE RUST (*Puccinia sorghi*) was probably the most widespread corn disease in NORTH DAKOTA. Prevalence of 90-100% and severities of 1-10% were common.

Common maize rust first appeared in IOWA during mid-season until harvest in October, on all corn varieties; widespread by August infecting 9 out of 10 plants with upper leaf infections averaging 11% of surface area. Prevalence and severity were above normal. The development and distribution of early infection were irregular during July but increased from 40% and then to 99% by the first week of August. Severity rated 20% or more in several fields at mid-season. Corn at this time was in the silk emerging to blister stage. Severity averaged from less than 1% in early July to 12% at harvest in October; 35% in occasional fields.

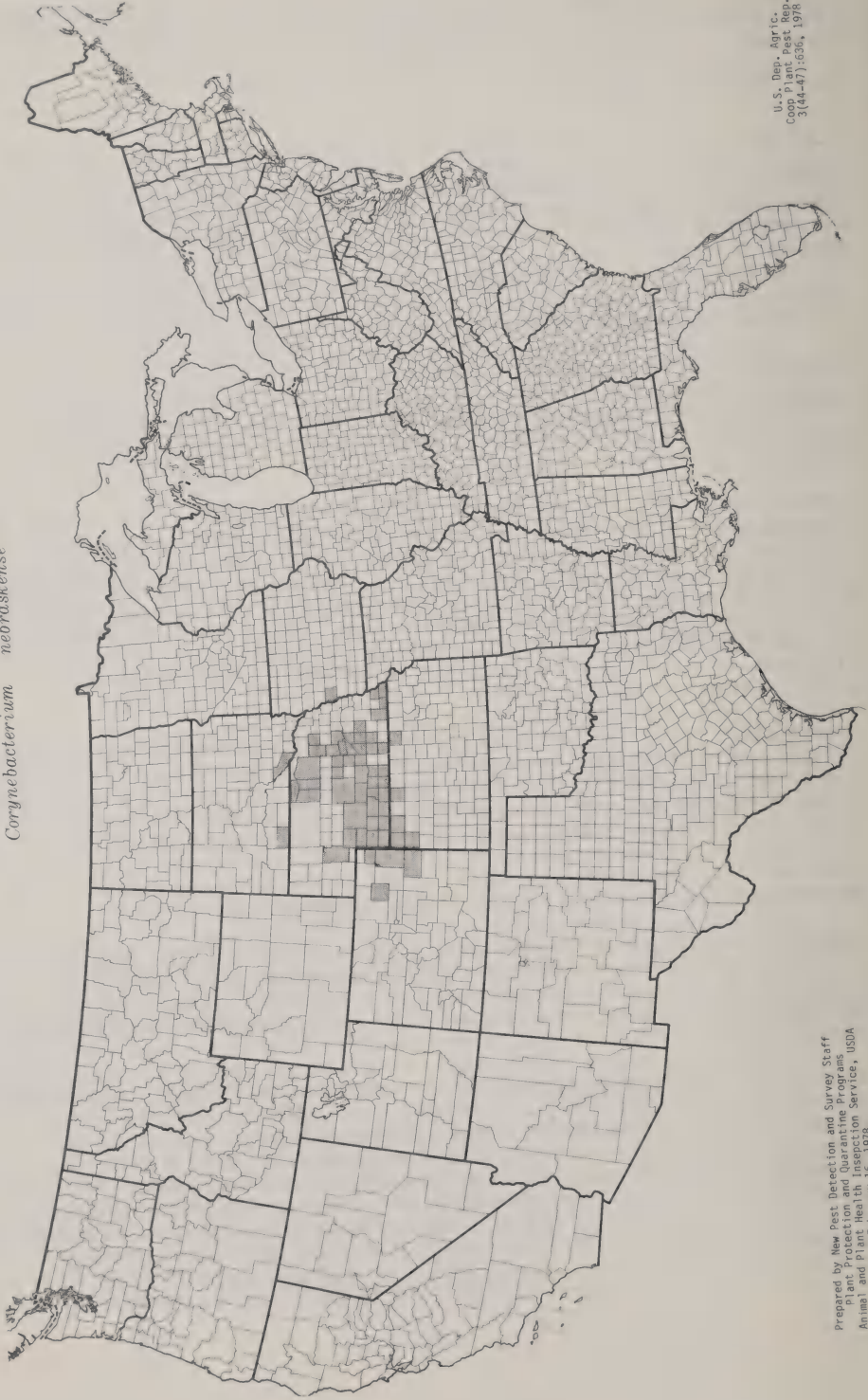
Common maize rust infections were very prevalent in INDIANA but affected only a small percentage of the leaf surface area. This disease was found in 17 of the 30 corn fields surveyed in OHIO, representing 17 widely distributed counties. Infections may have been present before July 27 when the first survey began. Prevalence was 100% in many fields surveyed but severities were very light with only trace amounts to 5%. The highest severity rating in a survey field was 10%. The average severity for all 17 fields was only 4.2%. This disease, while widespread, did not appear to interfere with yield.

Common maize rust was widespread on corn in MICHIGAN. Observed only in traces in July, it increased up to 90% prevalence and 70% severity in some counties by September 16. The limited infection early in the growing season was attributed to the prolonged absence of rain. Rain in late August helped to spread the rust in most counties.

COMMON SMUT (*Ustilago maydis*) occurred in NEBRASKA throughout the corn-growing region. In most fields, only 1-2% of the plants were infected but up to 12-20% of the plants were infected in some hail-damaged fields. One of the most widespread diseases of corn in OHIO, it was reported in 27 out of 30 fields in the 30 counties surveyed and probably occurred in all counties where corn is extensively grown. Prevalence was very light, ranging from trace amounts to 5% in most fields. However, 1 field in Brown County had a 30% smut infection. The average prevalence of common smut was 3.3% for the 30 fields surveyed.

Distribution of Goss Wilt

Corynebacterium nebraskense



U.S. Dep. Agric.
Coop. Plant Pest Rep.
3(44-47):696, 1976

Prepared by New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service, USDA
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SOUTHERN LEAF BLIGHT (Helminthosporium maydis) race 0, was present throughout INDIANA, particularly in the southern one-half. In combination with senescence and ANTHRACNOSE in this area, it caused much flagging of the lower leaves of corn late in the season.

The prevalence and severity of NORTHERN LEAF BLIGHT (Helminthosporium turcicum) on corn was light in ILLINOIS.

GRAMINICOLA ANTHRACNOSE (Colletotrichum graminicola) in INDIANA was present later in the season as a leaf blight and a stalk rot of corn. In the southern one-half of the State it frequently occurred on a high percentage of the leaves. As a stalk rot pathogen it was very prevalent later in the season. Usually, lodging occurred in only a small percentage of the infected plants.

Graminicola anthracnose infections in OHIO were widespread in corn fields. In midseason it was a pathogen on the top and bottom leaves of the plant. As corn approached maturity, the prevalence of stalk rot was very high in many fields. Anthracnose was almost always associated with stalk rot problems and often appeared to be the only organism involved. Stalk rots associated with anthracnose ranged in prevalence from 5% to 90%.

TAN SPOT (Pyrenophora trichostoma) was found in NEBRASKA throughout the corn-growing region in almost every field visited. Incidence ranged from 70% to 90% with severity usually trace to 2%. Severity ratings up to 5% were observed in occasional fields.

EAR ROTS due to Fusarium spp. and/or Gibberella spp. in NEBRASKA were rare in most corn fields surveyed.

The majority of corn ear rots in INDIANA were caused by Fusarium sp. and Penicillium spp. The infections were aided by late season rain and heavy insect damage. About 20% of the corn ears were affected but in many cases only a few kernels were involved. In addition to Fusarium sp. and Penicillium sp., small percentages of Gibberella, Nigrospora, Diplodia, and others were involved.

COB ROT (Nigrospora oryzae) and Fusarium ear rots were severe in corn in MICHIGAN due to rain in September, October, and November. Late rains prevented harvesting and increased the susceptibility of ears to different fungi. First observed in mid-October, this disease was found on almost all ears with 70% severity by late October and November in some counties.

STALK ROTS caused by Fusarium spp. and/or Gibberella spp. were widespread in NEBRASKA on corn late in the season. Prevalence of stalk damage varied from 12-18% in some fields up to 95% of the plants in other fields. About 35% of the plants in most fields throughout the State showed some stalk weakening due to stalk rot organisms. These stalk rots occurred with an unusually heavy EUROPEAN CORN BORER (Ostrinia nubilalis) population. A few isolated cases of CHARCOAL ROT (Macrophomina phaseolina) was present but always in stalks showing Fusarium spp. and/or Gibberella spp. infections. Stalk rots caused by Nigrospora oryzae, DIPLODIA STALK ROT (Diplodia zeae), and Fusarium spp. in MICHIGAN were the most important corn diseases. Yield losses up to 40% were reported. In late October, the infected plants ranged up to 90% in most counties. Rain late in the season contributed a great deal toward the susceptibility of corn.

GOSS WILT (Corynebacterium nebraskense) infected corn in NEBRASKA in 4 new counties for 1977. A total of 45 counties are infected to date.

STEWART'S WILT (Erwinia stewartii) in INDIANA was present statewide. Although frequently present on 50% or more of the corn plants in a field, severity was very slight.

MAIZE DWARF MOSAIC POTYVIRUS (MDMV) was discovered in sweet and dent corn in NORTH DAKOTA for a new State record. Heavy populations of GREENBUG (Schizaphis graminum) and other aphid vectors might account for transmission and spread to corn fields. Overall statewide losses due to MDMV were minimal.

Maize dwarf mosaic potyvirus symptoms were first observed in IOWA in the south-eastern area along the Des Moines River Valley in a few late-planted dent corn fields during surveys September 1 through harvest in October. Infections were noted in Wapello and Marion Counties for new county records. The location of these infections indicate a possible pathway for MDMV and its vector up into the interior of Iowa. All infections have been associated with major waterways leading up from the southern regions and often with Johnsongrass as its over-wintering host. This virus poses no immediate economic threat to the dent corn industry under present conditions.

The B strain of maize dwarf mosaic potyvirus was detected for the first time in MICHIGAN in corn. The disease was confirmed from Missaukee, Presque Isle, and Tuscola Counties. Symptoms were also observed in Monroe, Lenawee, Berrien, and Van Buren Counties. These observations indicate that the disease is widely distributed in the State. Yield losses were not significant because the virus appeared late in the growing season. Also see GREENBUG in Idaho on page 632.

MAIZE CHLOROTIC MOTTLE VIRUS was detected in corn in Harlan County, NEBRASKA, for a new State record. Most of the infected plants were in 1 field and only a very few plants showed symptoms in 2 adjacent fields. No other infected fields were noted during an intensive survey of the area. Continued monitoring was scheduled for 1978.

INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) infestations on corn in KANSAS were considerably worse than in 1976. Infestations in the south-central and south-west districts were the heaviest noted. The second generation adult flights that normally start a partial third generation over much of the State were much heavier than normal. Most corn was too mature to be affected, but late sorghum was apparently suitable as a host. Late season infestations were common in sorghum in the eastern and southern areas.

The first European corn borer adults of the season in NEBRASKA were noted on May 23. Adult activity increased rapidly in the eastern one-half of the State and egg masses were noted on 12-inch extended leaf height corn in Holt, Antelope, and Pierce Counties on May 31. Weather conditions favored egg laying and larval survival during early June. Early planted corn was severely infested. Eggs and/or larvae infested an average of 25% of the plants [32-inch extended leaf height] in 150 fields in Holt, Antelope, Wheeler, and Pierce Counties by June 7. First generation populations were not so severe in the central district where corn was not so early as in the northeast and east districts. Fewer first generation adults were found than in 1976, but moderate weather conditions caused a higher larval survival percentage. Adult activity decreased in most of the eastern area by July 13.

European corn borer feeding was noted on 0-83% (average 28%) of the plants in 61 fields in Saunders, Dodge, Douglas, Washington, Cedar, Pierce, Knox, Madison, and Antelope Counties, Nebraska, on June 13-14. First generation egg laying had ended except in the northeast district by June 14-21. First generation pupation was reported from the southeast district on June 26 and in the central and northeast districts on July 1. Considerable stalk breakage following high winds was observed in the central district of Nebraska on July 11; about one-third of the breakage was due to European corn borer tunneling. Second generation adults were taken in a light trap in Dixon County on July 14. About 80% of the first generation larvae had pupated in the northeast district and of these about 20% had emerged by July 19. Light trap collections of about 800-900 adults per night in Dixon and Hamilton Counties from mid-July and periodically through early August indicated an extensive second generation egg-laying period.

Second generation European corn borer larvae infested about 45% of plants in seed corn fields in Fillmore County, Nebraska, on July 19. Egg masses averaged 1+ per plant in 17 popcorn fields in the northeast district on August 2. Adult activity began decreasing about August 5 in the northeast and east districts. Second generation pupation was reported in the east and central districts on August 17. Heavy second generation European corn borer infestations occurred in the northeast, southeast, central, east, and south districts of Nebraska. Many reports of cornstalks with purple pigmentation due to sugar accumulation caused by severed vascular tissue were noted. A third peak flight of adults in Hamilton County, 12,000+ adults in a light trap August 17-23, indicated the potential for a partial third generation.

The fall survey in Nebraska indicated that European corn borer increased 91% statewide from 1976. Plant breakage increased in all but the northeast district. Up to 40% of the borers in some counties in the northeast, east, and southeast districts were killed by a fungus. The partial third generation was restricted to the south, east, central, and southeast districts and was relatively small. Because about 85% of the borers in these districts were in the 5th instar, the partial third generation did not significantly contribute to the overwintering population. If winter weather is not severe and spring is more favorable for egg laying and larval survival, the potential exists for a severe first generation borer infestation in 1978. Also see European corn borer under STALK ROTS in Nebraska on page 637.

First generation European corn borer infestations in SOUTH DAKOTA were heavy in irrigated and some dryland corn fields in Clay, Union, Turner, Lincoln, Minnehaha, McCook, Hanson, Hutchinson, and Yankton Counties. Early planted fields were 100% infested. Borer survival in corn less than 20 inches extended leaf height was common. First generation resistance seemed light. There was no clear separation between the first and second brood. Ear droppage ranged 7-52 bushels per acre in later-planted fields. Winter mortality in NORTH DAKOTA averaged 24% in untilled corn fields in Cass, Dickey, Ransom, Richland, and Sargent Counties. The fall infestation survey showed an increase in the same counties from 25 borers per 100 plants in 1976 to 98 borers per 100 plants in 1977. Infested plants increased from 39% in 1976 to 62% in 1977.

Overwintering European corn borer survival in the northern half of ILLINOIS averaged 70+%. Adult emergence was completed statewide by the first week of June. The first evidence of larval feeding was noted the last week of May in the southern one-half of the State. By June 8, infestations up to 72% were reported from the east-southeast and southwest districts. Some midrib boring

activity by 3rd instar European corn borer larvae was noted. During the second week of June, the heaviest activity was in the northwest district and in the entire southern one-third of the State. Results of the first generation survey showed the heaviest infestations in the east-southeast (8.1%), southeast (6.6%), and northwest (9.3%) districts. These infestations were somewhat heavier than in the past.

By the third week of July, ear feeding, stalk boring, and stalk breakage by second generation European corn borer was noted in several fields in Illinois. A heavy second generation flight during the third week of August indicated the probable start of a third generation. The southern one-third of Illinois experienced a complete third generation. Population trends in the first generation held through subsequent generations. Peak activity from the fall generation was reported from the northwest, west, east-southeast, southwest, and southeast districts with district averages of 180 or more per 100 plants and more than 60% infestations. Barring disease or winter kill, the potential for problems with first-generation corn borers in 1978 is considered high.

The European corn borer overwintering survival rate in WISCONSIN was about 69% compared to a multi-year average of about 90%. By May 2, 28% of the overwintered population had pupated in Rock County. The first adults from overwintering larvae were taken in blacklight traps at Mazomanie, Arlington, and Hancock by May 16, about 2 weeks earlier than the first 1976 catch. Some gravid females suggested that emergence began earlier than blacklight trap catches indicated. Many eggs were laid on potato vines and other available hosts. Routine treatments prevented significant damage. The first adult flight peaked by May 25 at southern and central blacklight trapping sites. First instar larvae were noted by June 1. Egg masses and larvae were scarce early in June because most corn was too young to be suitable for egg laying or larval survival. First flight adults continued to be caught in the eastern and northern sites into mid-July without a well-defined peak.

The second European corn borer adult flight in Wisconsin began June 30 in an advanced site near Prairie du Chien but not until after July 4 at most southern blacklight trapping sites. A long second generation adult flight began in early June and continued through mid-August. The peak occurred in the south-central counties July 12-24. An unprecedented third flight began late in August and peaked about September 1 at Arlington. Observations in August found less than 10% of the commercial corn infested with larvae. At this time there were few susceptible crops that could be damaged by larvae. The annual fall survey showed a State average of 28 larvae per 100 plants in grain corn, only slightly heavier than the 1976 population and less than the past 5-year average. The heaviest population was found in the western one-third of the State.

First generation European corn borer activity on corn in KENTUCKY began in mid-May. The first adult was taken in a Fayette County blacklight trap on May 15 and the first egg mass was noted in Union County on May 18. By the last week in May, "shothole" larval feeding had become evident in many southern counties. About 20-25% of the corn was damaged by first generation larvae but less than 5% of the acreage was treated. First generation larvae began to pupate the last week of June. By mid to late July, pupation was nearly complete and second generation adults had begun to emerge. The fall infestation survey showed an average of 56.7% of the plants infested and 114.9 borers per 100 plants. Populations were heaviest in the Purchase and mid-western regions. These levels were nearly twice the averages of recent years. Due to a timely harvest, losses were kept to a minimum.

European corn borer pupation in INDIANA began by May 2 in Jackson County and May 11 in Miami County. The first adult was collected May 14 in a Tippecanoe County blacklight trap; the flight peaked during the week ending May 26. About 10% of the corn had been planted. The first generation flight peaked about July 25, when 80% of the corn had silked or was silking. The second generation adult flight peaked early in September. One trap in Tippecanoe County collected 855 during the week ending September 1. A fall survey of 300 fields yielded an average of 68 live borers per 100 stalks, the third highest average since 1961 (1973 averaged 110 and 1971 averaged 100). Of 7,500 stalks examined, 41% were infested. Only the north-northeast and northeast districts had less than average populations, while the south-southeast had the highest in its history with 100 borers per 100 stalks.

The first European corn borer in DELAWARE from overwintered larvae was reported on March 16. Pupation was about 70% complete by April 30. The first adults of the season were collected in Sussex County blacklight traps on April 16. Fresh egg masses were present on corn in Sussex County during the second week of May. Adults were heavy, averaged 10-15 per night in trap collections, during mid-May. This peak was much higher than in 1976. The second adult flight started about June 25 to July 1 and by early August, populations averaged 20+ per night in most areas and 100+ per night starting in mid-August. The average of 707 borers per 100 corn plants during the fall abundance survey was an alltime high for the State. Heavy populations occurred in spite of the unusually light fall populations and the severe winter conditions.

European corn borer infestations on corn in PENNSYLVANIA during September averaged about 40% in the southeastern counties and 20% in the northwestern counties. The first adult flight activity in NEW YORK was observed in southeastern and central region blacklight traps May 16-23. A survey of 28 field corn sites in Cayuga, Tompkins, Seneca, Wayne, Ontario, Yates, and Genesee Counties in August showed an average of 6.4% (range of 0-27.5%) of the plants damaged.

SOUTHWESTERN CORN BORER (Diatraea grandiosella) emergence in TEXAS was 95% completed on June 13 in Castro and Lamb Counties. Eggs or larvae were noted on 3-50% of the corn plants. Populations of 2-7% infested plants in the Panhandle in late June. In mid-July, 50+% pupation had occurred and 100-157 adults were trapped per night in Castro and Lamb Counties. Plant infestations ranged 50-95% in the South Plains and 30-40% in the Panhandle in early August. Egg laying decreased the second week of August in the South Plains. Lodging reached 2-10% in some fields in Hale County on September 9 and 30% on September 28.

The first southwestern corn borer generation damage in OKLAHOMA was light, except for a 60% infestation found in one Caddo County corn field. Adults were active in Texas County in mid-July. Second generation damage was heavy in many fields in Cimarron and Texas Counties. Infestations of 80-90% were reported in some fields with 50% lodging and some ear damage in some early planted fields.

Infestations in KANSAS, as in 1976, were serious on corn in many counties in the central, south-central, and southwest districts. Development of generations was 2 weeks ahead of normal, related to the advanced season. Second generation adult flights were unusually heavy but only late-planted corn was thought affected by a partial third generation.

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) in FLORIDA was common in the Hastings area on sorghum and corn during the summer. Infestations became a problem earlier than usual on field corn in Jackson County and the surrounding

northern region during May. As usual, lesser cornstalk borer was more of a problem under drought conditions. Infestations were also a problem on corn in Alachua and Levy Counties during the spring and early summer.

FALL ARMYWORM (Spodoptera frugiperda) infestations in OKLAHOMA were found in sorghum in July, August, and September. Only a few scattered heavy infestations were reported. Infestations in KANSAS were generally scarce in corn and sorghum. Adults in MISSISSIPPI were first captured the last week of May at Mississippi State and the first week of June at Stoneville. Earlier collections were made in the southern area. By late July, 100+ larvae per sq ft in the southern area were reported with up to 100% defoliation of corn plants. This very heavy population continued statewide until the last week of September. About 55% of the corn acreage in the State was treated. Larvae, 200 per corn plant, were reported in Oktibbeha and Wilkinson Counties on August 5.

The first fall armyworm (2nd to 3rd instar) in ALABAMA occurred on April 13 in buds of 6 to 12-inch corn in Mobile County. Infestations were light in a 60-acre Marshall County corn field May 25. This pest occurred earlier and much farther north than usual in spite of one of the coldest and harshest winter. A population explosion that occurred throughout the season in all corn and grain sorghum is the most damaging ever recorded. Damage by this species along with lesser damage by others and drought conditions decreased potential yields from 60 bushels per acre to a projected final yield of 27 bushels. The usual predators, parasites, and diseases never developed sufficiently to accomplish control until September and October.

Fall armyworm larvae, along with a light CORN EARWORM (Heliothis zea) population, fed in the ears of grain corn in INDIANA. This infestation accounted for an estimated average loss of 5.7 pounds per acre statewide. S. frugiperda was unusually heavy in corn, more commonly in the southern one-third of the State, ears, stalks, and shanks. Infestations were too late to seriously damage the ears. The first adult fall armyworm was collected on July 8, and its flight peaked during the week ending August 18.

Fall armyworm was the most common budworm found on sweet and field corn in Dade County, FLORIDA. This species was the main pest damaging sweet corn in the Belle Glade area of Palm Beach County during the spring and fall. The spring infestation was heavy and followed the usual pattern of starting light and increasing rapidly by mid-April. On untreated whorls, larvae were 83% fall armyworm and 17% BEET ARMYWORM (S. exigua) by April 7. These species infested 28% of the plants in untreated sweet corn plots. Larvae on untreated ears were 61% fall armyworm and 39% CORN EARWORM (Heliothis zea) by May 12 and together infested 64% of the ears in untreated check plots. In the Jackson County area, fall armyworm infested about 70% of the field corn, heavy on 20-30%, during late spring. During early summer, damage was heavy to field corn, especially late-planted corn weakened by drought along the northern strip.

On sorghum, fall armyworm averaged about 8-9 per untreated stalk during early July on about 20 acres near Greenwood, Jackson County, FLORIDA. During mid-July, fall armyworm and corn earworm larvae averaged 3-4 per head of more mature sorghum at Greenwood. About equal populations of fall armyworm and corn earworm were very heavy from March through August at Hastings, St. Johns County. Corn and sorghum were unprofitable as a summer cash crop due to damage on untreated plants.

For the first time in several years, fall armyworm larvae caused heavy damage to corn throughout KENTUCKY. Damage was heaviest on late-planted corn in the mid-western and central regions. About 4% of grain corn and 10% of silage corn was treated. Due to very heavy populations, poor application, unfavorable weather conditions, and improper treatment timing, about 3% of grain corn and 8% of silage corn suffered severe damage. Larvae were first reported in mid-July on "knee high" corn in Rowan County. By mid-August, damaging populations in late-planted corn were reported in several counties. Infestations of nearly 100% and 5 larvae per plant caused heavy damage to foliage and developing tassels. Later in the season, larvae damaged ears in fields showing very little leaf feeding. Damaged ears were subject to further damage by various rots and molds. Larvae continued to damage late-developing corn through mid-October.

Fall armyworm infestations in late-planted corn and sorghum were the most severe reported in NORTH CAROLINA. Severe damage was observed in corn and sorghum from July 15 until mid-September. Initial reports were received from about 600 acres in Bladen and Columbus Counties. The population peaked July 18 to August 15. The heaviest concentration occurred in the central and northern Piedmont counties. However, severe infestations were observed in 80+% of the counties. All 50 late-planted 5 to 30-acre corn and sorghum fields (presilk or preheading) were 100% infested by August 15-16. The infestation level averaged 30% (ranged 10-90%) of the plants damaged and 2 larvae per infested plant. Individual plants with 7 second to fifth instar larvae were common. Population pressure and drought stress forced some growers to prematurely graze or harvest fields intended for winter silage.

Fall armyworm infestations in DELAWARE were heavy in late-planted sweet corn during late July in many areas. Adults were very heavy during late August and September with 100+ (average) per night often taken in blacklight traps. Infestations were up to 25% on sweet corn in the southeastern counties in late July. The heaviest damage in NEW YORK was on sweet corn. Field corn in the central region showed 10% (median average) of the plants damaged. Blacklight trap catches were above normal at all stations. The first adult catch was reported June 28 to July 5 in Suffolk County, August 8-14 in Ontario County, and August 30 to September 5 in Tompkins County. Population pressure was estimated to be the heaviest of the past 20 years. Hundreds of acres in the Hudson Valley and Finger Lakes region were abandoned due to heavy infestations and the lack of available control compounds. Larvae averaged 2 per sweet corn plant in 5 Monroe County fields.

BEET ARMYWORM (*Spodoptera exigua*) larvae in OHIO were noted on corn in Pickaway, Scioto, and Wayne Counties. This was the first time this species has become established in the field in the State; infestations were previously reported from greenhouses.

BLACK CUTWORM (*Agrotis ipsilon*) occurred in possibly the most serious outbreak ever recorded for KANSAS. Serious infestations were more common in the eastern one-half of the State; corn and sorghum fields were affected statewide. Nearly all infestations in past years were restricted to the eastern one-third of Kansas. The first reports of stand damage to seedling corn and sorghum were received in late April and early May in the southeastern area. By the second week of May, damage was reported from the east-central, northeast, and south-central districts and from the north-central district by the third week of May.

By late May, reports of black cutworm were received from the western area of Kansas with damage continuing throughout the rest of the State. Small larvae, suspected to be second generation, caused sorghum stand reduction in Butler County during the second week of June. Serious stand loss occurred in a seedling sorghum field (planted after wheat) in Anderson County as late as the third week of July. Infestations were economic on 11.1% of the total corn acreage and 7.1% of the sorghum acreage. Serious stand reductions occurred in some fields or parts of fields. Replanting was common. About 7.2% of the corn and 4.5% of the sorghum acreage was treated; results ranged from very good to poor.

Black cutworm and DINGY CUTWORM (Feltia ducens) in NEBRASKA were first active on April 21. Black cutworm averaged 0.02 per trap in wireworm traps baited with corn and wheat in 19 fields in Dundy, Dawson, Lincoln, Hall, Merrick, and York Counties. In 5 seedling corn fields in Madison and Antelope Counties, 4-10% of the plants were damaged on May 16. Dinky cutworms damaged corn in Cedar, Dixon, Dakota, Hamilton, Sherman, York, Richardson, Lincoln, Hall, and Red Willow Counties on May 18. Dinky and black cutworms caused stand losses of 0-80% in scattered corn fields in Gage, Johnson, Otoe, Lancaster, Merrick, Saunders, Dundy, Lincoln, Hall, and Dawson Counties and in the northeast district, May 19-23. Activity began to decrease about May 27 due to pupation, but stand losses ranging 10-100% were still reported from the central district as late as June 7. Black cutworm (probably second generation larvae) caused a 25% stand loss in a Thayer County sorghum field on June 25.

The first male black cutworms in ILLINOIS were taken March 14 and 15 from pheromone traps at the university in Champaign County. Larval activity was first reported during the third week of April in corn on the Mississippi River bottoms in the western area. Larvae were also found under weeds in fields to be planted in the west-southwest and southwest districts. By the second week of May, foliar feeding was reported from scattered areas of the State with some reports of plant cutting. Scattered cutworm damage continued through May and early June with occasionally severe infestations. Activity generally decreased by mid-June.

Damage by black cutworm to corn in KENTUCKY was first reported from the mid-western region during the last week of April 1977. Damage seemed to be heavier than normal with up to 30% of the plants cut in some low-lying fields. About 10% of the acreage was treated. The heaviest damage occurred in the central and northern regions. Larval activity had generally subsided by the last week in May. The first flight in INDIANA, according to collections in a Tippecanoe County blacklight trap, occurred April 8. The flight peaked during the week ending June 23. This insect was of minor importance on grain corn.

Several species of the Agrotis and Feltia genera in SOUTH DAKOTA were a greater problem on corn in 1977 than in recorded entomological history. Infestations were reported on 496,000 acres with about 179,000 acres treated. Due to early and prompt extension service activity, fewer than 5,000 acres had to be replanted. Several of the cutworm species found in damaging numbers were previously rare in the State.

Damaging WESTERN BEAN CUTWORM (Loxagrotis albicosta) infestations in KANSAS were more common in corn in Gray, Grant, and Stanton Counties than in 1976. Infestations were about the same in Finney and Kearny Counties. Adult flights began 1 to 2 weeks earlier than normal at Garden City and peaked 4+ weeks earlier at Colby than in 1976.

The first western bean cutworm adults of the season were reported in Dundy County, NEBRASKA, on June 30 and egg laying was underway July 4. Peak adult emergence in Dundy County occurred July 10-17 when light traps in the area averaged 2,000+ adults per night. Light traps in Antelope County had catches of 300-400 per night, from July 12-19 and egg laying was underway by July 12. Egg laying began in Holt County, by July 4 and 18% of the plants were infested in about 25% of the corn fields. Light to moderate infestations were reported in Madison and Pierce Counties. Infested plants averaged 33.5% in 2 Hall County corn fields on July 19. Egg laying was completed in Dawson and Lincoln Counties by August 2. Advanced maturity of the corn in most areas reduced damage somewhat from the initial estimates because the corn dented before larvae penetrated the ears. About 50% of the larvae had developed fully and left the ear tips by August 17 in fields surveyed in Dawson, Dundy, and Lincoln Counties. Economic infestations were scattered in the southwest, central, and northeast districts.

STALK BORER (Papaipema nebris) infestations on corn in the southeastern counties of PENNSYLVANIA were about normal in early June. Infestations destroyed up to 40% of no-till corn fields that were planted in rye in the south-central area in 1976.

SORGHUM WEBWORM (Celama sorghiella) infestations in south-central TEXAS were common on sorghum in coastal areas by July 11. Populations soon increased in the Upper Gulf Coast and Brazos River Bottom areas. Larvae in northeastern ARKANSAS increased from 12 per sorghum head in late August to 15 per head in early September, and then to 20 per head in mid-September. Surveys in KANSAS showed that infestations in late sorghum heads were heavier than usual in the southeastern area; fields were treated in Crawford, Montgomery, and Neosho Counties.

WESTERN CORN ROOTWORM (Diabrotica virgifera) larval damage in UTAH varied with much corn acreage treated for control at planting time. Damage was most conspicuous in some fields in Box Elder, Cache, Davis, and Carbon Counties. Some growers treated heavily infested fields after adult emergence. D. virgifera in TEXAS was heavy in isolated corn fields in the Wintergarden area and the Lower Gulf coast area in mid-May. Populations were present in the South Plains and Panhandle with some adult damage to corn silks. Moderate to severe root damage mainly due to D. virgifera was noted in occasional corn fields in western KANSAS. Some fields had been treated at planting. Adults were heavier than usual in the northeastern and southwestern areas. Adults emerged as early as June 19 in Comanche County, 1-2 weeks ahead of normal.

Corn rootworm larval damage in NEBRASKA was light in most areas. Late 1st instar larvae were first detected in a Merrick County corn field on May 31. Pupation was reported in York, Hall, Dawson, and Buffalo Counties on June 21. The first D. virgifera adults of the year were observed in Dawson, Hall, Buffalo, and Saunders Counties on June 24. Beetles ranged 0-7 (averaged less than 1) per plant and began to damage corn leaves in Dawson, Hall, Merrick, and York Counties on July 1. Adult emergence was about 1-1.5 weeks later in Dundy County and the northeast district. Larval feeding was completed and mating and egg laying were underway in Dawson County on July 9. Adults were decreasing and males had become scarce in Dawson, Dundy, and Lincoln Counties by August 17. Due to a warm spring, crop maturity and insect activity in the State were about 2 weeks ahead of normal.

Peak western corn rootworm egg laying in Nebraska occurred in the central area about the third week in July. Adults were fewer than in the previous 3 years. The heaviest infestation was 4.5 beetles per plant in a seed corn field in Nance County on July 19. Larval damage was light to moderate in all areas. The estimated losses due to treatment costs and yield losses in the State totaled \$63,309,500 in 1977.

D. virgifera decreased significantly in corn throughout SOUTH DAKOTA. Significant NORTHERN CORN ROOTWORM (D. longicornis) damage was again noted in untreated first year corn fields. The damage potential in 1978 to first year corn following small grains and flax will be the same as that of continuous corn. Corn rootworms were noted at 10+ per plant in all plot locations. Western corn rootworm ranged up to 50 per plant in trap crop locations. Corn rootworm egg counts ranged moderate to heavy in April and May, although viability was very low.

Extensive adult surveys in South Dakota showed western corn rootworm to be very light to trace on individual plants; more than 2 per plant were found only in 4 fields in a random survey. Northern corn rootworm adults were noted at 1+ per plant in about 60% of these same fields. Infestations ranged 8-10 per plant in several fields. Severe summer drought and colder than normal soil temperature are probably reasons for the high western corn rootworm egg mortality. Northern corn rootworm was associated with damage on untreated first year corn in the east-central area. About 25% of untreated first year corn fields following small grains and flax had light to moderate root damage. D. virgifera and D. longicornis hatched throughout ILLINOIS by the first of June. Some 2nd and 3rd instar larvae were found in the central area at this time. By June 10, pupae were collected and extensive root feeding was reported from untreated corn. The first beetle emergence reported from research plots in Champaign County was June 14, about 10 days earlier than in 1976. Emergence was well underway statewide by the last week in June. The annual survey showed populations had increased from 1976 levels in all except the east-southeast district. The statewide average in 1977 was 3+ times that of 1976. The population in the east district showed the greatest increase from 84 to 262 beetles per 100 plants. This is probably related to the increased corn acreage in this district. The known distribution of western corn rootworm was increased by 15 counties, the southernmost distribution of this species is Jackson and Gallatin Counties. Moderate to severe damage in 1978 is expected north of a line approximated by U.S. Highway 50.

The first corn rootworm larvae of the season in KENTUCKY were noted in Franklin County on June 9. Adults were heavy by mid-July. The adult population was generally heavier than in past years but not enough to reduce yields by silk pruning. D. longicornis populations were the heaviest. This species was confused with JAPANESE BEETLE (Popillia japonica) in some areas and caused concern. Little lodging could be directly related to larval damage.

Corn rootworm egg surveys in WISCONSIN during the fall of 1976 showed the heaviest egg population, 14.81 eggs per pint of soil, in 5 years. Highest counts were in the east-central and south-central counties (20+ eggs per pint) and the west-central counties (17 eggs per pint). Overwintering survival studies in March and April showed 55.4% survival in 7 southern counties, compared with average survival of 78.7% in 7 previous years. The highest survival was noted in Calumet County (75%) and in Jefferson, Columbia, and Fond du Lac Counties (60+%). Damage to corn roots was reported from scattered southern sites in

mid-June. The first corn rootworm beetles had emerged by June 29 in Grant County, shortly after the degree-day accumulation reached 1,200 above modified base 50 degrees. Most of the field corn in the south-central, southwest, and west-central counties was pollinated before damaging populations emerged. The average population for the State was lighter than in the previous 2 years, with the exception of the east-central and southeastern counties where significant increases occurred.

Corn rootworm populations in Wisconsin increased continuously in mid and late season sweet corn. Commercial sweet corn growers treated regularly for corn rootworms along with EUROPEAN CORN BORER (*Ostrinia nubilalis*) and CORN EARWORM (*Heliothis zea*). There was little yield reduction attributable to beetle damage. A statewide appraisal of lodging was made in September and October and showed a State average of 2.6% lodging, compared to 3.4% in 1976. The heaviest lodging was in the southeastern counties where 7.5% was observed. An egg survey was conducted in September and October and showed the State average at 11.31 eggs per pint of soil, compared to 14.81 in 1976. The highest counts were in the east-central counties with 30+ eggs per pint and in the southwest and southeast with averages of 15+ eggs per pint. The outlook for 1978 is another year of heavy corn rootworm populations with the east-central counties having a very high damage potential.

The first western corn rootworm collection of the season in INDIANA was made in Parke County June 15 (compared to July 1 in 1976, July 7 in 1975; and July 10 in 1974). Adults of this species and northern corn rootworm were collected on quart-size sticky traps in a corn field the first time between June 24 and July 1 in Tippecanoe County. The western corn rootworm flight peaked during the week ending August 4 at 19 beetles per trap per day, and the northern corn rootworm flight peaked during the week ending July 21 at 46 beetles per trap per day. *D. longicornis* averaged 13 per trap per day and *D. virgifera* 6 from June 24 to September 23. The ratio of *D. longicornis* to *D. virgifera* was about 100:44. *D. virgifera* adults averaged 20 and *D. longicornis* 3 per 25 stalks in the northern districts August 1-3. *D. virgifera* averaged 6 and *D. longicornis* 10 per 25 stalks 7 days earlier.

Western corn rootworm adults were much heavier in the central districts than in the past. Infestations were noted in 12 counties for the first time. About 300,000 acres of corn grown for grain were treated at about \$7 per acre for control of adults at silking time; probably only one-third of this acreage was in any danger. About 3 million acres of corn, mostly in the northern half of the State received soil treatments for larval control at about \$8 per acre; 60% of this was applied more for insurance than for demonstrated need. Infestations in OHIO were reported in 10 new counties. At the present rate of dispersal, this species will occur statewide in 5 or 6 years. The first adults were noted on July 10. Populations reached levels comparable to those found in 1976 in the northwestern counties where it is well established.

The first adult corn rootworm activity in NEW YORK was reported from Tompkins County on July 21. A survey of 28 field corn sites in August found a median average of 1.0% lodging (ranged 0.0-44.0%) and 0.2 adults (ranged 0.0-3.9) per plant. Only 1 of 28 fields sampled showed significant lodging. Most of the fields with 2 or more adults per plant were in southern Cayuga County.

Damage by MAIZE BILLBUG (Sphenophorus maidis) and SOUTHERN CORN BILLBUG (S. callosus) adults in NORTH CAROLINA was again of major concern to corn in the southern Coastal Plains and Tidewater counties. The infested area expanded and the number of fields damaged in Wayne, Johnston, and Wilson Counties increased significantly. The drought from April to May and billbug damage caused many very poor stands. Estimates of 50% plant damage and 25% stand loss in the southern half of the Coastal Plains and Tidewater areas were common. Reports of replanting 10-20 acres were common; but, the usual pattern was severe damage to 5-15 border rows. In the southern half of the Coastal Plains and Tidewater area, billbugs could be found in 60% of the corn fields.

Generally, the severe corn stand reductions in NORTH CAROLINA by Melanotus communis and Conoderus sp. (wireworms) decreased slightly. However, 15% stand reductions were reported in the Piedmont and Tidewater counties. Damage was most frequently reported from minimum till corn fields where no pre-emergence granular insecticides were used. The most significant damage was to germinating seed.

The first SORGHUM MIDGE (Contarinia sorghicola) infestation in TEXAS was reported at 1 per 20 heads in blooming sorghum fields in the Lower Rio Grande Valley on May 6. Infestations ranged 1-2 per head in some sorghum fields in the lower Gulf Coast area on May 26. Populations were economic in many fields in the Blacklands and Wintergarden area in mid-June. Heavy to very heavy populations occurred in the south-central and Blacklands areas from late June through blooming in July. Population remained generally light in the South Plains with some economic populations noted in September. Adults in ARKANSAS first appeared in the northeastern area on sorghum in early July and populations remained very light throughout the month. By mid-August, treatments were needed in late-blooming fields. Up to 5 adults per head were found in late August. Many late-blooming fields were also treated in the northeastern area in early September.

Damaging sorghum midge populations in MISSISSIPPI were first reported in grain sorghum on August 18 in Adams County. Sorghum blooming in mid to late August suffered 10-25% seed loss in Noxubee, Holmes, Leake, and Clay Counties. After several years of localized infestations in FLORIDA, there was a population outbreak at Hastings, St. Johns County. Infestations ranged 5-10 per sorghum head. Little biocontrol was evident and many plantings were destroyed. Adults averaged 10-15 per head in 20 acres of untreated sorghum at Greenwood, Jackson County, during mid-July.

CHINCH BUG (Blissus leucopterus leucopterus) infestations in ARKANSAS were unusually heavy in southeastern area sorghum fields in early June.

The chinch bug outbreak in eastern KANSAS was probably the most serious since 1955. The affected area included mostly the area east of State Highway 14. Sorghum and corn were affected seriously in Marion, Harvey, McPherson, Dickinson, Saline, Geary, Riley, Clay, Cloud, Washington, Marshall, Nemaha, Brown, Atchison, Osage, Coffey, and Neosho Counties. Nymphs and adults migrating from wheat was reported in several counties in the east-central district in late May. Substantial migrations from wheat occurred in Butler, Harvey, Marion, and McPherson Counties during the second week of June, but not as far north and west as Republic, Marshall, and Washington Counties until the third week of June. Large sorghum acreages bordering wheat were destroyed and had to be replanted. Damage to sorghum continued throughout the summer. Infestations extending upwards into the sorghum heads were common in August and September.

Chinch bug population reductions, sometimes recorded in past years due to a fungus disease, were not found in infested sorghum though weather conditions considered favorable for the disease often prevailed.

A relatively mild winter and warm spring temperatures in NEBRASKA allowed heavy increases of chinch bugs in wheat fields in the southeast district. When the wheat matured, infestations migrated into adjoining sorghum and corn fields. Infestations ranged up to 500+ per plant in the border rows of sorghum and corn fields adjacent to wheat fields in Gage and Jefferson Counties on June 20. The migration continued in Gage, Pawnee, Johnson, Nemaha, Otoe, Jefferson, Saline, and Saunders Counties. Stand losses of 100% with additional loss of stand to the replanted fields were reported in these counties, particularly on sorghum, June 24-28. The infestation in a Johnson County sorghum field ranged up to 1,100+ per plant in the border rows with a field average of 350 per plant on June 28. Most of the chemical treatments were relatively ineffective. Populations dispersed throughout the fields in the following weeks and few additional stand losses were reported among the surviving fields.

Chinch bug infestations in ILLINOIS were light to moderate in occasional corn fields in the southern one-half of the State in late June. Chinch bug infestations were uncommon in the State during recent years; the situation will be watched closely.

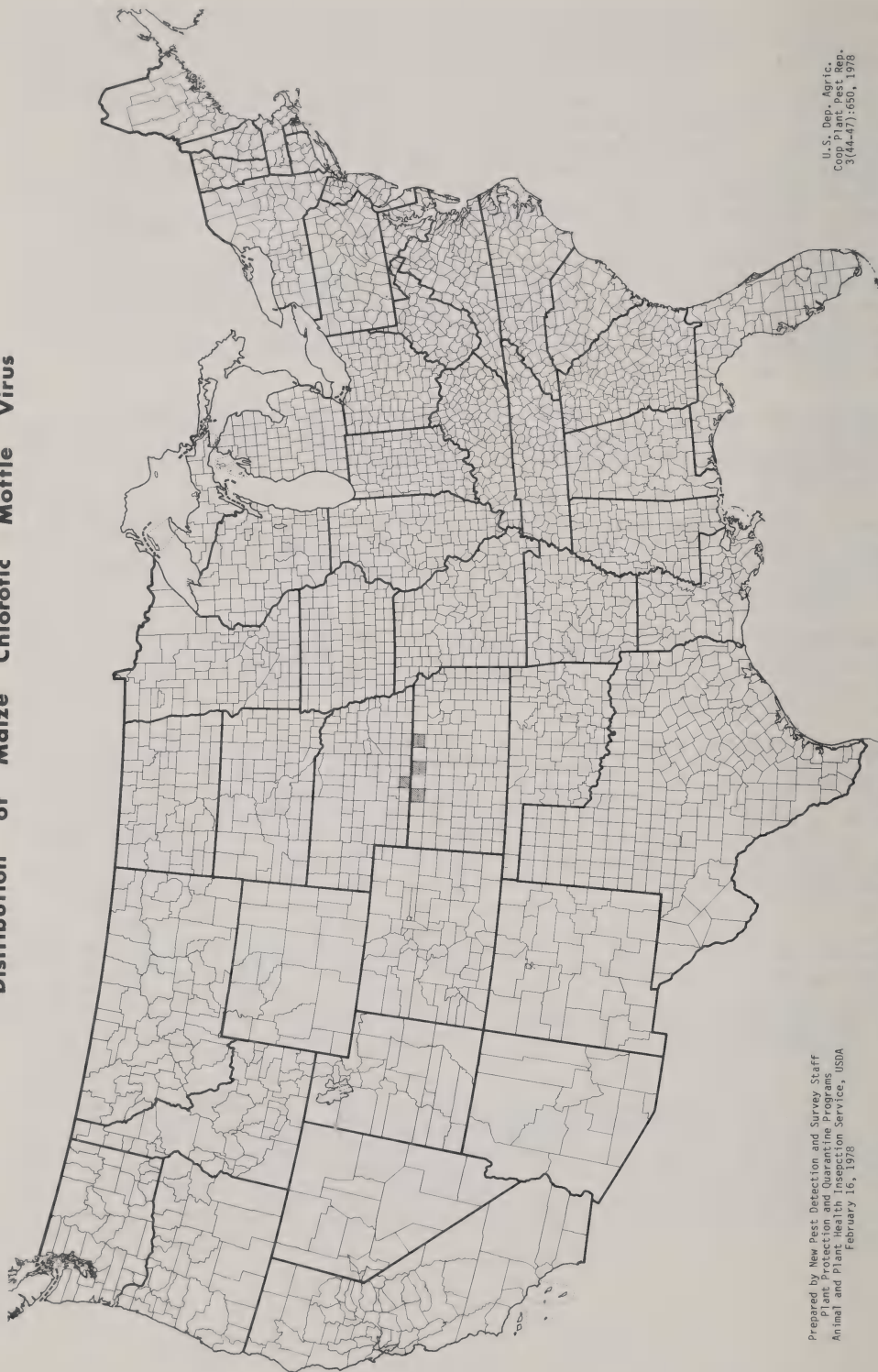
CONCHUELA (Chlorochroa ligata) was noted at 15+ per sorghum head in spots in Haskell and Jones Counties, TEXAS, on July 11. The problem peaked in the Rolling Plains on August 1 with 20 per head in many counties and up to 100 per head in Jones and Fisher Counties.

YELLOW SUGARCANE APHID (Sipha flava) populations on sorghum in TEXAS were variable in the Lower Rio Grande Valley and light in the Blacklands in early April. Infestations were noted at 3-34 per leaf in some fields in Ellis and Navarro Counties on May 26.

Damage by TWOSPOTTED SPIDER MITE (Tetranychus urticae) and BANKS GRASS MITE (Oligonychus pratensis) in UTAH was severe in some corn fields in Utah and Washington Counties. T. urticae and O. pratensis in NEBRASKA were first noted on corn in Dundy County on June 20; Dawson County on June 24, Hall, Merrick, and York Counties on July 4, and Dixon County on July 19. Populations increased gradually in all areas but most of the corn dented before the infestations became economic. Treatments were needed only in some southwest and central district fields. Infestations were present in most fields surveyed in the southwest, central, and northeast districts. The advanced maturity of the corn decreased the yield loss due to mites, considerably from the 1976 losses. Two-spotted spider mite in VIRGINIA was active in corn field borders in Isle of Wight County about mid-June. The damage was light and spot treatments in fields were made on only a few farms. Damage in peanuts and soybeans was very light in Isle of Wight County, probably due to the use of systemic insecticides at planting.

BANKS GRASS MITE (Oligonychus pratensis) outbreaks in TEXAS occurred on corn in the Uvalde area on June 20. Resistant mites were present in many counties in the South Plains in late July. Heavy infestations in OKLAHOMA were found on corn in Caddo County by the end of June and in Washita, Canadian, and Kingfisher Counties during July. Heavy infestations were present in sorghum in the southwestern area in mid-August and the Panhandle area in late August and early September.

Distribution of Maize Chlorotic Mottle Virus



Prepared by New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
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SMALL GRAINS

Highlights

YELLOW STRIPE RUST was more prevalent on wheat in Texas and Oklahoma and more severe than normal in Oregon and Washington. FALL ARMYWORM damage occurred in some areas of Oklahoma and North Carolina. BROWN WHEAT MITE was heavy in Texas, Oklahoma, and Kansas.

DISEASES

Conditions for WHEAT LEAF RUST (*Puccinia recondita* f.sp. *tritici*) development in susceptible wheat cultivars in TEXAS were favorable because of the rains in late April and early May 1977. Losses were minimal due to advanced maturity of the crop. Rust severities ranged from trace to 60% in southern wheat nurseries. Infections at Temple, Texas, were severe on McNair 701, which has Transfer (LR9) as a source of resistance. All entries in the Eastern Soft Wheat Nursery at Quincy, FLORIDA, were severely rusted. Severities in commercial fields in OKLAHOMA ranged from trace to 10% and 10-100% in susceptible entry nurseries. Terminal severities up to 40% were reported in some KANSAS and NEBRASKA fields, the infections were too late to cause significant statewide losses. Infections in COLORADO and WASHINGTON were light. Leaf rust was found in southern MINNESOTA during the first week in June and severities of 1% were observed 7 days later. Losses in the hard red spring wheat area were minimal due to resistant varieties, earlier than normal crop maturity, and high temperature which are all unfavorable for the disease. 1/

Wheat leaf rust in NEBRASKA was common on almost all winter wheat fields surveyed. Prevalence in most fields was 20-50% and the severity was light. The prevalence was up to 90% with moderate severity in some early planted fields in the south-central and southwestern areas. The potential effect of this degree of infection is hard to evaluate.

OAT CROWN RUST (*Puccinia coronata* var. *avenae*) was light in the Southern States and much less in 1977 than in recent years. The low level was due to the freezes in January that destroyed much of the top growth. This decreased the amount of rusted tissue, and the use of resistant cultivars TAM-0-301, TAM-0-312, and Coker 234. In southern WISCONSIN, heavy aecial infection appeared on buckthorn during the second week of May. This disease development was 2 weeks earlier than normal, losses were only trace due to the advanced stage of crop maturity. Crown rust was light throughout the central U.S. oat-growing area. Trace amounts occurred on highly susceptible cultivars and late fields of oats. 1/

YELLOW STRIPE RUST (*Puccinia striiformis*) on wheat was more prevalent than in recent years in TEXAS and OKLAHOMA, which may reflect the cold winter of 1976-1977. Losses of 5% occurred in a few fields, warm temperatures slowed disease increase after flowering. Hot, dry weather during the spring and early summer in eastern OREGON and WASHINGTON was unfavorable for this disease. In the western part of these States, yellow stripe rust was more severe than normal. This was in part due to the race virulent on the cultivar Yamhill. 1/

1/ Contributed by A.P. Roelfs, L.D. Long, and D.H. Casper, Cereal Rust Laboratory, St. Paul, Minnesota.

BARLEY LEAF RUST (Puccinia hordei) was light in commercial barley fields in TEXAS and light to moderate in nurseries in the Southeastern States during April. The infections moved northward, reached terminal severities up to 20% on commercial cultivars in VIRGINIA and 40% in MINNESOTA. This was less than the normal amount of leaf rust and was presumably due to an early crop season and reduced inoculum in the Southern States. 1/

STEM RUSTS (Puccinia graminis) - See Federal and State Programs in the next issue.

BARLEY YELLOW DWARF LUTEOVIRUS - See APHIDS next page.

TAN SPOT (Pyrenophora trichostoma) was widespread on spring wheat and durum wheat throughout NORTH DAKOTA. This disease was 95-100% prevalent on about 9.5 million acres with severities of 5-30%. Symptoms were common on lower leaves in the boot to flower stage and were present on the flag leaf as the wheat plants approached maturity. The 1977 disease level was considered about average with the last few years. A potential increase of inoculum resulting in greater disease severity is indicated due to overwintering of the fungus on wheat stubble as more minimum or no-till is practiced.

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) damaged young wheat in some areas of OKLAHOMA during September and October. Mostly volunteer or early-planted wheat was damaged in the southwestern counties, but planted wheat was heavily damaged in the west-central counties and in scattered areas in a few south-central, central, and north-central counties. A number of fields in these areas had to be treated.

Fall armyworms moved into small grain fields in ALABAMA for egg laying in the southern and central areas as soon as the crop came to stand in September. Controls, 1-2 treatments, were applied on about 25,000+ acres. Reports of damage to small grains planted for cover crop, grain and/or grazing from September 19 to October 7 were common from the central Piedmont area of NORTH CAROLINA. Fields, 1-25 acres, were disked and replanted. Frost and cool nights October 7-21 brought the populations to a rapid decline. Reports received October 17 indicated heavy damage had occurred primarily in the northern and central Piedmont counties. Damage ranged from partial defoliation to 30-acre fields stripped. About 35,000 acres of wheat, rye, oats, and barley in 40 counties were reported totally defoliated. However, many of the fields were expected to sprout back.

ARMY CUTWORM (Euxoa auxiliaris) populations were present on small grains, up to 0.2 per row ft in Wichita County, TEXAS, in early January and again in late February.

EUROPEAN CORN BORER (Ostrinia nubilalis) larvae infested late-planted winter wheat fields (Ticonderoga variety) in Seneca, Ontario, and Livingston Counties, NEW YORK. Infestations in Seneca and Ontario Counties represented levels of about 1%, those in Livingston ranged 5-40%.

GRAPE COLASPIS (Colaspis brunnea) larvae were found at 1+ per soil core sample in young rice fields in east-central ARKANSAS in early May. Populations of this pest have been increasing rapidly during the past few years.

1/ Contributed by A.P. Roelfs, L.D. Long, and D.H. Casper, Cereal Rust Laboratory, St. Paul, Minnesota.

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) overwintering populations sampled in early May in leaf litter near east-central ARKANSAS rice fields were relatively heavy, adults averaged 20 per sq ft. Damage was above treatment level in 70% of the rice fields sampled in the east-central area and 83% of the fields in the northeastern area by late May.

HESSIAN FLY (Mayetiola destructor) infestations were noted throughout western WASHINGTON wherever wheat was grown. Infestations were limited in most counties. Some fields in Clallam and Clark Counties had almost 100% infestation, resulting in poor unharvested stands. Puparia ranged 0-51 (averaged 6.5) per wheat stem. The infestation was 50% in one barley field in Clallam County. Statewide infestations were lighter in certified wheat fields during the spring of 1977 (1.3%) than in 1976 (2%).

The heaviest Hessian fly infestations on wheat in KANSAS were in the northwest and west-central districts. Only 35% of 285 small grain fields surveyed in INDIANA were infested; only 13 of these fields had more than 10% of the plants infested. The mean number of puparia per 100 stems was 1.7.

ENGLISH GRAIN APHID (Macrosiphum avenae) damage to small grains in IDAHO was confined to the Boise Valley area where many fields were treated. Populations of this species and AN APHID (Rhopalosiphum padi) in NORTH DAKOTA were trace up to 9 (averaged 2) per plant in the southeast district by June 10. On June 17, trace populations (up to 60 per linear row ft) occurred on wheat. By June 24, trace populations were noted in the northeast and north-central districts. As of July 1, populations in the east-central district ranged up to 300 (averaged 60) per linear row ft. Widespread treatments were applied in Cass, Traill, and eastern Steele Counties in the east-central district. M. avenae and R. padi were the most abundant insects on oats and wheat in OHIO. In some fields, populations reached 2,000 per 100 sweeps during late June.

Populations of AN APHID (Rhopalosiphum padi) in spring grains were light in WASHINGTON. In Adams County, near Othello, severe populations of ENGLISH GRAIN APHID (Macrosiphum avenae), GREENBUG (Schizaphis graminum), and R. padi were noted on spring wheat and barley. This infestation averaged 100+ aphids per head of maturing cereal. R. padi infested almost 100% of the fall-planted acreage. BARLEY YELLOW DWARF LUTEOVIRUS symptoms were frequently noted. Heavy fall populations of Rhopalosiphum padi developed on volunteer and early planted winter wheat throughout IDAHO. R. padi remained under 5 per row ft in the Rolling Plains of TEXAS, until March 7, when a few individual counts up to 100 per row ft on small grains occurred in Motley County. R. padi infestations were present in small grains from early January to mid-April in OKLAHOMA with scattered moderate to heavy numbers found in several southwestern and west-central counties in March and April. Widespread light to moderate infestations were again found October through December.

TARNISHED PLANT BUG (Lygus lineolaris) adults in the southeastern counties of PENNSYLVANIA peaked in early June on wheat at 10 per 100 sweeps. By July 8, trace populations of up to 4 per linear row ft were detected in the central district.

RICE STINK BUG (Oebalus pugnax) adults damaged some rice fields in southeastern ARKANSAS in late July. By late August, some fields in the northeast area surpassed treatment levels. In east-central fields, numbers were generally higher than normal during late August and early September.

BROWN WHEAT MITE (Petrobia latens) populations were reported heavy on small grains in TEXAS in late March in Knox, Shackelford, and Haskell Counties. Infestations in wheat were present from late February to late April in OKLAHOMA. Counts ranging 300-3,000 per row ft were widespread in the southwestern, west-central, northwestern, and Panhandle counties from mid-March to early April. Many fields were treated in some counties but in the Panhandle many fields were not treated due to extremely dry weather. Overwintering eggs were common in some areas by the first of April. Heavy rains in many areas April 10-20 further reduced populations. Populations were heavy in scattered drought-stressed wheat fields in southwest and west-central districts of KANSAS in late February and March, some treatments were applied.

WINTER GRAIN MITE (Penthaleus major) populations on small grains generally remained light in the Rolling Plains of TEXAS. Some leaf damage occurred in a few fields in Wichita County by February 21. Populations became light to moderate in most areas of the Rolling Plains and moderate to heavy in Knox County by March 14.

TURF, PASTURES, RANGELAND

Highlights

FALL ARMYWORM significantly reduced hay production in Mississippi, was difficult to control in Alabama and Florida, and was heavy in North Carolina.

INSECTS

FALL ARMYWORM (Spodoptera frugiperda) damaged lawn and pasture grasses in some areas from mid-August to late October in OKLAHOMA. Heavy infestations were reported from seven scattered counties in the east-central, north-central, central, south-central, and west-central areas. Larvae were relatively heavy in south-central ARKANSAS turf plots in early July. By late July severe infestations occurred in east-central pastures. Larvae in MISSISSIPPI were first reported on pasture grasses in several southern counties on July 10. Heavy populations continued until October 15 on pastures and lawns. A significant reduction of hay production over the entire State was observed due to this insect. The Bermudagrass varieties tended to be the heaviest infested with 95% defoliation not uncommon. Defoliation was heaviest in Amite, Stone, Pike, Clay, Walthall, Prentiss, George, and Calhoun Counties. Larvae in ALABAMA were noted in May and June. This was the most important pest to Coastal Bermudagrass and other turf during the past 100 years. Most damage occurred from July into October with 1,000,000+ acres treated 1-3 times. Controls were difficult if not impossible. Beef cattle and brood cow herds have been reduced by 10-20% for lack of grazing and hay production.

Fall armyworm was an unusually serious pest in FLORIDA. Of 2.25 million acres of improved pasture and hay fields, 800,000 acres were infested. About 95% of this total was in the 35 drought-stricken counties north and west of Volusia and Citrus Counties. Damage was heaviest in August and September. Infested pastures totaled 601,593 acres and infested hay totaled 156,410 acres in the droughtstricken counties. About 342,680 acres were treated at least once, some 2-3 times; 143,340 from the ground and 198,680 from the air.

Heavy fall armyworm populations began appearing in Coastal Bermudagrass and lush fescue pastures August 10-25 in NORTH CAROLINA. Infestations in forage crops and pastures peaked during early September from mountains to coast. All

stages of fall armyworm development were observed September 2-7 in tender sorghum, sudangrass, fescue, wild grasses and Coastal Bermudagrass. Reports of 20-30 larvae per sq ft were common from most Piedmont counties. A survey conducted in 50 fields from Wake to Macon Counties on September 3 revealed that 100% of the randomly selected fields or lush pastures were infested. Of the 15 sorghum fields sampled 10 had 70+% of the plants infested. Larvae averaged 5 per sq ft in 50% of the pastures with some spots (0.25 to 5 acres) averaging 40 larvae per sq ft. Populations of this size continued until late September.

Larvae of a GELECHIID MOTH (Chionodes psiloptera) moderately to severely damaged root systems of about 17,000 acres of bluegrass seed fields from Tekoa, northeastern Whitman County, WASHINGTON, to Spokane, southeastern Spokane County, and east into the State of Idaho. Populations of 0-20 larvae per crown were common. This level and the area of infestation are believed related to drought conditions. Damage to the root systems of bluegrass seed fields in northern IDAHO was moderate to severe. This insect is not normally a pest except in high, dry knolls, but drought conditions allowed it to spread.

RANGE CATERPILLAR (Hemileuca oliviae) eggs began hatching in rangeland in Cimarron County, OKLAHOMA, at the end of April. Numbers were light in most infested areas, but counts of 2-5 larvae per sq yd were found in one area in the southwestern part of the county and two sections (1,280 acres) were treated the week of July 11.

WESTERN TENT CATERPILLAR (Malacosoma californicum) infestations again defoliated extensive stands of Purshia tridentata (bitterbrush) in the central part of OREGON. Small tents were noted in late April with the heaviest larval concentrations reported from the Sisters area of Deschutes County. By late June, many larvae died showing symptoms of viral infection.

BLUEGRASS BILLBUG (Sphenophorus parvulus) was again the most serious lawn pest in UTAH, especially spreading in Salt Lake County. Infestations were also worse in Cache, Davis, Utah, and Weber Counties. Populations in IDAHO remained extremely serious from Payette to Nampa, killing lawns. Since this is a new pest, timing of applications is not synchronized with the life cycle until damage is critical. Overwintered females began laying eggs on April 25, and damage to sod became noticeable in Wayne County, OHIO, by June 16, when populations averaged 13 larvae per sq ft. Pupation began during the second week of July. Samples from Warren County on September 21 revealed 14 larvae per sq ft. This find was the first indication of a partial second generation in southern Ohio.

A SCARAB BEETLE (Ataenius spretulus) has a general distribution throughout OHIO but has actually been reported from only 20 counties. A few scattered reports of Ataenius flight activity in Hamilton and Clermont Counties were received as early as March 15. Light trap samples contained Ataenius adults beginning March 29, and indicated a major flight event on April 18. The first overwintered adults were collected from fairways on April 14. Egg clusters were first found on May 2. The highest number of eggs found per sq ft of sod was 345, representing 30 egg clusters.

Larvae of a MARCH FLY (Bibio xanthopus) in OREGON caused stand reductions to newly established ryegrass plantings in the southern Willamette Valley in late January. Seedling plants were cut below ground level. Damage to grass fields increased significantly during the fall. By mid-November, stand reduction or eradication had occurred on about 10,000 acres of all types of seedling

ryegrass plantings. Lack of bird predation due to the drought is thought to be responsible in part for the March fly population explosion. No chemicals are currently registered for control.

SOUTHERN CHINCH BUG (Blissus insularis) infestations in the Hastings area, St. Johns County, of FLORIDA became common and damaging on St. Augustinegrass after several years of it being of little concern. Infestations showed a higher degree of resistance in 1977 to organophosphate insecticides than in 1976 in northern Broward and Palm Beach Counties. Populations ranging 50-500 per sq ft were due to the inefficiency of this type of insecticide. Damage to St. Augustinegrass was moderate to heavy in many yards in spite of year-round yard maintenance programs.

CHINCH BUG (Blissus leucopterus leucopterus) caused problems in certain areas of MISSISSIPPI with populations heaviest in the southern counties. Reports of high numbers were first received during the first of August and extended into mid-September. Extensive damage to lawns and pastures in Attala and Jefferson Counties prompted insect control with varying results. Populations of this insect were up from 1976.

FORAGE LEGUMES

Highlights

ALFALFA WEEVIL damage in Wisconsin and northern New York was the heaviest in years. Importance of this pest decreased in other States. Disease brought it under control in Nebraska. Less control was needed in Utah, Kansas, Indiana and Kentucky. VARIEGATED CUTWORM affected alfalfa regrowth in Kansas, Nebraska, and South Dakota.

INSECTS

ALFALFA WEEVIL (Hypera postica) populations in CALIFORNIA varied in alfalfa in the northern counties. Heavy populations were noted at Tulelake, Siskiyou County. Infestations in WASHINGTON were light in Adams County forage legumes early in the season. Adults were heavy late in the season in Yakima County.

Alfalfa weevil infestations in UTAH were more damaging to forage legumes than normal in Washington County but less damaging to the first crop in the northern and central areas. The very dry winter, combined with colder spells and spring rains slowed larval development and reduced spring damage and the need for pre-harvest control applications in the northern and central areas. Most control was applied as a stubble spray following harvest of the first crop, from Millard County north. Less control was necessary than during 1976, which also had a slow spring population buildup due to the cooler than normal spring temperatures. The estimated crop loss due to weevil damage would exceed \$2,500,000.

Alfalfa weevil populations in IDAHO were again light enough that treatment was not required, except in isolated fields around Marsing and Idaho Falls. Damaging infestations occurred in the Palouse area around Moscow for the first time. Larvae in TEXAS averaged 20-37 per sq ft and caused 25-65% terminal damage to alfalfa in Erath County on April 1. Populations were light to moderate in the north-central area and in the El Paso Valley in early April. Infestations caused 25-35% terminal damage in Lipscomb and Collingsworth

Counties in early June. Alfalfa weevil populations continued light across the Trans-Pecos area with a peak of 8 larvae and 8 adults per 25 sweeps in El Paso County on June 28.

Alfalfa weevil larvae in OKLAHOMA began hatching in the southwestern area in mid-February. Some alfalfa fields in this area were treated by mid-March. Larvae were common in alfalfa in the southern one-half of the State by March 1 and in the northern areas by early April. Infestations had decreased to light levels in all areas by May 20 but some larvae and adults could still be found in the west-central area as late as July 1. Fall adult activity was reported late October and November but were very light in all areas checked. Larvae up to 1,500 per 100 sweeps were noted in northwestern ARKANSAS alfalfa fields in mid-April.

The importance of alfalfa weevil in KANSAS as a pest of alfalfa decreased sharply in 1977, a trend that began in 1975. Estimates indicate that about 13% of the alfalfa acreage was treated in 1977 as opposed to 47% in 1976 and 67% in 1975. Surveys showed eggs laid during the fall (1976) and winter (1976-1977) to be unusually scarce. Serious early season infestations that cause stunting of alfalfa in the eastern and southern areas in previous years did not develop in 1977. Peak larval populations from spring-laid eggs were not as heavy as usual. Alfalfa grew more than normal before infestations peaked; and more feeding could be sustained before damage became evident. Economic infestations occurred in scattered fields statewide.

Alfalfa weevil infestations in NEBRASKA were of little or no economic importance on alfalfa due in part to Entomophthora phytonomi (an insect fungus). Other factors included parasitism by Bathyplectes cucurliionis (an ichneumonid wasp) and a light overwintering adult population. Weevil larvae infected with the fungus were first collected in Otoe County on May 10. Additional reports of diseased larvae were received in the next few days from the north, northeast, central, east, and southeast districts. By the end of May, H. postica had decreased throughout the eastern half of the State and no economic damage due to feeding was reported. Abnormally moist conditions apparently contributed to the growth and spread of the fungus.

Up to 26 alfalfa weevil adults per 100 sweeps occurred on 8 to 10-inch alfalfa in west-central NORTH DAKOTA by May 13. Infestations on alfalfa in WISCONSIN caused the worst damage since the introduction of the pest in 1966. Considerable first crop alfalfa acreage was treated in the southern one-third of the State and in the counties along the shore of Lake Michigan. The first hatch of overwintering eggs was observed in Rock County on April 11. A fast increase of threatening larval populations, primarily from spring-laid eggs, was noted in mid-May in the south-central and southwestern counties. By late May, outbreak conditions existed in these counties and in Waukesha, Sheboygan, Brown, and Door Counties. Larvae were 100+ per sweep in individual fields. Alfalfa tip feeding became evident and the "frost injury" type of damage was noticeable in many fields. Larval feeding continued until pupation or the fields were harvested. In some cases the fields were treated chemically. Weevils were not a serious problem in second crop alfalfa.

Alfalfa weevil egg laying in INDIANA during the fall of 1976 was considerably lighter than that of 1975. District averages were generally fewer than 10 eggs per 0.25 sq ft. Where individual fields could be compared, 1976 eggs per 0.25 sq ft ranged 1-41% of comparable 1975 egg numbers. Similarly, early in March of 1977, eggs were about one-fifth of comparable 1976 numbers (4.6 eggs per 0.25 sq ft in 58 samples from 3 Harrison and Washington County fields). Eggs

averaged about 30 per 0.25 sq ft in Harrison County on March 28 in alfalfa 3.5 inches tall (200 heat units, base 48). Alfalfa weevil adults were taken at 34 per 100 sweep on the same day. This was the first time in the year they averaged more than 1-2 per 100 sweeps. Tip feeding was 4% or less. Adults in these fields were noted at 1 or more per sq ft. Eggs averaged 66 per 0.25 sq ft in alfalfa 6 inches tall at 315 heat units on April 4. Tip feeding averaged only 51% in fields that were 56% budded by the end of April. Where timely harvesting was possible, losses to the first cutting of alfalfa were minimal and required little, if any, chemical treatment. A stubble spray was necessary in about 50% of the alfalfa in the southern districts, due to this species in combination with CLOVER LEAF WEEVIL (Hypera punctata) and VARIEGATED CUTWORM (Peridroma saucia).

Alfalfa weevil larvae in TENNESSEE reached control levels the week ending May 6. Of 20,048 acres of alfalfa in the State, 8,657 were damaged. Of this total, 6,676 were treated.

Alfalfa weevil eggs in KENTUCKY were light, generally 2-10 per sq ft with 20 per sq ft in an occasional field during February. The first larvae of the season were noted in the southern counties in late March. Larvae increased gradually until late April when 2-10 larvae per stem infested 80-90% of the stems. The majority of the larvae were in the 3rd and 4th instars and alfalfa was in the bud stage. Since heavy larval populations developed later in the season than normal, many growers cut early rather than treat, or if treatment could not be avoided, the stubble after cutting was treated. About 59% of the acreage was treated for this pest in 1977 compared with 95% in 1976. Populations began to decrease in mid-May.

Alfalfa weevil population levels on alfalfa in OHIO were close to those reported for 1976. The economic thresholds of 30-50% damaged terminals occurred in the central area by the second week of April. Larval populations peaked during the third week of May. Populations in southern counties were generally much heavier than those found in the northern districts.

Alfalfa weevil larvae in VIRGINIA hatched the week before April 1, with more than 6% of the alfalfa tips being infested. The average estimated defoliation was 1%. Tip infestation was 15% and the average estimated defoliation was 4.5% by April 8. Tip infestation was 53% the week before April 22, with an average estimated defoliation of 5.6%. Alfalfa weevil populations were heavy enough to cause severe lacing of the crop. Most growers in Prince Edward County had already sprayed by April 22. Tip infestation was 49% the week ending April 29. The average estimated defoliation was 12.8%. The suggested treatment level was exceeded in 56% of the fields. By May 6, 81% of the tips were infested with an average estimated defoliation of 13.9%. Larval populations in the northern Shenandoah Valley were very heavy by May 4. Many growers were cutting or had cut their hay to avoid further damage; the hay had not reached flowering stage. Even though larvae were very small, controls were needed because of the heavy populations.

Alfalfa weevil feeding damage in DELAWARE was light in several alfalfa fields during late April. Larvae averaged 2-3 per plant in Kent and Sussex Counties. Only 2 growers reported treating fields for control this season.

Alfalfa weevil populations in PENNSYLVANIA were very heavy in a triangular area from Union County southwest to Fulton County and southeast to Lancaster County. Treatment was needed in about 75% of the alfalfa fields in that area.

Alfalfa weevil populations were above average in the other southern counties with some fields needing treatment while adjacent areas went untreated.

Alfalfa weevil adults on alfalfa in NEW YORK were first reported April 20 in Wayne County and April 21 in Cayuga County. Infested stems ranged 5-80% (averaged 49%) in a spring sampling of 14 sites in the central counties May 5 to June 1. Significant damage on fields left uncut until mid-June was common. Stubble sprays were applied when larvae reached 10 or more per sweep throughout the western and central counties. Damage in the northern counties was reported to be the heaviest in years.

CLOVER LEAF WEEVIL (Hypera punctata) larvae in INDIANA averaged 1 per sq ft in 5 harvested alfalfa fields in Jackson County the first week of May. This population, with about 3 ALFALFA WEEVIL (H. postica) larvae per sq ft, delayed regrowth to the point that treatments were necessary. The species is normally fewer in number, and its feeding is apparent earlier in the year. H. punctata was often a minor contributor, and sometimes a major one, in retarding alfalfa growth in the southern districts.

Heavy SWEETCLOVER WEEVIL (Sitona cylindricollis) populations caused some damage to sweetclover in southwestern NORTH DAKOTA by May 6. As of May 20, 400 adults per 100 sweeps caused 20% defoliation to 6 to 8-inch sweetclover in the south-central area.

Adult MEXICAN BEAN BEETLE (Epilachna varivestis) infestations in alfalfa field in INDIANA, especially in Harrison and Washington Counties, caused occasional treatments to be applied in September.

VARIEGATED CUTWORM (Peridroma saucia) infestations on alfalfa in KANSAS were possibly the most serious statewide outbreak ever. Often the regrowth after the first cutting was prevented. At times foliar damage just prior to the first cutting was heavy. The foliar damage was sometimes confused with that caused by the ALFALFA WEEVIL (Hypera postica), particularly in the southwest district. Larvae ranged up to 97 per sq yd in Sedgwick County, 70 in Dickinson County, and 48 in Finney County. Larval populations in NEBRASKA were trace on alfalfa in the southeast district on April 26. Infestations were noted in alfalfa in the northeast district on May 17, in York County on May 14, and in Brown and Rock Counties on June 1. The first cutting was taken before the larvae could cause economic damage. Regrowth was slowed by larval feeding in scattered fields in the southeast, east, northeast, central, and north districts. Larvae averaged 5 per linear ft under the windrows in a field of cut alfalfa in Otoe County on May 24. Larvae averaged 175 per 100 sweeps in a Lancaster County alfalfa field before the first cutting on May 25.

Variiegated cutworm infestations in SOUTH DAKOTA caused considerable damage to first and second cutting regrowth alfalfa in the southeastern area. Larvae ranged 7-15 per sq ft under windrowed alfalfa. Larvae migrated to and damaged adjacent corn in several cases. Treatment was needed in many fields in the eastern area. Larvae in INDIANA ranged up to 4 per sq ft in first cutting alfalfa in the south-central district early in May and caused little concern that time. Larvae ranged up to 13 per sq ft under windrowed alfalfa in 1 Knox County field. Because of their size they could easily prevent regrowth in 1 or more crowns each. This species, either alone or with of ALFALFA WEEVIL (Hypera postica) and CLOVER LEAF WEEVIL (H. punctata) made some stubble treatment necessary. The first flight of this species in Tippecanoe County occurred April 1 as indicated by blacklight trap collections. The flight peaked during the weeks ending April 21, June 23, and September 8.

FALL ARMYWORM (Spodoptera frugiperda) larvae in INDIANA stripped all the leaves from about 2 acres of alfalfa during the last week of August. This was the worst infestation by this species observed; larvae were not uncommon in southern district alfalfa.

GREEN CLOVERWORM (Plathypena scabra) infestations in alfalfa in WISCONSIN were first noted in late June and were present in a large portion of the fields in early July. At the peak of the first generation, 1-4 larvae per sweep in alfalfa in the central and south-central counties were common. The appearance of small larvae in early August marked the beginning of another generation. Although larvae from this generation ranged 0.1-4 per sweep of alfalfa it was doubtful that there was significant damage.

Light continuous CABBAGE LOOPER (Trichoplusia ni) populations in TEXAS occurred on alfalfa throughout the Trans-Pecos area. Peaks of 20 per 100 sweeps were observed in Reeves and Ward Counties on September 9.

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis) larvae, mostly late instars, in ARKANSAS were found at 11 per 20 sweeps of alfalfa in early October in a north-western area field.

GARDEN WEBWORM (Achyra rantalis) in OKLAHOMA was very common in alfalfa from mid-June to late September. Infestations were heavy in most areas some time during this period, especially in the northwestern one-half of the State. Damaging infestations in KANSAS occurred in scattered alfalfa fields in all crop reporting districts from early June through mid-September. Infestations were more common in the southeast and east-central districts.

ALFALFA CATERPILLAR (Colias eurytheme) populations in TEXAS increased gradually through June and July across the Trans-Pecos area. Infestations ranged 1-30 per 50 sweeps in alfalfa fields in Pecos and Reeves Counties on July 25. Populations continued to build to a peak of 6-7 per sweep in isolated fields on August 12.

Adult ALFALFA BLOTCH LEAFMINER (Agromyza frontella) emergence in PENNSYLVANIA was heavy in the central counties in late April. Second generation adults were peaking in the southern counties in early June, with 4-5 mines per stem on second-crop alfalfa. By late June, up to 10 mines per stem were noted in the central counties. Adults in NEW YORK were heavy on alfalfa in Wayne County on May 13. However, minimal pinholing indicated recent emergence. Pinholing was easily found in the Finger Lakes area by May 18 and extensive mine formation was noted by May 24. Samples of alfalfa in the Finger Lakes region during the first week of June found nearly 100% of the plants affected and pupation completed. Adults ranged 100-200 per sweep in late June and early July. Second generation infestations significantly affected second-cutting alfalfa. In general, infestations were heavier than experienced in previous years, especially in the western area.

Severe damage to forage legumes by alfalfa blotch leafminer in NEW HAMPSHIRE was confined to parts of Rockingham County. Adult populations were heavy in mid-May. Severe damage was first reported during the last week of May. Mines averaged 70-80 per 8-inch stem and up to 4-5 mines per leaf at Stratham, Rockingham County. In other areas of the State, mines averaged 10-15 per 8-inch stem and less than 1 per leaf.

BLUE ALFALFA APHID (Acyrtosiphon kondoi) populations in CALIFORNIA were extremely heavy in the San Joaquin Valley, Imperial County, and the predominant aphid pest on alfalfa. This species accounted for additional treatments on alfalfa especially in Imperial County. Infestations in UTAH caused the greatest early spring damage in Washington County and became a problem in Beaver, Iron Kane, and Millard Counties. Infestations were also noted in San Juan County.

Blue alfalfa aphid specimens in OKLAHOMA were collected in alfalfa in Nowata County on April 12 for a new State record. During April and early May this species was collected from 25 additional counties in the northeastern, east-central, north-central, central, south-central, northwestern, west-central, southwestern, and Panhandle areas. Populations were generally light (0-5 per 10 sweeps) but ranged up to 100 per 10 sweeps in Alfalfa County.

Blue alfalfa aphid infestations in KANSAS were not damaging though present in alfalfa in all areas surveyed. In all cases blue alfalfa aphid was found with PEA APHID (Acyrtosiphon pisum) but sometimes A. pisum was found alone. When together, pea aphid was nearly always the dominant species. One blue alfalfa aphid (Acyrtosiphon kondoi) was swept from an alfalfa field in Lancaster County, NEBRASKA, for a new State record.

PEA APHID (Acyrtosiphon pisum) populations in CALIFORNIA were heavier than normal in alfalfa late in the season throughout the Sacramento and San Joaquin Valleys. Heavy populations contributed to a fungus buildup in some fields. Populations in IDAHO were still heavy (400-500 per sweep) but were considerably lighter than in 1976 (1,000-1,500 per sweep) in the southwestern area. In the Magic Valley area probably 50-75% of the acreage was treated right after the first cutting to protect the regrowth. Beneficials seemed to be virtually non-existent until mid-July. A. pisum was never reported as heavy as it was in 1977. About 50% of the acreage in the eastern area was treated in the second cutting. Populations are generally found on the third cutting in this area.

Pea aphid infestations in TEXAS ranged 70-185 per alfalfa plant in Erath County on April 1. Populations were moderate to heavy in El Paso County in early April. Light to heavy populations peaked in early June in alfalfa fields in several Trans-Pecos counties. Infestations in OKLAHOMA were moderate to heavy 200-2,000 per 10 sweeps, in alfalfa in many areas in April and May but were absent or very light the rest of the year. Light populations in WISCONSIN were swept from alfalfa in the south-central counties in mid-April and unusually light populations persisted in southern alfalfa until late May. During this period parasitism was heavy in many fields. Aphid populations in alfalfa remained relatively light throughout the summer and early fall.

Generally, MEADOW SPITTLEBUG (Philaenus spumarius) activity in NEW YORK was heavier than normal. First instar larvae on alfalfa were reported in Tompkins County May 2. Infested stems ranged 5-60% (averaged 26%) in 14 sites in the Finger Lakes region. Adults averaged 1-2 per sweep in late July.

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) in TEXAS ranged 2-39 per 25 sweeps from alfalfa fields in the El Paso Valley in late June. Infestations were noted at 125 per 50 sweeps in Pecos and Reeves Counties on September 30.

ALFALFA PLANT BUG (Adelphocoris lineolatus) in NEW YORK was heavier in early June throughout the western region. Adults averaged 1 (ranged up to 8.3) per sweep of alfalfa in late July.

Populations of a LYGUS BUG (Lygus hesperus) in IDAHO were lighter than normal in the alfalfa seed growing areas. At least 1-2 sprays less were used on the average.

GRASSHOPPER populations in WISCONSIN, mainly Melanoplus femurrubrum, in alfalfa in the lighter soils of the northwest, west-central, and north-central areas were heavier than in the immediate past. Chemical treatment was applied to limited acreage in these counties.

TWOSPOTTED SPIDER MITE (Tetranychus urticae) infestations in WASHINGTON were unusually heavy in forage legumes during the hot, dry season. Many alfalfa seed growers applied controls. Populations in IDAHO built up early in alfalfa seed fields and by mid-season decreased to subeconomic numbers in most fields.

SOYBEANS

Highlights

SOYBEAN POD AND STEM BLIGHT was prevalent in the survey areas of Iowa and Michigan. SOYBEAN STEM CANKER was the most important disease reducing yield in Ohio. 1977 was the third worse year for PHYTOPHTHORA ROOT AND STEM ROT in Ohio. BEET ARMYWORM damaged soybeans in Mississippi, Arkansas, and North Carolina. GREEN CLOVERWORM was heavy in Oklahoma, Illinois, Indiana, and Kentucky, and with others in Mississippi. LESSER CORNSTALK BORER was a serious pest in Alabama and Florida. Treatments were applied for MEXICAN BEAN BEETLE in Indiana. It caused extensive damage for the first time in Kentucky.

DISEASES

The first SOYBEAN POD AND STEM BLIGHT (Diaporthe phaseolorum var. sojae) infections in IOWA were found during a special survey in the southern area 25 miles below the established survey grid. Infections progressively averaged 8% in early planted soybean fields in early August (late season). By mid-September, the disease was statewide with 99 out of every 100 plants showing typical symptoms. The lesions were primarily limited to stems, the pods were infected only after considerable infection of the stems and petioles late in the season. Infections in Lee County were moderate to heavy, 50-100% defoliation of petioles and pods, in several fields planted with Williams and Corsoy varieties; yields were decreased in these fields. This indicates a possible new race with these 2 varieties being unusually susceptible in the State. More likely, environmental conditions were in phase with this pathogen.

The sexual and asexual stages of soybean pod and stem blight infected about 20% of most soybean varieties at maturity in INDIANA. The weather in MICHIGAN was conducive for the asexual stage of this fungus. Infections were first observed in July and became widespread in September. The presence of excess moisture late in the growing season rendered plants susceptible to the organism.

SOYBEAN STEM CANKER (Diaporthe phaseolorum var. caulivora) in OHIO was found in 18 counties late in the growing season and probably occurred in many more counties which were not surveyed in the last survey conducted. This disease was only detected in Knox County in late August. By the first week in October, after an extended 14 to 21-day rainy period in September, infections caused moldy beans in early maturing varieties throughout the soybean growing regions. Severities were difficult to estimate because of a complex including the sexual and asexual stages of soybean pod and stem blight (Diaporthe phaseolorum var.

sojae). Certain characteristic symptoms did distinguish soybean stem canker from the pod and stem blight complex. Extensive culturing of seed lots were undertaken to determine the extent of involvement of the stem canker organism. The loss in yield due to the moldy bean complex was estimated at 5-25% on 5-50% of the plants in some fields. This was by far the singly most important disease in terms of soybean yield reduction according to the survey.

PHYTOPHTHORA ROOT AND STEM ROT (Phytophthora megasperma var. sojae) in OHIO was found in 46 fields in 18 counties surveyed. The disease was more prevalent in the northern and northwestern counties, but occurred to a limited extent in the central part of the State. Prevalence ranged 1% to 5% in most fields. However, 5 fields in 4 northwestern counties (Putnam, Allen, Defiance, Lucas) had losses in excess of 80% of plants killed. This was the third worse year since surveys began in 1954. Most heavy losses were noted after an extended wet period in August.

SOYBEAN DOWNY MILDEW (Peronospora manshurica) was found in most OHIO soybean fields surveyed. This disease was found in 22 of the 28 designated survey fields (in an equal number of counties) representing all parts of the State where soybeans are grown. It was first seen in the southern counties as early as July 26 when the survey was begun and was present in the central and northern areas by mid-August and the first week of September. Prevalence was 100% wherever found, but severities ranged from trace amounts to 50% with some defoliation in fields where infections occurred early in the season. In most cases this disease did not appear to be affecting yield through the destruction of the leaf area. Infections occurred on soybeans throughout INDIANA with 75% prevalence and very light severity. Seed infection averaged 2% statewide.

DIFFUSA POWDERY MILDEW (Microsphaera diffusa) in INDIANA appeared very late in the season and only on a very small percentage of the soybean plants in the infected fields.

SOYBEAN BROWN SPOT (Septoria glycines) infections in IOWA were statewide on soybeans at mid-season with only an average of 5% infection. By late August, typical symptoms were observed on 99 out of every 100 plants. Infections were noted as the most widespread, longest lasting leaf pathogen on soybeans in 1977. This species and SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea) were the most common diseases on soybeans in IOWA when considered over the entire growing season. The combined effects of these pathogens reduced more photosynthetic leaf area on the average (up to 43% in late season) than any other organism in the State. Defoliation in late season averaged 10-15% based on collected data. Little is known of the combined economic loss threshold.

Soybean brown spot prevalence was very high throughout INDIANA, affecting almost every soybean plant late in the season. Usually it was a late-season infection that tended to infect the lower senescing leaves. Infections were found without exception in every soybean field surveyed in OHIO, 28 fields in 28 counties throughout the State where soybeans are grown. This was the most widespread disease of soybeans found when the survey was first begun on July 26. Then, the infection was mostly limited to the lowermost leaves of plants in the early bloom stage. Prevalence was 100% in all fields surveyed. Severities ranged from trace amounts early in the season to 20-30% as beans approached maturity. Infections were usually limited to the lower one-third to one-half of the plant at later growth stages.

SEED PURPLE STAIN (Cercospora kikuchii) infested and discolored approximately 10% of most soybean samples in INDIANA.

The most common bacterial leaf spot on soybeans in INDIANA was SOYBEAN BACTERIAL BLIGHT (Pseudomonas glycinea). This disease was characterized by low prevalence and very low severity. In OHIO, soybean bacterial blight was reported from 17 of 28 soybean fields in 17 counties and was about the fourth most prevalent disease. This disease was prevalent in the northern counties when the survey began on July 27 and continued to be more prevalent in these counties than in the southern part of the State, where it eventually appeared. Prevalence reached the 100% level in most fields surveyed, but severities were usually in the trace to 5% range with a few exceptional fields where severities ranged 10-15%. Pustules were limited to the lower one-third of plants in most cases. Infections blighted a few soybean plants in MICHIGAN in July. By the end of September, the plants with 100% infection were severely defoliated in the southern counties of MICHIGAN.

SOYBEAN MOSAIC POTYVIRUS (SMV) is a new virus disease that was discovered in MICHIGAN soybean fields. The disease was tentatively identified as soybean mosaic. Experiments are underway in the greenhouse to ascertain the host range and in the laboratory to characterize the virus. Nearly 40% of the plants were infected in some fields.

SOYBEAN CYST NEMATODE (Heterodera glycines) infections in MISSOURI were observed on soybeans in Franklin, Warren, and Audrain Counties, for new county records in 1977. The Audrain County Warren site represents the farthest north and west this State infection has been found. It is possible that this species will be established in the State in the next 3-5 years. Losses were estimated at \$30 million for the season.

INSECTS

BEET ARMYWORM (Spodoptera exigua) larvae began damaging seedling soybeans in Sunflower County, MISSISSIPPI, during the week of July 14. Populations averaged 2.5 per row ft. The majority of economic damage was confined to the delta counties with one-third of the soybean acreage being treated by August 18. Foliage and early pods were damaged. Larvae continued to cause problems on delta soybeans until mid-September. An increase of damage was observed over the 1976 crop.

Larvae were found in southeastern ARKANSAS at 5 per row ft in late soybean fields in mid-August. By early September, the extremely heavy populations in the southeastern area could not be chemically controlled. Infestations reached 25 per row ft in mid-September with up to 50% pod damage in late fields.

Beet armyworm defoliation of late soybeans in NORTH CAROLINA was detected June 24 to July 1 in the southern Coastal Plains. By July 8, treatments had been applied to 1,100 acres in Pamlico, Lenoir, and Bladen Counties. Defoliation above the threshold occurred in scattered late-planted beans, particularly double cropped fields, until early August. The area of heaviest infestation was in the southern half of both the Coastal Plains and Tidewater areas. Populations of 40 per row ft and 80% defoliation were reported. About 40,000 acres of soybeans were treated at least once. Previously, the largest infestation occurred on 3,500 acres of soybeans in Scotland and Robeson Counties during 1975.

FALL ARMYWORM (Spodoptera frugiperda) became a major pest to soybeans in ALABAMA for the first time. Infestations were first reported destroying seedling stands in Macon and Bullock Counties on June 21. Succeeding generations infested soybeans statewide up until late September as foliage and pod feeders in combination with CORN EARWORM (Heliothis zea). VELVETBEAN CATERPILLAR (Anticarsia gemmatalis), and other minor larvae. Although heavy on other crops in MISSISSIPPI, fall armyworm caused economic damage only to seedling soybeans. Larvae were first reported on soybeans during the first week of August. The majority of fields damaged contained uncontrolled grass on which the larvae fed then moved to the soybean plants. Larvae reportedly defoliated soybeans in some areas of KENTUCKY during August, but was not a widespread problem even later in the season. This was somewhat unusual considering the abnormally heavy populations that were present.

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis), usually the main pest of soybeans in FLORIDA, but it seemed to be severely affected by adverse weather conditions in the overwintering reservoir in the southern area. Infestations did not overwinter as far north as Homestead, Dade County. The severe winter followed by extreme drought conditions in the spring and early summer resulted in later and smaller than normal populations. The first adults, larvae, and economic infestations were 1 month late compared to previous records. Nomuraea rileyi (an insect fungus) was extremely effective and often decreased potentially economic infestations (as they developed) to tolerable levels within a few days. Treatments were not needed in many fields and only once in other fields; treatments for A. gemmatalis larvae averaged less than 2. Larvae caused severe defoliation in some late soybean fields in southwestern ARKANSAS in late September and in the southeastern area in early October. Scattered heavy infestations were found in soybeans in the east-central area of OKLAHOMA from mid-September to early October.

GREEN CLOVERWORM (Plathypena scabra) infestations were present in soybeans from mid-July to late September in OKLAHOMA. Heavy populations (6-20 per row ft) were present in some areas by mid-August and September. Populations in KANSAS were heavy in scattered soybean fields in mid-August across southern area. Larvae were relatively heavy in early July in east-central ARKANSAS soybean fields.

Green cloverworm, SOYBEAN LOOPER (Pseudoplusia includens), CABBAGE LOOPER (Trichoplusia ni), and VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) first began appearing in MISSISSIPPI during mid-July in the southern area. By the first week in August, these defoliators were present statewide. As the season progressed, populations built up at the beginning of pod stage to the point of extensive insecticide use statewide. Reports of 10-80% defoliation were received during the last week in August. On August 25, 20,00 acres had been treated for defoliators in Clay, Oktibbeha, Lowndes, and Noxubee Counties. At this time, green cloverworm larvae ranged 4-63 per 25 sweeps, velvetbean caterpillar 2-21 per 256 sweeps, and cabbage looper 1-18 per 25 sweeps. Populations continued to increase on late-planted soybeans until a decrease was noted during the last week of September.

The first green cloverworm damage to soybeans was noted in ILLINOIS the last week of June. Damage at this time was insignificant and remained so, except in isolated cases, through the second week of July when adults were again seen flying in large numbers. Larvae greatly decreased the second week of July due to pupation and adult emergence. At least 3 generations subsequent to the first were noted this past year with damage increasing in all but the last

generation. By the second week in August, green cloverworm damage was the heaviest since 1973. Infestations were widespread, 30+ larvae per row ft were noted in occasional fields. By the third week of August populations had peaked and disease incidence was increasing. Pupation was underway in some areas. These factors combined to allow pod fill to proceed with little further feeding damage to the crop.

Green cloverworm in INDIANA almost reached outbreak levels in soybeans, especially in Benton, White, and Jasper Counties, INDIANA. About 2% of the susceptible crop was endangered. Larvae were light, averaged less than 5 per sweep, in KENTUCKY during July and caused only minor defoliation to soybeans. Blacklight trap collections showed a heavy adult flight during late July and early August. By mid-August, larvae were economic (20+ per row ft) in some fields and ranged 5-15 per row ft in most fields. Larvae were early to mid-instars and populations seemed heavier in blooming soybeans than in those setting pods. Widespread heavy defoliation did not occur as the potentially damaging population levels collapsed due to parasites and disease. Only about 10% of the crop needed treatment.

SOYBEAN LOOPER (Pseudoplusia includens) was moderate to heavy numbers (up to 5 per row ft) in soybeans in the east-central counties of OKLAHOMA from mid-September to early October. Larvae were very heavy in southeastern ARKANSAS soybean fields in early September. Defoliation on soybeans in NORTH CAROLINA occurred sporadically from late August to late September throughout the Coastal Plains. Damage ranged from 10% defoliation in 0.25-acre spots to 50% defoliation in 20-acre fields. This species is rarely a problem and results primarily in disrupting natural enemies, which was unavoidable in many fields this summer.

CABBAGE LOOPER (Trichoplusia ni) larvae in ARKANSAS were very heavy in southeastern soybean fields in early September. Heavy infestations in soybeans were reported from most areas of OKLAHOMA between mid-August and early October.

Damaging BLACK CUTWORM (Agrotis ipsilon) infestations in KANSAS involved several thousand acres of seedling soybeans concentrated in the east-central and southeast districts.

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) in ALABAMA is a serious pest of soybeans. Populations were heavier and more damaging than in any previous year. The first damage was reported June 16 in Barbour and Geneva Counties. This species was the most important insect pest on soybeans throughout FLORIDA due to the severe drought in the spring and early summer. Several thousand acres were destroyed in Gasden, Gulf, and Walton Counties. In Jackson County, 90% of the soybean plants were infested by July 1. The effectiveness of control measures was marginal to completely ineffective because most rely on water activation.

The first overwintering MEXICAN BEAN BEETLE (Epilacha varivestis) adult of the season on soybeans in INDIANA was observed in Owen County on April 29. The following developmental data were collected in Lawrence County in an experimental plot checked at close intervals. Overwintering adult numbers peaked June 20. The first egg from the first generation was observed June 3 and the number of eggs peaked June 16-27; the 1st instar appeared June 16. First generation larvae peaked June 30, first generation pupae July 18, and first

generation adults peaked July 14-21. The first egg of second generation Mexican bean beetle appeared July 7 and their numbers peaked July 25-28. Second generation larvae peaked August 4-11 and the first second generation adult appeared August 15. Treatments were applied to 250,000-300,000 acres. Infestations were particularly heavy through most of the southeast district, in a few counties in the south-central area, in Daviess County in the southwestern area, and in Clay, Owen, and Parke Counties in the west-central area.

Mexican bean beetle populations in soybeans in INDIANA were observed as far north as the northern border of Wayne County and the southwestern corner of Montgomery County, the northernmost extensions of this species contiguous to the normally infested areas. Adults and larvae in KENTUCKY caused heavy defoliation to soybeans in the Ohio River bottoms of the northern, central, and mid-western regions during September. Scattered light, defoliation also occurred throughout the mid-western region. This was the first year this species ever caused extensive damage to soybeans. The first adults in DELAWARE were noted on soybeans during late May and early June in eastern Sussex County. Larvae caused minor foliar damage in July, but generally populations were considered below economic thresholds.

BEAN LEAF BEETLE (Cerotoma trifurcata) adults in ARKANSAS up to 1 per row ft, in east-central soybean fields in mid-August. By late September, population levels of 1+ per row ft were common in eastern area soybean fields.

GRAPE COLASPIS (Colaspis brunnea) adults fed on foliage in east-central ARKANSAS soybean fields in mid-June. By late July, levels reached 1 per row ft in some east-central fields, continuing into early August.

Surveys for a CERAMBYCID BEETLE (Dectes texanus texanus) in ARKANSAS in late October revealed soybean stem infestations to average 30% in the southeastern area and 25% in east-central fields.

STRIPED BLISTER BEETLE (Epicauta vittata) adults were unusually heavy in southwestern ARKANSAS soybean fields in mid-June.

CLOUDED PLANT BUG (Neurocolpus nubilus) was found in all stages in northeastern ARKANSAS soybean fields in mid-August, indicating this species is reproducing on soybeans.

TARNISHED PLANT BUG (Lygus lineolaris) was found in all stages in northeast ARKANSAS soybean fields in mid-August, indicating this species is reproducing on soybeans.

GREEN STINK BUG (Acrosternum hilare) was common in soybeans in the northeastern, east-central, and southeastern areas of OKLAHOMA from early August to early October, with counts of 1-2 per row ft. Populations in ARKANSAS were heavy in a northeastern area experimental soybean field in early October.

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) damage occurred in some southeastern ARKANSAS soybean fields in late July and resulted in lodging of plants after strong winds. Adults were extremely heavy in the southeastern area in late October on greener soybean plants.

GRASSHOPPERS (Melanoplus spp.) populations in ILLINOIS were heavier in 1977 than in 1976, but not as damaging to soybeans. Rains in late July and early August caused grassy areas to remain green. This provided an alternative to the usual habit of infesting soybean and corn fields. Populations per sq yd of

grasshoppers in soybeans by district: northeast--8, west-southwest--6.1, east-southeast--5, southwest--4.8, and southeast--4.8. If dry conditions prevail next spring during the egg hatch period, populations may be heavy. Nymphs in KENTUCKY caused moderate damage to soybeans in the Purchase and mid-western regions. Populations in some fields ranged about 10-15 per sq ft, controls were applied. Most of the problems were associated with field borders or no-till double crop soybeans.

SOYBEAN THRIPS (Sericothrips variabilis) populations in ARKANSAS were relatively heavy in the Delta Region of ARKANSAS in early June, although no significant damage occurred.

PEANUTS

INSECTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) became economic in several peanut fields in Comanche County, TEXAS, by July 1. Damage was 20-30% in isolated fields in July 22. Infested plants were noted at 76% a week later in 1 field. Populations decreased in late August and increased in late September with up to 80% of the plants infested. Infestations in OKLAHOMA damaged peanuts in Marshall County from late June to late September. Infestations in untreated peanuts reached 25% by mid-July, 75% by early August, and almost 100% in September.

The first lesser cornstalk borer adult and larvae of the season in ALABAMA were reported June 16 in Barbour County. Developing populations became economic statewide. Control efforts included this pest along with GRANULATE CUTWORM (Feltia subterranea), CORN EARWORM (Heliothis zea), VELVETBEAN CATERPILLAR (Anticarsia gemmatilis), and FALL ARMYWORM (Spodoptera frugiperda) on 95-98% of the 212,000 acres in 9 counties. Lesser cornstalk borer, the second most important pest of FLORIDA peanuts, accounted for 30% of the losses due to insects. Infestations reduced stands 15-20% in Alachua, Levy, and Marion Counties in May. Populations were a problem in most Jackson County fields during the drought months of May through July.

REDNECKED PEANUTWORM (Stegasta bosqueella) in OKLAHOMA was reported in peanuts from mid-June to late September. Terminal infestations ranged 70-100% in most areas after mid-July.

FALL ARMYWORM (Spodoptera frugiperda), probably the most important pest of peanuts in FLORIDA, accounted for 38% of the insect losses. In Jackson County (main peanut area), fall armyworm and CORN EARWORM (H. zea) infested the crop about 7 days earlier than in 1976 and reached the economic threshold in mid-July. H. zea accounted for 20% of the losses due to insects. Corn earworm ate nearly all the blooms in some fields in Alachua, Levy, and Marion Counties. Fall armyworm egg masses and small larvae were heavy in this area.

CORRECTIONS

CEIR 25(22):458 - WESTERN CORN ROOTWORM (Diabrotica virgifera) . . . delete Logan County as new county record. (Arnold).

CPPR 3(39):561 - Hawaii Pest Report - General Vegetables - "Emergence of a BRACONID WASP (Apanteles sp.) . . ." should read "Emergence of an ICHNEUMONID WASP (Diadegma insularis) . . ." (Matayoski, L. Nakahara).

CPPR 3(23):257 - BIRCH LEAFMINER (Fenusa pusilla) - NORTH DAKOTA - Delete information. (Scholl).

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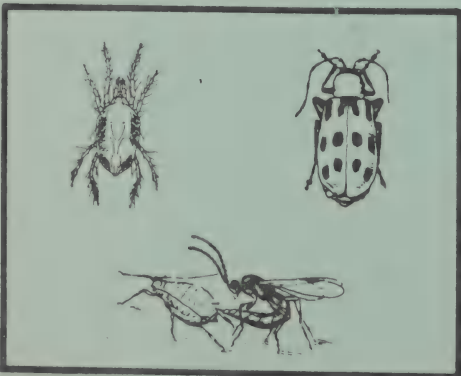
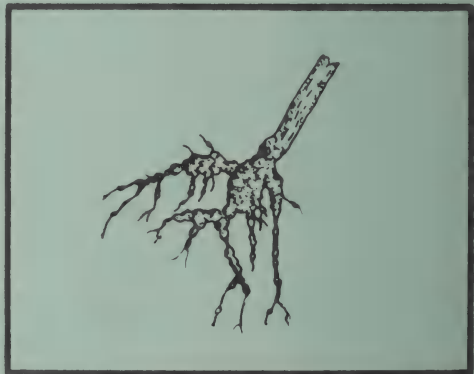
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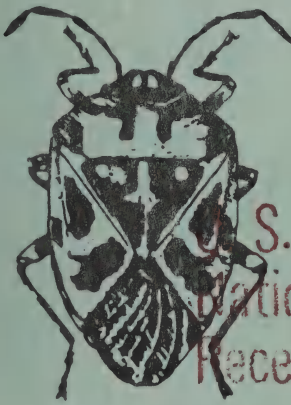
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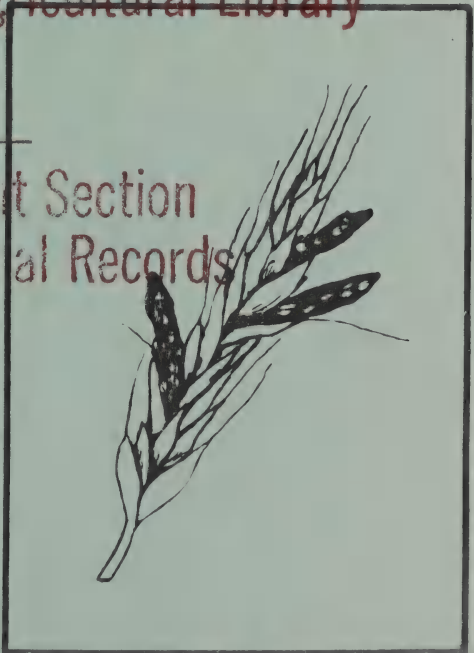
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This publication is distributed weekly to Federal and State agencies, universities, farmers, and others interested in containing or controlling pests in the United States.

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COOPERATIVE PLANT PEST REPORT

HIGHLIGHTS

DETECTION

● SUGARCANE RUST in Puerto Rico is new for the United States. (p. 672).

● Also new for the United States is a SLUG in Hawaii. (p. 681).

New State records include SOYBEAN CYST NEMATODE in Delaware (p. 675), an APHID in Nevada (p. 678), and WINTER MOTH in Washington (p. 678).

For new county and island records see pages 682-684.

BACTERIAL TAN SPOT is a new disease for soybeans. (p. 675).

Special Reports

Summary of Pest Conditions in the United States - 1977

Cotton (p. 695-698).

Tobacco (p. 698).

Sugar Beets (p. 699).

Miscellaneous Field Crops (p. 699-700).

Potatoes, Tomatoes, Peppers (p. 700-701).

Beans and Peas (p. 701-703).

Cole Crops (p. 703-704).

Cucurbits (p. 704).

General Vegetables (p. 704).

Deciduous Fruits and Nuts (p. 704-707).

Citrus (p. 707).

Other Tropical and Subtropical Fruit (p. 707).

Small Fruits (p. 707-708).

Ornamentals (p. 708).

Forest Insect and Disease Highlights (p. 708-710).

Forest and Shade Trees (p. 710-712).

Man and Animals (p. 712-713).

Households and Structures (p. 713).

Beneficial Organisms and Their Enemies (p. 713-714).

Federal and State Programs (p. 714-722).

Addenda from Minnesota Disease Summary (p. 723-724).

Contributors (p. 725).

Estimated Losses from Rust in 1977. (p. 726-730).

Pests Not Known to Occur in the United States or of Limited Distribution. Winter Moth (Operophtera brumata (L.)). (p. 687-694).

Pests Not Known to Occur in the United States or of Limited Distribution. Lined Click Beetle (Agriotes lineatus (L.)) and other Wireworms (Agriotes obscurus (L.) and Agriotes sputator (L.)). (p. 731-734).

Reports in this issue are for the weeks ending November 24 through December 15 unless otherwise indicated.

CONTENTS

Corn, Sorghum, Sugarcane		Cucurbits	
Diseases.....	672	Insects.....	677
Insects.....	672	General Vegetables	
Small Grains		Insects.....	677
Insects.....	673	Deciduous Fruits and Nuts	
Turf, Pastures, Rangeland		Insects.....	677
Diseases.....	674	Citrus	
Insects.....	674	Insects.....	678
Forage Legumes		Ornamentals	
Insects.....	674	Insects.....	678
Soybeans		Forest and Shade Trees	
Diseases.....	675	Insects.....	679
Insects.....	676	Man and Animals	
Potatoes, Tomatoes, Peppers		Insects.....	679
Insects.....	676	Miscellaneous Plants	
Beans and Peas		Weeds.....	679
Insects.....	676		
Cole Crops			
Insects.....	677		
Beneficial Organisms and Their Enemies			
Insects.....	679		
Federal and State Programs			
Insects.....	680		
Hawaii Pest Report.....	681		
Detection.....	682		
Corrections.....	685		
Light Trap Collections.....	682		
Pest Interceptions of Quarantine Significance at Ports of Entry.....	686		
Summary of Pest Conditions in the United States - 1977			
Cotton			
Insects.....	695		
Tobacco			
Insects.....	698		
Sugar Beets			
Insects.....	699		
Miscellaneous Field Crops			
Insects.....	699		

Potatoes, Tomatoes, Peppers	
Insects.....	700
Beans and Peas	
Diseases.....	701
Insects.....	702
Cole Crops	
Insects.....	703
Cucurbits	
Insects.....	704
General Vegetables	
Insects.....	704
Deciduous Fruits and Nuts	
Insects.....	704
Citrus	
Insects.....	707
Other Tropical and Subtropical Fruit	
Insects.....	707
Small Fruits	
Insects.....	707
Ornamentals	
Insects.....	708
Forest Insect and Disease Highlights.....	708
Forest and Shade Trees	
Insects.....	710
Man and Animals	
Insects.....	712
Households and Structures	
Insects.....	713
Beneficial Organisms and Their Enemies	
Insects.....	713
Federal and State Programs	
Diseases.....	715
Insects.....	716
Weeds.....	722
Addenda from Minnesota Disease Summary.....	723
Contributors.....	725
Estimated Losses from Rust in 1977.....	726
Pests Not Known to Occur in the United States or of Limited Distribution	
Winter Moth (<u>Operophtera</u> <u>brumata</u> (L.)).....	687
Pests Not Known to Occur in the United States or of Limited Distribution.	
Lined Click Beetle (<u>Agriotes</u> <u>lineatus</u> (L.) and other Wireworms	
(<u>Agriotes</u> <u>obscurus</u> (L.) and <u>Agriotes</u> <u>sputator</u> (L.)).....	731

CORN, SORGHUM, SUGARCANE

DISEASES

SUGARCANE RUST (Puccinia melanocephala H. Sydow & P. Sydow) - PUERTO RICO - New United States record. Collected from sugarcane in experiment station at Fortuna by V. Godrdau, October 11, 1978. Collected and determined by L.J. Liu; confirmed by J.F. Hennen. Found in experimental plots at Lajas, Gurabo, Isabela, Yabucoa, and Humacao. Detected in commercial fields at Aguirre on varieties PR 1124, Q 90, and PR 798. All infected plants destroyed; preventive sprays applied to noninfected plants. Delimiting surveys continue. (Abrams, Felieu). Known from Saccharum spp. and Erianthus. Distribution known to be China (including Taiwan), Dominican Republic, India, Jamaica, Japan, Kenya, Madagascar, Malawi, Nepal, Philippines, Reunion, Rhodesia, South Africa, far eastern Soviet Union, Tanzania, Uganda, and Zambia. Potentially economic. (PPQ).

GOSS WILT (Corynebacterium nebraskense) - IOWA - New county record. Ida County--taken on corn at Holstein, September 8, 1978. Collected by K. Borchers. Determined by R. Nyvall. (Williams).

INSECTS

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Soil samples showed egg populations this fall well below past 5-year average. In most fields, egg populations marginal considering economic thresholds; populations light or undetectable week ending December 1. Egg populations very heavy in 1 of every 6 fields. Average eggs per pint of soil from surveyed samples in late September and early October for 1978 season by district: Northwest--1.66, north-central--0.40, northeast--1.13, west-central--11.50, central--6.05, east-central--6.97, south-west--6.83, south-central--3.95, and southeast--6.20; State average 5.02. (Lovett).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - TEXAS - New county records. Bexar County--1 adult found in corn field at San Antonio, May 31, 1977. Determined by R.L. Hodgdon. Guadalupe County--adults 2 per plant in corn field near San Antonio, August 17, 1977. Determined by B.J. Abraham. Wilson County--adults 3 per sorghum plant at Stockdale, August 23, 1977. Determined by B.J. Abraham. All collected by L. Beikman. (Jackman).

A CHRYSOMELID BEETLE (Diabrotica tibialis) - TEXAS - New county record. Guadalupe County--3 adults per plant collected in corn field near San Antonio, August 17, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

GRAPE COLASPIS (Colaspis brunnea) - TEXAS - New county record. Guadalupe County--1 adult collected on corn in home garden at Barbarosa, June 7, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

EUROPEAN CORN BORER (Ostrinia nubilalis) - TEXAS - New county record. Moore County--larvae collected in corn 8 km (5 miles) west and 3 km (2 miles) south of Etter, July 12, 1978, by G. Wilson. Determined by D.M. Weisman. (Jackman).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - New county record. Wilson County--4 adults per plant collected in sorghum field at Stockdale, August 23, 1977, by L. Beikman. Determined by R.E. Munson. (Jackman).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - New county record. Bexar County--5 adults per sorghum plant collected at San Antonio, June 27, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

SOUTHERN GREEN STINK BUG (Nezara viridula) - TEXAS - New county record. Bexar County--1 adult collected in corn field at San Antonio, June 13, 1977, by L. Beikman. Determined by R.L. Hodgdon. (Jackman).

CONCHUELA (Chlorochroa ligata) - TEXAS - New county record. Bexar County--4 adults per sorghum head collected in field at San Antonio, June 27, 1977, by L. Beikman. Determined by R.L. Hodgdon. (Jackman).

TARNISHED PLANT BUG (Lygus lineolaris) - TEXAS - New county record. Bexar County--2 adults collected per plant in sorghum field at Southton, June 27, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

LEAFFOOTED BUG (Leptoglossus phyllopus) - TEXAS - New county records. Wilson County--2 adults per plant collected in sorghum field at Stockdale, August 23, 1977. Guadalupe County--2 adults per head collected in sorghum field near Seguin, July 19, 1977. Both collected by L. Beikman and determined by B.J. Abraham. (Jackman).

SMALL GRAINS

INSECTS

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - First of season. Payne County--mostly 1st and 2nd instar larvae heavy in 1 wheat field, light in second field, and none in third field in Stillwater area week ending December 15. (Arnold).

SOUTHERN CABBAGEWORM (Pieris protodice) - TEXAS - New county record. Bexar County--1 adult per plant collected in wheat field at San Antonio, May 18, 1977, by L. Beikman. Determined by D.M. Weisman. (Jackman).

HESSIAN FLY (Mayetiola destructor) - WASHINGTON - New county records collected July 1977. Clallam County--taken from several wheat and barley fields near Dungeness. Island and San Juan Counties--taken from several wheat fields near Coupeville and near Richardson, Lopez Island, respectively. All collected and determined by K. Pike. (Antonelli, Pike). OKLAHOMA - Payne County--heavy in 1 of 3 wheat fields in Stillwater area week ending December 15; 1-7 per plant in nearly all plants in some areas of field. Most larvae pupated but some still present. (Arnold).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Counts in wheat by county week ending December 1: Beckham--light in most fields, averaged 1,000 per 0.3 row m (row ft) in small spots in 1 field; Washita--light in most fields, 500-600 per 0.3 row m in several fields along Washita River; Major--up to 400 per 0.3 row m in spots in 2 fields in Cleo Springs area; and Grant--6-8 per 0.3 row m. Cotton County--0-40 per 0.3 row m in 1 wheat field week ending December 15. (Arnold).

SOUTH DAKOTA - Greenbug buildup continued in winter wheat fields in West River counties week ending November 10. Infestations heavy from Fort Pierre, Stanley County, to areas northwest of Hayes in Haakon County; heaviest east, north, and northwest of Hayes. If warm weather prevails or temperatures rise again to 40-60 degrees after predicted cold spell, S. graminum could cause severe plant mortality in infested fields. Several damaged fields unsalvageable in Hayes

area. Up to 200 greenbug aphids (all sizes) per plant in some infested fields, indicates rapid buildup. Total control not possible due to subterranean feeding on crowns and roots of plants. (Walgenbach).

AN APHID (Rhopalosiphum padi) - TEXAS - Foard, Wichita, and Wilbarger Counties--1-3 per 0.3 row m (row ft) on small grains, week of December 11. (Boring). OKLAHOMA - Garfield County--0.6 per 0.3 row m of wheat week ending November 24. Beckham and Washita Counties--500-600 per 0.3 row m in many wheat fields week ending December 1. Garfield and Grant Counties--8-10 per 0.3 row m. Wagoner County--averaged 1 per 0.3 row m in 5-cm (2-in) wheat. (Arnold). WISCONSIN - Lyman, Stanley, and Haakon Counties--infestations heavy in winter wheat fields. Tripp County--populations lighter. Most winter wheat fields under drought stress and R. padi caused additional problems. Many fields treated in Hayes area, control good in some fields. Some plants yellowing in fields where only R. padi present. Heavy populations on seedling wheat plants and dry weather conditions should increase winter kill. Total control not possible due to subterranean feeding on crowns and roots of plants. (Walgenbach).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Adults per 0.3 row m (row ft) of small grains by county week ending December 11: Wichita and Wilbarger--1-2, and Archer, Baylor, and Foard--up to 14. (Boring). OKLAHOMA - First of season. Garfield County--averaged 60 per 0.3 row m in 1 wheat field and 3 or 4 per row m in few other fields in 1 area week ending December 1. (Arnold).

TURF, PASTURES, RANGELAND

DISEASES

A CYST NEMATODE (Heterodera mani Mathews) - CALIFORNIA - New Western Hemisphere record. Marin County--found associated with Distichlis spicata (seashore saltgrass) near Tomales by R. Robbins and A. Weiner, September 14, 1977. Determined by A.M. Golden. (Robbins). Species reported from Netherlands, Spain, United Kingdom (England and Northern Ireland), and West Germany on various grasses, and from a variety of wheat in Spain. Probably not economic. (Friedman).

INSECTS

A CHRYSOMELID BEETLE (Nodonota tristis) - TEXAS - New county record. Bexar County--1 adult collected on bermudagrass near San Antonio, June 26, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

AN APHID (Asiphonella dactylonii) - CALIFORNIA - New county record. Orange County--collected on Cynodon dactylon (bermudagrass) at Westminster, November 8, 1978, by J. Miles and D. Byers. Determined by T. Kono. (Gill).

FORAGE LEGUMES

INSECTS

ALFALFA WEEVIL (Hypera postica) - KENTUCKY - Eggs laid this fall in good condition. Fayette County--of 39 eggs hand dissected from alfalfa stems collected November 12 and placed in 70-degree chamber, 100% hatched in about 2-3 weeks. (Sloderbeck). MINNESOTA - New county record. Chisago County--trace on alfalfa near Center City, June 22, 1978. Collected and determined by R.F. Schwab; confirmed by E.F. Cook. (Sreenivasam).

ALFALFA SNOUT BEETLE (Otiorhynchus ligustici) - NEW YORK - Wayne, Cayuga, Oswego, Onondaga, Jefferson, Lewis, and St. Lawrence Counties--fall larval survey completed week of November 20; 25 of 170 alfalfa fields infested. Infestations near Jefferson and Lewis County border moved 0.201 km (0.125 mile). Larvae 1.9 per alfalfa plant in infested fields; about 50% more active than in 1977. About 90% of infested alfalfa fields 4 or more years old. Wayne County--larvae 7 per plant in first year alfalfa stand in infested areas. (Willson).

BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - New county records. Humboldt County--collected from alfalfa at Jungo, April 27, 1978, by L.L. Stitt. White Pine County--collected from alfalfa at Preston, May 18, 1978, by S.D. Peters. Both determined by R.C. Bechtel. (Bechtel).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Muskogee County--moderate to heavy in 1 alfalfa field in Webbers Falls area week ending December 1. Counts per 0.09 sq m (sq ft) by county: Garfield--averaged 15, Noble--15-20, and Kay--2-3. (Arnold).

COWPEA APHID (Aphis craccivora) - ARIZONA - Maricopa County--nymphs and adults 250 per 100 sweeps of alfalfa week ending December 8. (Kirkpatrick et al.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Adult counts on alfalfa by county week ending November 24: Pinal--150 per 100 sweeps, Maricopa--12-200 per 100 sweeps, and Yuma--11 per 10 sweeps. (Kirkpatrick et al.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Adult counts on alfalfa by county week ending November 24: Maricopa--4-110 per 100 sweeps and Yuma--13 per 10 sweeps. Week ending December 8: Yuma--12 per 10 sweeps. (Kirkpatrick et al.).

SOYBEANS

DISEASES

BACTERIAL TAN SPOT (Erwinia herbicola) - IOWA - New disease record for soybeans and new host record. Boone and Story Counties--infested Glycine max (soybean) at Boone and Ames, respectively. Collected and determined by J.M. Dunleavy. Greene County--taken on soybean at Ralston. Collected and determined by D.J. Williams and J.M. Dunleavy. All collected in July 1975. This disease first noticed infecting soybean plants in 1975 by J.M. Dunleavy. Also collected in Hamilton and Hancock Counties in 1976, in Greene County in 1977 and 1978, and in Guthrie, Pottawattamie, and Van Buren Counties in 1978. The pathogen incites leaf chlorosis in oval or elongate patterns starting at leaf margins. Large, tannish-brown, necrotic areas develop and enlarge indefinitely. (Williams).

SOYBEAN CYST NEMATODE (Heterodera glycines) - MINNESOTA - Faribault County--infestation confirmed in additional soybean fields located within 11-km (7-mile) radius of first find north of Frost. Only known infested county week ending December 1. (Sreenivasam). DELAWARE - New State record. Sussex County--cysts collected from field near Lewes about November 10, 1978. Collector unknown. Determined by A.M. Golden. Field in soybeans for at least 2 years. (Kruseberg).

A SPIRAL NEMATODE (Helicotylenchus sp.) - WISCONSIN - This species and a LESION NEMATODE (Pratylenchus sp.) present in 47% and 43% of soil samples and 12% and 45% of root samples, respectively, in 60 soybean fields sampled in 18 counties during survey in August 1978, a PIN NEMATODE (Paratylenchus sp.) noted in 12% of soil samples and 8% of root samples. A LANCE NEMATODE (Hoplolaimus sp.) in 2% of soil samples only, and a DAGGER NEMATODE (Xiphinema sp.) and a STUNT NEMATODE (Tylenchorhynchus sp.) in 3% of soil samples only. No larvae of a CYST NEMATODE (Heterodera sp.) taken in soil or root samples. Cysts taken in 28% of soil samples. Most of cysts taken tentatively identified as CACTUS CYST NEMATODE (Heterodera cacti) or KNOTWEED CYST NEMATODE (H. weissi); few cysts tentatively identified as CLOVER CYST NEMATODE (H. trifolii).

Rock County--only 1 soil sample had more than 100 spiral nematodes, rest of samples had fewer than 25 of other species. Aforementioned nematodes recovered from only 50% of root samples where populations usually less than 25 per 100g roots; all populations in root and soil samples much lighter than level needed to cause obvious plant damage. Nematode populations from samples in 1978 atypical compared to many soybean fields sampled previous years. Populations may have been lighter due to dry soil conditions at time of sampling. (Lovett)

INSECTS

RICE STINK BUG (Oebalus pugnax) - TEXAS - New county record. Willacy County--1 adult collected on soybeans at Raymondville, September 12, 1977, by J.L. Loklar. Determined by G. Burgess. (Jackman).

POTATOES, TOMATOES, PEPPERS

INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - TEXAS - New county record. Bexar County--5 adults collected on potato plants in home garden at San Antonio, May 11, 1977, by L. Beikman. Determined by R.L. Hodgdon. (Jackman).

A CHRYSOMELID BEETLE (Diabrotica tibialis) - TEXAS - New county record. Bexar County--2 adults collected on tomatoes in home garden at Martinez, June 9, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

CLOVER HEAD WEEVIL (Hypera meles) - TEXAS - New county record. Bexar County--3 adults collected on tomatoes and beans in home garden at San Antonio, May 18, 1978, by L. Beikman. Determined by R.L. Hodgdon. (Jackman).

VARIEGATED CUTWORM (Peridroma saucia) - TEXAS - New county record. Bexar County--2 adults collected on tomatoes in home garden at San Antonio, May 23, 1977, by L. Beikman. Determined by R.L. Hodgdon. (Jackman).

SQUASH VINE BORER (Melittia satyriniformis) - TEXAS - New county record. Bexar County--2 adults collected on tomatoes in home garden at San Antonio, May 11, 1977, by L. Beikman. Determined by R.L. Hodgdon. (Jackman).

BEANS AND PEAS

INSECTS

BEAN LEAF BEETLE (Cerotoma trifurcata) - TEXAS - New county record. Guadalupe County--50 adults collected on beans in home garden at Seguin, July 18, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

A SCARAB BEETLE (Euphoria nitens) - TEXAS - New county record. Bexar County--2 adults collected on bean plants in home garden at San Antonio, May 11, 1977, by L. Beikman. Determined by D.D. Kopp. (Jackman).

SOUTHERN GREEN STINK BUG (Nezara viridula) - TEXAS - New county record. Guadalupe County--25 adults collected on beans in home garden at Seguin, July 18, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

HARLEQUIN BUG (Murgantia histrionica) - TEXAS - New county record. Bexar County--1 adult per bean plant collected near San Antonio, May 2, 1978, by L. Beikman. Determined by R.L. Hodgdon. (Jackman).

COLE CROPS

INSECTS

DIAMONDBACK MOTH (Plutella xylostella) - FLORIDA - St. Johns County--49+ larvae per cabbage head in Hastings area week of December 14. Weather too windy for aerial treatment. Heavy populations prevalent for about 2 weeks. (Mead).

CUCURBITS

INSECTS

STRIPED CUCUMBER BEETLE (Acalymma vittata) - TEXAS - New county record. Bexar County--3 adults collected on cucumbers in home garden at Martenez, June 9, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

SQUASH BEETLE (Epilachna borealis) - TEXAS - New county record. Bexar County--1 adult per plant collected on squash at San Antonio, June 27, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

RICE STINK BUG (Oebalus pugnax) - TEXAS - New county record. Bexar County--1 adult collected on cucumbers in home garden at San Antonio, June 9, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

GENERAL VEGETABLES

INSECTS

TEXAS LEAFCUTTING ANT (Atta texana) - TEXAS - New county record. Guadalupe County--several adults collected on okra in home garden at Seguin, July 18, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

LEAFMINER FLIES (Liriomyza spp.) - ARIZONA - Maricopa County--adults 20 per 10 lettuce plants at Queen Creek week ending December 8. (Brooks et al.).

DECIDUOUS FRUITS AND NUTS

INSECTS

WINTER MOTH (Operophtera brumata) - OREGON - New county record. Washington County--several males in flight and 2 females noted around ornamental flowering crabapple trees in Raleigh Hills area, November 16, 1978. Collected by K.J. Goeden. Mating pairs also collected from same host. Wingless females also collected on ornamental crabapple, using beating sheets, as far north as

Columbia River, northeast of Portland, and as far west as Hillsboro, December 1 by R.L. Penrose. Determined by R.L. Westcott. (Penrose).

WASHINGTON - New State and county records. Clark County--collections of 1 male from side of motel building near fruit orchard and 5 females from cherry and plum orchard on National Monument grounds by C.M. Emery and D.W. Keim; and 1 female from apple tree near commercial building by C.M. Emery. All collected at Vancouver, December 6, 1978. San Juan County--1 female and several males collected from sticky bands on unsprayed apple tree on San Juan Island by G. Whitwer, December 6. Determined by D.C. Ferguson. (Jackson).

CARPENTERWORM (Prionoxystus robiniae) - CALIFORNIA - Fresno County--2 mature larvae per limb infested commercial peach at Reedley, week of November 27. (Gill).

PEAR PSYLLA (Psylla pyricola) - CALIFORNIA - Lake County--low and high counts per 50 beats (unless stated otherwise) of pear on 38-cm (15-in) diameter apron November 27 to December 1 by area: Scotts Valley--0 and 119, Upper Lake--5 per 50 beats and 116 per 25 beats, and Big Valley--4 and 243. (Robbins).

CITRUS

INSECTS

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) - CALIFORNIA - Tulare County--pupae 5-6 per leaf on commercial citrus near Orosi, week of November 27. (Gill).

CITRUS RUST MITE (Phyllocoptura oleivora) - FLORIDA - Populations of this species, CITRUS RED MITE (Panonychus citri), and TEXAS CITRUS MITE (Eutetranychus banksi) continued decrease on citrus, still at higher than normal levels due to hot, dry weather week of December 7. (Mead).

ORNAMENTALS

INSECTS

AZALEA LEAFMINER (Caloptilia azaleella) - MISSISSIPPI - Harrison County--larval damage moderate to heavy in commercial plantings of azalea week of December 7. Controls difficult. (Anderson).

EUONYMUS SCALE (Unaspis euonymi) - NEW MEXICO - Bernalillo County--infestations heavy on ornamental Euonymus japonica plants, reducing viability, in Albuquerque area week ending December 8. (Heninger).

AN ARMORED SCALE (Parlatoria proteus) - FLORIDA - New host record for State. Dade County--adults and immatures moderately infested 50% of 300 ornamental Guaiacum sanctum (lignum-vitae) plants in nursery at Miami, November 21, 1978. (vonWald). Adults severely infested leaves of few ornamental Cycas revoluta (sago palm) at Miami, week of December 4; control requested. (McKewen).

AN APHID (Sanbornia juniperi) - NEVADA - New State record. Washoe County--collected from Juniperus sp. at Reno, August 14 and 16, 1978, by R.C. Bechtel, A.N. Harris, D.M. Martinelli, and E.N. Pritchard. Determined by T. Kono; confirmed by R.C. Dickson. (Bechtel).

WOOLLY APPLE APHID (Eriosoma lanigerum) - OREGON - Multnomah County--heavy root node formation and distortion on 2-year-old Royal Flowering Crab Apple nursery

stock at Gresham, week ending December 1. Woolly apple aphid damage noted following digging; most affected plants from low area in field. (Angyal).

A WHITEFLY (Parabemisia myricae) - CALIFORNIA - Orange County--infestations noted at San Clemente and Huntington Beach week ending November 24. Los Angeles County--noted at Altadena and Monrovia; week ending December 1: noted at Duarte. These are new finds in previous newly infested counties. (Gill).

FOREST AND SHADE TREES

INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - SOUTH CAROLINA - Bamberg County--infestations heavy on pines week of December 7; loss of severely damaged trees possible. (Watson).

AN ENGRAVER BEETLE (Ips calligraphus) - OKLAHOMA - Atoka County--moderately infested several dead pine trees in 23-year-old ornamental planting near Lane week ending December 1. Trees weakened or killed by extreme dry summer weather. (Arnold).

A SOFT SCALE (Ceroplastes sinensis) - CALIFORNIA - New host record for State. Santa Clara County--found on Liriodendron tulipifera (yellow-poplar) at San Jose, December 6, 1978, by J. Goodin and H. Bejarano. (Gill).

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) - FLORIDA - Alachua County--averaged 74 per animal in small beef herd at Gainesville, week of November 20. (Grippe).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - First report of season week ending December 15. Payne County--0-12 per head (averaged 2.6) in backs of untreated cows. (Arnold).

MISCELLANEOUS PLANTS

WEEDS

ALLIGATORWEED (Alternanthera philoxeroides) - CALIFORNIA - Kings County--this noxious weed collected along ditch bank at Hanford, week of November 9; a new area of infestation in this county. (Gill).

BENEFICIAL ORGANISMS & THEIR ENEMIES

INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) - OKLAHOMA - Garfield County--larvae 6-8 per 0.09 sq m (sq ft) in alfalfa week ending November 24. (Arnold).

A BRACONID WASP (Microctonus aethiopoulos) - INDIANA - New county records. Warren County--larvae dissected from Hypera postica (alfalfa weevil) adults collected in alfalfa field near Greenhill, November 13, 1977. Jay County--larvae dissected from H. postica adult collected in alfalfa field near Portland, November 21, 1977. Both collected by R. Meyer and determined by R. Dysart. (Meyer).

AN ICHNEUMONID WASP (Bathyplectes curculionis) - INDIANA - New county records. Adults of this wasp collected from reared Hypera postica (alfalfa weevil) larvae in 1978. Collected and determined by V. Parman; confirmed by M.C. Wilson. Host larvae collected from alfalfa by R.W. Meyer. (Meyer).

<u>County</u>	<u>Location</u>	<u>Nearest City</u>	<u>Date</u>	<u>Percent Parasitized</u>
Pulaski	State Highway 29	Medaryville	June 6	33%
Whitley	State Highway 14 and County Highway 350W	Tunker	June 5	3%
Allen	U.S. Highway 24 and State Highway 101	Woodburn	June 6	7%
Huntington	U.S. Highway 24 and State Highway 9	Huntington	June 5	5%
Wells	U.S. Highway 224 and State Highway 301	Tocsin	June 5	2%
Adams	State Highway 116 and Wells-Adams County line	Linn Grove	June 6	12%
Fountain	U.S. Highway 41 and State Highway 55	Rob Roy	May 31	48%

FEDERAL AND STATE PROGRAMS

INSECTS

GYPSY MOTH (Lymantria dispar) - OHIO - First male find for Mahoning County--1 adult taken in disparlure trap near Canfield, October 18, 1978. Collected by B. Todd. Determined by E.L. Todd. (B. Todd).

RED IMPORTED FIRE ANT (Solenopsis invicta) - NORTH CAROLNA - New county record. Hyde County--adults collected on dike at North Carolina State ferry dock, Swanquarter, November 14, 1978. Collected by W.J. Wescott. Determined by R.F. Bollinger. (Planer).

REDLEGGED GRASSHOPPER (Melanoplus femurrubrum) - TEXAS - New county record. Bexar County--25 adults collected in sorghum field at San Antonio, June 20, 1977, by L. Beikman. Determined by B.J. Abraham. (Jackman).

SCREWWORM (Cochliomyia hominivorax) - Total of 515 cases reported from continental United States October 29 to December 2 as follows: Texas 115, New Mexico 57, Arizona 313, California 30. (Meadows). Total of 2,274 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 1,711 cases reported in Mexico south of Barrier Zone October 29 to November 18. (Williams, Smith). Number of sterile flies released October 22 to December 2 totaled 647,818,180 as follows: Texas 413,709,380; New Mexico 26,237,540; Arizona 183,830,460; California 24,040,800. (Meadows). Total of 616,576,820 sterile flies released within Barrier of Mexico. (Williams, Smith).

HAWAII PEST REPORT

New United States Record. Specimens of a SLUG (Vaginulus plebeius Fischer) collected by J. Fujii at Captain Cook (Kona), Hawaii Island, from string beans on September 28, 1978. Determined by Y. Kondo and C. Christensen. Occurs in Samoa, New Hebrides, and New Caledonia. (Matayoshi et al.). Also occurs in Antigua, St. Thomas, Trinidad, and West Indies. (Roth).

General Vegetables - BEAN FLY (Ophiomyia phaseoli) infestations heavy and damaged 15 row m (50 row ft) of backyard pole bean planting at Pukalani, Maui, week ending November 24. (Miyahira). Infestations and damage severe in backyard planting of bush beans at Pearl City, Oahu, week ending December 1. (L. Nakahara). Infestations of LEAFMINER FLIES (Liriomyza spp.) heavy on 0.2 ha (0.5 acre) of cucumbers at Waianae, Oahu, week ending December 15. All stages of GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) heavy on 0.2 ha of eggplant at Waianae. (Murai, Lai).

Ornamentals - Infestations by a WHITEFLY (Aleurodicus dispersus) noted on various ornamental and fruit trees in Diamond Head, Makiki, Manoa, Pauoa Valley, Liliha, and Kakaako districts of Honolulu, Oahu, week ending November 24. Moderately infested backyard citrus, coconut, and plumeria in 2-block section at Pearl City. These are new finds in previously unreported districts on Honolulu, Oahu. New host record for a WHITEFLY (Orchamoplatus mammaeferus). Infestations (all stages) light on Ochrusia nakaiana and Harpullia hillii, botanic specimens at Foster Botanic Gardens, Honolulu, Oahu, October 13, 1978. Collected by L. Nakahara. All stages light on Syzygium malaccense and Psidium cattleianum (strawberry guava) at Nuuanu, October 23, 1978. Collected by K. Teramoto. Determined by S. Higa. (Teramoto, L. Nakahara). New host record for State. All stages infested Macadamia integrifolia (macadamia-nut) at Pawaa, Oahu, December 1, 1978. Collected by L. Nakahara. Determined by S. Higa. Infestations moderate to heavy on various plantings of citrus, croton, and plumeria at Manoa, Oahu, week ending December 1.

ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) infestations heavy on citrus trees in 0.8-km (0.5-mile) section of Kaunakakai, Molokai, during recent survey, week ending December 15. First discovered on citrus tree in same area past September. KIRKALDY WHITEFLY (Dialeurodes kirkaldyi) infestations heavy on many backyard citrus and plumeria at Kaunakakai, Molokai, week ending December 8.

New island record. WEST INDIAN FLATID (Melormensis antillarum) collected on hibiscus at Kaunakakai, Molokai, November 29, 1978, by L. Nakahara. Determined by S. Higa. New host record for a PSYLLID (Leptynoptera sulfurea) for State. Infestations moderate on Calophyllum vitiense at Foster Botanic Gardens, Honolulu, Oahu, October 13, 1978. Collected by L. Nakahara. Determined by S. Higa. Foliar damage by AZALEA LACE BUG (Stephanitis pyrioides) moderate to heavy on backyard azalea at Manoa, Oahu, week ending December 1. (L. Nakahara). CUBAN LAUREL THRIPS (Gynaikothrips ficorum) infestations heavy on 1 large Chinese banyan tree at Maalaea, Maui, week ending November 24. All stages of an ANTHOCORID BUG (Montandoniola moraguesi), a predator, heavy among infestations. (Miyahira).

Snail Pest - Infestation by GIANT AFRICAN SNAIL (Achatina fulica) light to moderate in 4 residential seaside lots totaling 0.8 ha (2 acres) at Kaunakakai and 2 adjacent homesteads totaling 0.4 ha (1 acre) at Hoolehua, Molokai, week ending December 8. Specimen 10 cm (4 in) long recently reported from Pukoo (East Molokai) and 1 unconfirmed report in Halawa Valley. Recent surveys showed A. fulica light but well dispersed in Maunaloa. (L. Nakahara, Oshiro).

LIGHT TRAP COLLECTIONS

CALIFORNIA - Bellota, 11/29, temp. 6.7-17 degrees C (44-63 degrees F), BL - ARMYWORM (Pseudaletia unipuncta) 16, BEET ARMYWORM (Spodoptera exigua) 10, BLACK CUTWORM (Agrotis ipsilon) 25, VARIEGATED CUTWORM (Peridroma saucia) 2. Manteca, 11/30, temp. 12-17 degrees C (53-63 degrees F), precip. 0.5 cm (0.2 in), BL - Armyworm 8, beet armyworm 10, black cutworm 4, GRANULATE CUTWORM (Feltia subterranea) 54, variegated cutworm 3. FLORIDA - Gainesville, 12/7-13, BL - Armyworm 1, beet armyworm 1, granulate cutworm 7, YELLOW STRIPED ARMYWORM (Spodoptera ornithogalli) 1. TEXAS - College Station, 12/7-13, BL - Armyworm 1, black cutworm 0, CABBAGE LOOPER (Trichoplusia ni) 0, CORN EARWORM (Heliothis zea) 0, FALL ARMYWORM (Spodoptera frugiperda) 0, SALTMARSH CATERPILLAR (Estigmene acrea) 0, TOBACCO BUDWORM (Heliothis virescens) 0, TOBACCO HORNWORM (Manduca sexta) 0, TOMATO HORNWORM (Manduca quinquemaculata) 0, yellowstriped armyworm 0.

DETECTION

NEW WESTERN HEMISPHERE RECORD

DISEASES

A CYST NEMATODE (Heterodera mani Mathews) - CALIFORNIA - Marin County. (p. 674)

NEW UNITED STATES RECORDS

DISEASES

SUGARCANE RUST (Puccinia melanocephala H. Sydow and P. Sydow) - PUERTO RICO. (p. 672).

SLUGS AND SNAILS

A SLUG (Vaginulus plebeius Fischer) - HAWAII - Hawaii Island. (p. 681).

NEW STATE RECORDS

DISEASES

SOYBEAN CYST NEMATODE (Heterodera glycines) - DELAWARE - Sussex County. (p. 675)

INSECTS

AN APHID (Sanbornia juniperi) - NEVADA - Washoe County. (p. 678).

WINTER MOTH (Operophtera brumata) - WASHINGTON - Clark and San Juan Counties. (p. 678).

NEW COUNTY AND ISLAND RECORDS

DISEASES

DIFFUSA POWDERY MILDEW (Microsphaera diffusa) - MINNESOTA - Chippewa, Faribault, Freeborn, Jackson, Kandiyohi, Lac Qui Parle, Martin, Meeker, Mower, Pipestone, Renville, and Yellow Medicine. (p. 723-724).

GOSS WILT (Corynebacterium nebraskense) - IOWA - Ida. (p. 672).

INSECTS

- ALFALFA WEEVIL (Hypera postica) - MINNESOTA - Chisago. (p. 674).
- AN APHID (Asiphonella dactylonii) - CALIFORNIA - Orange. (p. 674).
- BANDED CUCUMBER BEETLE (Diabrotica balteata) - TEXAS - Bexar, Guadalupe, and Wilson. (p. 672).
- BEAN LEAF BEETLE (Cerotoma trifurcata) - TEXAS - Guadalupe. (p. 676).
- BLUE ALFALFA APHID (Acyrtosiphon kondoi) - NEVADA - Humboldt and White Pine. (p. 675).
- A BRACONID WASP (Microctonus aethiopoidea) - INDIANA - Warren and Jay. (p. 679)
- A CHRYSOMELID BEETLE (Diabrotica tibialis) - TEXAS - Bexar (p. 676) and Guadalupe (p. 672).
- A CHRYSOMELID BEETLE (Nodonota tristis) - TEXAS - Bexar. (p. 674).
- CLOVER HEAD WEEVIL (Hypera meles) - TEXAS - Bexar. (p. 676).
- COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - TEXAS - Bexar. (p. 676).
- CONCHUELA (Chlorochroa ligata) - TEXAS - Bexar. (p. 673).
- A CURCULIONID WEEVIL (Otiorynchus meridionalis) - NEVADA - New county record. Humboldt County--taken from a house at Winnemucca, August 1, 1978, by R. Miles. Determined by R.C. Bechtel. (Bechtel).
- EUROPEAN CORN BORER (Ostrinia nubilalis) - TEXAS - Moore. (p. 672).
- GRAPE COLASPIS (Colaspis brunnea) - TEXAS - Guadalupe. (p. 672).
- GYPSY MOTH (Lymantria dispar) - OHIO - Mahoning County--1 male moth taken in disparlure traps near Canfield, October 18, 1978. Collected by B. Todd. Determined by E.L. Todd. First find for this county. (B. Todd).
- HARLEQUIN BUG (Murgantia histrionica) - TEXAS - Bexar. (p. 677).
- HESSIAN FLY (Mayetiola destructor) - WASHINGTON - Clallam, Island, and San Juan. (p. 673).
- AN ICHNEUMONID WASP (Bathyplectes curculionis) - INDIANA - Pulaski, Whitley, Allen, Huntington, Wells, Adams, and Fountain. (p. 680).
- LEAFFOOTED BUG (Leptoglossus phyllopus) - TEXAS - Wilson and Guadalupe. (p. 673).
- RED IMPORTED FIRE ANT (Solenopsis invicta) - NORTH CAROLINA - Hyde. (p. 680).
- REDLEGGED GRASSHOPPER (Melanoplus femurrubrum) - TEXAS - Bexar. (p. 680).
- RICE STINK BUG (Oebalus pugnax) - TEXAS - Bexar (p. 677) and Willacy. (p. 676).
- A SCARAB BEETLE (Euphoria nitens) - TEXAS - Bexar. (p. 677).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEVADA - New county records. Storey County--collected from pheromone trap on a utility pole at Virginia City and Carson City on June 12, 1978, by R.C. Bechtel, R.B. Dufour, and L.L. Joy. White Pine County--collected from pheromone trap on a utility pole at Ely, August 21, 1978, by R.B. Dufour. Both determined by R.C. Bechtel. (Bechtel).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Bexar. (p. 673).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Wilson. (p. 672).

SOUTHERN CABBAGEWORM (Pieris protodice) - TEXAS - Bexar. (p. 673).

SOUTHERN GREEN STINK BUG (Nezara viridula) - TEXAS - Bexar (p. 673) and Guadalupe. (p. 677).

SQUASH BEETLE (Epilachna borealis) - TEXAS - Bexar. (p. 677).

SQUASH VINE BORER (Melittia satyriniformis) - TEXAS - Bexar. (p. 676).

STRIPED CUCUMBER BEETLE (Acalymma vittata) - TEXAS - Bexar. (p. 677).

TARNISHED PLANT BUG (Lygus lineolaris) - TEXAS - Bexar. (p. 673).

TEXAS LEAFCUTTING ANT (Atta texana) - TEXAS - Guadalupe. (p. 677).

VARIEGATED CUTWORM (Peridroma saucia) - TEXAS - Bexar. (p. 676).

WEST INDIAN FLATID (Melormensis antillarum) - HAWAII - Molokai. (p. 681).

WINTER MOTH (Operophtera brumata) - OREGON - Washington. (p. 677).

OTHER NEW RECORDS

DISEASES

BACTERIAL TAN SPOT (Erwinia herbicola) - IOWA - New disease for soybeans. (p. 675).

CORRECTIONS

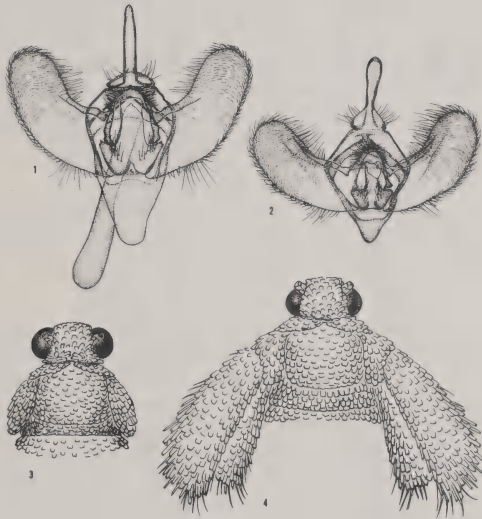
CPPR 3(43):602 - WHEAT STEM SAWFLY (*Cephus cinctus*) - NORTH DAKOTA - Change Divide--43%, 6.95%, 0.24% to read Divide--43%, 6.95%, 0-24%.

CPPR 3(44-47):620 - HAWAII PEST REPORT - New State Records. Specimens of a BITING LOUSE (*Kurodaia flammei*) "... on Kauai (city unknown) ..." should read "... at Anahola, Kauai, ..." (L. Nakahara).

CPPR 3(44-47):619 - FEDERAL AND STATE PROGRAMS - CEREAL LEAF BEETLE (*Oulema melanopus*) - WISCONSIN - Change "Determined by R. Taylor" to "Determined by R.E. White." (Lovett).

CPPR 3(44-47):621 - LIGHT TRAP COLLECTIONS - CALIFORNIA - Bellota "... 6L1-26 C (43-80 F) ..." should read "... temp. 6.1-26 degrees C (43-80 degrees F) ..."

CPPR 3(44-47):637 - "TAN SPOT (*Pyrenophora trichostoma*) ..." should read "COM-
MON MAIZE RUST (*Puccinia sorghi*) ..."



Pest Interceptions of Quarantine Significance at Ports of Entry

Plant Importation and Technical Support Staff
Plant Protection and Quarantine Programs, USDA

	<u>Life Stage</u>	<u>Host</u>	<u>Probable Origin</u>	<u>Port of Entry</u>	<u>Destination</u>
<u>Ceratitis capitata</u> (Wiedemann) Mediterranean fruit fly Det. C.E. Miller	larval pupal	in <u>Opuntia</u> fruit from baggage	Spain	San Juan	PR
<u>Dichrocrocis punctiferalis</u> (Guenee) a pyralid moth Det. R.K. Kunishi	larval	in seeds of <u>Castanea</u>	Korea	Honolulu	HI
<u>Melanagromyza obtusa</u> (Malloch) an agromyzid fly Det. G. Steyskal	larval	in <u>Phaseolus</u> from baggage	India	Chicago	IL
<u>Metamasius</u> sp. a weevil Det. R.P. Higgins	adult	in roots of <u>Musa</u> plants	Honduras	Miami	FL
<u>Orchamoplatus mammaeferus</u> (Q & B) a whitefly Det. R.K. Kunishi	pupal	on leaves of <u>Codiaeum</u> from mail	Hawaii	Honolulu	CA
<u>Orthotomicus</u> sp. a scolytid beetle Det. F. Krim	adult	in wood crates of glass	Poland	New York	FL
<u>Scolytus sulcifrons</u> Rey a scolytid beetle Det. D.M. Anderson	adult larval	in wood pallets of tractor parts	Italy	New Orleans	MS
<u>Trogoderma granarium</u> Everts Khapra beetle Det. J.M. Kinasoilver	adult larval	on seeds from baggage	Saudi Arabia	San Antonio	TX

PESTS NOT KNOWN TO OCCUR IN THE UNITED STATES
Or
Of Limited Distribution

WINTER MOTH

Operophtera brumata (L.)
Lepidoptera: Geometridae

CONTRIBUTED BY: D.C. Ferguson 1/

ECONOMIC IMPORTANCE

Winter moth is a single brooded, early season defoliator. Severe infestations will strip trees in much the same manner as does gypsy moth, Lymantria dispar (L.) (Cuming 1961). Winter moth has been recognized as a major pest of fruit and forest trees in the Old World. An outbreak in central Poland in 1935-1936 caused complete defoliation of forest trees. Hazel trees are sometimes severely defoliated in extensive areas of Italy. Serious losses on fruits are recorded in the British Isles, Denmark, Czechoslovakia, Algeria, and parts of the Soviet Union. Loss from the pest amounted to 90,000 pounds sterling in Vistula, Germany, between 1916-1920. Winter moth was the most harmful insect on cherry flowers in the Netherlands between 1941-1943 (Anonymous 1957).

In North America, stands of red oak in Nova Scotia gradually deteriorated, dying from 60% or more defoliation annually over a 5-year period (Cuming 1961). Severe defoliation has occurred on such major hosts as apple, oak, maple, elm, and basswood. A local outbreak at Grand Pre in 1955 caused about 80% defoliation of untreated apple orchards and various hardwood species. Insecticides were necessary against this insect and fall cankerworm, Alsophila pometaria (Harr.), in many orchards during 1956 to prevent serious defoliation and marring of fruit (Anonymous 1957).

DISTRIBUTION

In North America, winter moth was first recorded in Nova Scotia in 1949 (Smith 1950, Hawboldt and Cuming 1950). It was already so well established that it was thought to have been there for as long as 30 years before its discovery, the damage having been mistaken for that of fall cankerworm, Alsophila pometaria (Harr.), or spring cankerworm, Paleacrita vernata (Peck). Initially confined to southeastern Nova Scotia, it extended its range into the neighboring provinces of New Brunswick and Prince Edward Island in about 15 years (Forbes et al. 1964). Although present in Nova Scotia for 59 years, it is still not known to have entered Maine. The original impetus of the outbreak slowed considerably following the introduction of biocontrol agents.

Around 1976, however, a new introduction was detected on the Pacific coast, on southern Vancouver Island, British Columbia (Gillespie, Finlayson, Tonks, and Ross 1978). By the fall of 1978, winter moth was discovered at Portland, Oregon, where it appears to have been locally established for many years. Several males found in the collection at Oregon State University, Corvallis, had been collected in 1958, and others in the State Department of Agriculture

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collection at Salem bear dates in 1973. Understandably, these males had been misidentified as the very similar Operophtera occidentalis (Hulst). Later, in the winter of 1978, winter moth was also detected at Vancouver and on San Juan Island in Washington. It is not known whether these western infestations came from eastern Canada, whether they represent separate introductions directly from some Old World source, or whether they are themselves connected. Winter moth is native and widespread across northern Africa, temperate Eurasia from Scandinavia, Britain, and France to Japan, a distribution that suggests that it could occupy most of temperate North America, wherever suitable hosts are available.



GENERAL DISTRIBUTION OPEROPHTERA BRUMATA

HOSTS

In eastern Canada the most favored host trees in order of severity of attack are apple (Malus sylvestris), red oak (Quercus borealis), American elm (Ulmus americana), red maple (Acer rubrum), basswood (Tilia sp.), and ironwood (Ostrya virginiana). But the larvae also fed on many other deciduous trees, including birches (Betula spp.), poplars (Populus spp.), and willows (Salix spp.) (Embree and Cumig 1967). Conifers are not normally attacked. Although red oak was specified as the most commonly attacked forest tree, this is the only oak species present in the Canadian infestation. Thus there is no reason to suppose that winter moth would ignore other oaks if they were available.

Other hosts include apricot, cherry, currant, gooseberry, hornbeam, peach, pear, plum, quince, walnut, and various ornamentals (Anonymous 1957). Browne (1968) lists the following additional forest tree hosts: Acer pseudoplatanus (sycamore maple), Fagus sylvatica (European beech), Fraxinus americana (white ash), F. nigra (black ash), Larix decidua (European larch), Picea abies (Norway spruce), Populus spp. (aspens, cottonwoods), Quercus petraea (durmast oak), Q. robur (English oak), Q. rubra (northern red oak), Salix spp. (willows), Tilia americana (American basswood), T. europaea (European linden), Ulmus procera (English elm).

CHARACTERS

ADULTS - Male wing expanse 27-30 mm. Body fragile, dusky-brown, obscurely marked. Forewing with diffuse, slightly scalloped or wavy transverse lines and bands. Hindwing much less distinctly banded.

EGGS - Light green when freshly laid, changing to light reddish orange in 2 weeks. Surface pitted. Length about 0.5 mm.

LARVAE - Looper type. When young, yellowish green with dark head. Length fully grown 25 mm. Green with dark dorsal line and 3 yellow to creamish-green stripes along each side. Head dark brown. Appearance very similar to that of spring cankerworm.

PUPAE - Light brown, encased in flimsy silken cocoon beneath the surface of the soil. (Description of immatures from Anonymous 1957 and Smith 1953).

ADULTS OF CLOSELY RELATED SPECIES

Winter moth has close relatives in North America from which it may be distinguished with difficulty. Bruce spanworm, Operophtera bruceata (Hulst), native in the northern U.S., west through the Rocky Mountain region and occasionally itself a troublesome pest in apple orchards (McMullen 1973), is similar in size and markings but is a distinctly lighter brown. As well as being paler, it is more thinly scaled and translucent than brumata. The western winter moth O. occidentalis (Hulst), occurs on the Pacific coast from British Columbia to northern California. This species has 2 color forms, a dark-brown form a little darker than brumata but extremely similar, and a light form (form "latipennis") in which the dark transverse lines stand out in bold contrast against a paler background. These differences may not be meaningful except when specimens in good condition are compared with adequate samples of known identity. Damaged males recovered from sticky traps or tree bands may be unrecognizable superficially. Fortunately, males of Operophtera species have characteristic genitalia by which they may be distinguished from the native winter moths by the shape of several genitalic components.

Females of brumata (Fig. 4) may be distinguished easily from those of most other Operophtera species (Fig. 3) by their much longer vestigial wings, but not from those of Danby's winter moth (see discussion below).

ADULTS OF OTHER SPECIES

Adults of 3 other indigenous geometrids with brachypterous females and similar habits may occur commonly in late fall at nearly the same time as winter moth. In the Northeast these are the fall cankerworm, Alsophila pometaria (Harr.), and linden looper, Erannis tiliaria tiliaria (Harr.), and in the Northwest, Erannis tiliaria vancouverensis Hulst, and Danby's winter moth, Operophtera danbyi (Hulst) (new common name and new combination of generic and specific names, formerly Paraptera danbyi Hulst). The male of A. pometaria is gray with 2 diffuse, whitish, transverse lines on the forewing, and the female is virtually without visible wing pads. The male of E. tiliaria is nearly twice as large as that of O. brumata and is predominantly light yellowish, variably suffused with brown, and the female may be recognized by its black and white, speckled coloring. The male of O. danbyi looks like O. occidentalis form "latipennis" but is usually larger. The wing expanse of most danbyi males exceeds 30 mm; that of brumata and occidentalis is 30 or less. Although males of danbyi do not look much like those of

brumata, this species may occasionally pose an identification problem in Washington and Oregon because its females have long wing pads exactly like those of brumata. However, the tongue of danbyi is reduced to where it is often not easily seen (both sexes); whereas that of other Operophtera species is large enough to be nearly always visible between the labial palpi. This is a minor character, and as the male genitalia are hardly distinguishable from those of occidentalis, I decided to assign danbyi to the genus Operophtera.

Various other Geometridae with brachypterous females occur widely in North America, such as species of Paleacrita, Phigalia, Itame, Lycia, and Animomyia, but adults of these emerge in spring or summer, never in the fall.

KEY TO ADULT MALES

- 1 Front with smooth, flat, glossy brown scales, lower border usually unscaled; pattern of forewing comprised of many transverse, finely scalloped or waved, nearly parallel lines (which may be diffuse and unclear) 2
- 1' Front with protruding, tufted, or rough scale covering, without unscaled lower border; pattern not as described above, usually 2 or 3 transverse lines or bands, not closely parallel 6
- 2(1) Forewing without strongly contrasting pattern of lines; eastern or western (Fig. 5, 6, 8) 3
- 2' Forewing with strongly contrasting pattern of lines; western (Fig. 7, 9). 5
- 3(2) Genitalia with uncus dilated; saccus shorter than basal width of valve (Fig. 2) Operophtera brumata
- 3' Genitalia with uncus slender, its sides parallel; length of saccus about equal to basal width of valve (Fig. 1) 4
- 4(3') Pacific coast region, B.C. to Calif. Operophtera occidentalis
- 4' Northern Rocky Mts. to Alaska, eastward across northern U.S. and Canada to Greenland. Operophtera bruceata
- 5(2') Wing expanse usually more than 30 mm; tongue minute; if extended, shorter than palp (Fig. 9) Operophtera danbyi
- 5' Wing expanse usually 30 mm or less; tongue better developed, coiled, clearly visible between palps; if extended, longer than palp (Fig. 7) Operophtera occidentalis form "latipennis"
- 6(1') Expanse less than 35 mm; gray with 2 whitish, diffuse, slightly dentate, transverse bands on forewing; front with median depression splitting scale covering into 2 vertical ridges; eastern (Fig. 10). Alsophila pometaria
- 6' Expanse more than 35 mm; pale yellowish with variable transverse shading of darker yellowish brown (eastern), or irregular bands and blotches of dark brown (western); scale covering of front undivided (Fig. 11). Erannis tiliaria

KEY TO ADULT FEMALES

- 1 Wing pads longer than width of thorax (Fig. 4, 12)
- 1' Wing pads shorter than width of thorax (Fig. 3, 13, 14).
- 2(1) Tongue, if extended, at least twice length of labial palp . . .
. Operophtera brun
- 2' Tongue very rudimentary; if extended, probably no longer than labial
palp (These 2 species difficult to distinguish) . Operophtera dar
- 3(1') Hind tibia with 1 pair of spurs; scale covering of front with
distinct depression in middle; eastern. Alsophila pometa
- 3' Hind tibia with 2 pairs of spurs; scale covering of front flat,
without median depression; eastern and western
- 4(3') Hind tibia unswollen; body gray or brownish
- 4' Hind tibia somewhat swollen; body contrastingly peppered or blotched
with black on a whitish background Erannis tilia
- 5(4) Pacific coast region, B.C. to Calif Operophtera occident
- 5' Northern Rocky Mts. to Alaska, eastward across northern U.S. and
Canada to Greenland Operophtera bruce

CHARACTERISTIC DAMAGE

The larvae, which are solitary, not gregarious (although in high densities they may seem so), feed on the opening leaf buds at first and later on developing leaves. They tend to be distributed evenly throughout the tree in such a way as to defoliate the tree most effectively. Although severely defoliated trees will put out second growth foliage later the same season, growth is retarded. Persistent, severe attacks result in thin tops, dead twigs and branches, reduced growth increments, and ultimately the death of the tree.

DETECTION NOTES

- 1. Males are attracted to light but are not caught very well by light traps.
- 2. The most useful survey technique was to place sticky bands on strips of weather-resistant paper around trunks of selected trees. These bands catch ascending females, and also males attracted to the trapped females. Adults from sticky traps are often too poor to identify easily, but females of winter moth can usually be recognized by their long wings, and males by dissection if necessary.

BIOLOGY

The life history and habits of winter moth are similar to those of the spruce cankerworm. Winter moths emerge about the time of the first severe frost, between late October and early December in Nova Scotia and apparently about mid-November to early December in Oregon. The flightless female

the trees and deposit their eggs in small groups in crevices in the bark or among lichens on the trunks and branches, often in the hatched eggs of the fall cankerworm. The eggs overwinter and hatching occurs as soon as the leaf buds open in the spring. The young larvae feed on small leaves and sometimes the developing buds. Most feeding occurs during the second week in June. Many larvae roll the leaves and feed within the shelter. The larvae pass through 5 instars and are fully grown in about a month, when they drop to the ground and pupate. This occurs in late June or near the beginning of July in eastern Canada. They pupate in earthen cells at a soil depth of 5-12 cm. The pupae remain dormant until autumn when the adults emerge.

Although females of the winter moth do not fly, newly hatched larvae hang on threads of silk and allow themselves to be borne by the wind, like those of many Lepidoptera. Rapid dispersal over surprisingly great distances is accomplished in this way.

The adults are nocturnal, although on overcast days they may become active before dusk. Flight activity and mating can occur at subfreezing temperatures, at least as low as -0.9°C , and egg laying at -1.6°C (Cuming 1961, Smith 1953).

Control: On shade and fruit trees the winter moth is easily controlled with chemical insecticides. The bacterial disease, Bacillus thuringiensis Berliner, is believed to have been effective (Embree and Cuming 1967). Some larvae have been found infected by a nuclear polyhedral virus (Forbes, Underwood, and Van Sickle 1968).

Two European parasitoids, introduced from 1954 to 1956, quickly spread throughout much of the range of the pest species in Nova Scotia and were believed largely responsible for reducing winter moth to negligible numbers by the 1960's. These parasitoids recorded as parasites of winter moth in Belgium, England, Germany, France, Sweden, and Switzerland, are Agrypon flaveolatum (Grav.) (Hymenoptera: Ichneumonidae) and Cyzenis albicans (Fall.) (Diptera: Tachinidae). The latter was evidently more effective (Embree and Cuming 1967).

Although this may rank among the most successful of all biological control programs, there is some evidence that control may have been helped by irregularities of the local climate. Studies of the population dynamics of this pest revealed that synchronization between egg hatch and bud burst of host trees is a major factor in limiting survival of first-instar larvae in Nova Scotia (Embree and Cuming 1967). There is no guarantee that the Pacific Coast outbreak will respond as well to the same control agents.

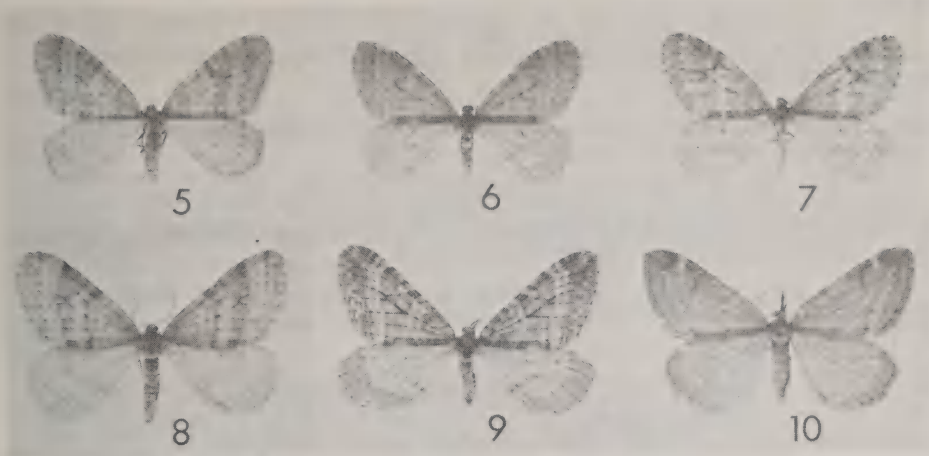


Fig. 1, Operophtera occidentalis (Hulst), male genitalia. Fig. 2, Operophtera brumata (L.), male genitalia (aedeagus omitted). Fig. 3, Operophtera occidentalis (Hulst), dorsal view of thorax showing short wing pads. Fig. 4, Operophtera brumata (L.), same view showing long wing pads. Fig. 5-11. Males natural size. 5, Operophtera brumata, Halifax, Nova Scotia. 6, O. occidentalis, Salem, Oregon. 7, O. occidentalis form "latipennis", Nanaimo, British Columbia. 8, O. bruceata, Debert, Nova Scotia. 9, O. danbyi, Victoria, British Columbia. 10, Alsophila pometaria, Oakland County, Michigan. 11, Erannis tiliaria vancouverensis, Corvallis, Oregon. Fig. 12-14. Females almost twice natural size. 12, Operophtera brumata, Halifax, Nova Scotia. 13, O. occidentalis, Victoria, British Columbia. 14, O. bruceata, E. Machias, Maine. (Drawings by Linda Heath Lawrence, staff artist, Systematic Entomology Laboratory. Photographs by the author.)

REFERENCES

- Anonymous. 1957. Winter moth (Operophtera brumata (L.)) Coop. Econ. Insect Rep. 7(46):883-884.
- Browne, F.G. 1968. Pests and diseases of forest and plantation trees. Clarendon Press Oxford. 1330 p.
- Cuming, F.G. 1961. The distribution, life history, and economic importance of the winter moth, Operophtera brumata (L.) (Lepidoptera, Geometridae) in Nova Scotia. Canadian Entomol. 93:135-142.
- _____, and D.G. Embree. 1963. Winter moth. Important forest insects of mutual concern to member countries of the North American Forestry Commission. FAO. (Cyclostyled).
- Eidt, D.C., D.G. Embree, and C.C. Smith. 1966. Distinguishing adults of the winter moth, Operophtera brumata (L.), and Bruce spanworm, O. bruceata (Hulst) (Lepidoptera: Geometridae). Canadian Entomol. 98:258-261.
- Embree, D.G., and F.G. Cuming. 1967. Winter moth, Operophtera brumata (L.). Pages 143-144 in A.G. Davidson, and R.M. Prentice eds. Important forest insects and diseases of mutual concern to Canada, the United States and Mexico. Canada Dep. of For. and Rural Dev., Ottawa (Catalogue No. Fo 47-1180).
- Forbes, R.S., et al. 1964. Maritime Provinces - forest insect conditions. Pages 21-32 in Annu. Rep. For. Insect and Dis. Surv. 1963. Canada Dep. of For., Ottawa.
- Forbes, R.S., G.R. Underwood, and G.A. Van Sickle. 1968. Maritimes Region. Pages 17-33 in Annu. Rep. For. Insect and Dis. Surv. 1967. Canada Dep. of For. and Rural Dev., Ottawa.
- Gillespie, D.R., T. Finlayson, N.V. Tonks, and D.A. Ross. 1978. Occurrence of the winter moth, Operophtera brumata (Lepidoptera: Geometridae), on southern Vancouver Island, British Columbia. Canadian Entomol. 110:223-224.
- Hawboldt, L.S., and F.G. Cuming. 1950. Cankerworms and European winter moth in Nova Scotia. Canada Dep. Agric., For. Biol. Div., Bi-Mon. Prog. Rep. 6(1):1.
- McMullen, R.D. 1973. The occurrence and control of the Bruce spanworm in the Okanagan Valley, 1972. J. Entomol. Soc. British Columbia 70:8-10.
- Smith, C.C. 1950. Notes on the European winter moth in Nova Scotia. Canada Dep. Agric., For. Biol. Div., Bi-Mon. Prog. Rep. 6(2):1.
- _____. 1953. Control of the winter moth on shade trees. For. Biol. Pub. 3. Canada Dep. Agric. 3 p.

SUMMARY OF PEST CONDITIONS IN THE UNITED STATES - 1977
(Continued from page 668)

COTTON

HIGHLIGHTS

Winter survival of BOLL WEEVIL was reduced in Texas, Mississippi, and North Carolina. TOBACCO BUDWORM losses of 40-50% expected in 2 areas of California; controls were difficult in Mississippi. FALL ARMYWORM was difficult to control in northeastern Arkansas, was a pest in Mississippi, and a major cotton pest for the first time in Alabama.

INSECTS

BOLL WEEVIL (Anthonomus grandis grandis) populations in TEXAS were generally reduced due to the cold winter. Adults were noted at 4 per 100 plants in a cotton field in Cameron County. By May 12, there was 1 adult per 100 plants in Milam County, low punctured square counts in the lower Rio Grande Valley, and 43 adults per trap per week at Reagor Springs, Ellis County. Adult trapping increased in the Rolling Plains and St. Lawrence Valley by June 10. The population increased by June 20 to reach 26-200 per acre in the Rolling Plains. In mid-August, punctured square counts increased to 90+ in the Rolling Plains. Counts in the Rolling Plains and the San Angelo area were 100% punctured squares in some fields on September 5.

Boll weevil adults in OKLAHOMA were active by the first of May but punctured cotton squares were not found until mid-June. Populations were generally light to moderate through August with only a few scattered fields in most southwestern and west-central counties reaching the economic threshold of 25%. During September, populations increased considerably in some west-central counties leading to the possibility of heavy overwintering populations. Populations in ARKANSAS were extremely light statewide. In mid-July, numbers increased somewhat, but only a few cotton fields in the southeastern area were treated. In early September, infestations were still relatively light, but little diapause control was applied. This lack of activity may be reflected in the number of overwintered weevils expected in 1978.

Boll weevil populations in MISSISSIPPI were greatly reduced by below normal temperatures during October, November, and December 1976, and January 1977. The overwintering survival was estimated at 3.1%, the lowest since 1963 (0.2%). The highest survival since 1963 was 29.7% in 1971. Populations were not a major problem during 1977, light numbers were reported statewide. Damage in NORTH CAROLINA was light for the second consecutive year. Collections through June 10 from sex traps remained fewer than 1 weevil per trap per week in all cotton-producing areas. Forest litter surveys conducted in the Southern States indicated high winter mortality.

BOLLWORM (Heliothis zea) in CALIFORNIA caused considerable damage to cotton in the Lamont and Arvin areas of Kern County. This damage resulted from the infestations observed during July and August. Small larvae ranged 40-50 per 100 plants. Infestations were lighter in Fresno County. TOBACCO BUDWORM (H. virescens) on cotton reached the crisis level in the Imperial Valley and the Blythe area of Riverside County. Losses to cotton were coupled with unusual tropical storms and were expected to range 40-50% of production.

Damage to cotton by H. zea and H. virescens in TEXAS began by April 5 in the lower Rio Grande Valley. In Williamson County, 24 adults per trap per night were collected the week of May 5. Damaged squares peaked at 35% in Kleberg County on May 26. In the lower Rio Grande Valley, 80-100% of the population was tobacco budworm on June 24. Egg laying increased sharply during the first week of July in the lower Rio Grande Valley, the lower Gulf Coast, and the Blacklands with 200+ eggs per 100 plants in some fields. Corn earworm was 100+ per night in light traps in the St. Lawrence Valley during July 15-21. Some problem areas occurred in Pecos and Reeves Counties, the Rolling Plains, and the San Angelo area in September. Heliothis spp. damage was generally lighter than usual statewide with H. virescens more prominent in proportion.

Bollworms in OKLAHOMA were in cotton by mid-June and the first tobacco budworm was found the last week of June. Infestations were mostly light to moderate until mid-August. Moderate to heavy infestations were found in the central, south-central, west-central, and southwestern counties during late August and September. H. virescens larvae were 5-30% of the Heliothis population in the southwestern area by mid-August and 15-35% by early September. Higher H. virescens percentages (65-85%) were reported in treated fields in some central and west-central areas during September.

H. zea larvae in ARKANSAS were surprisingly heavy in early June in pre-squaring cotton fields in the east-central area. Natural control of H. zea and H. virescens was evident in central and east-central area cotton fields in mid-June. Heliothis spp. populations in the southeastern area were discouragingly heavy for mid-June. Most larvae of this population were H. zea and most adults were H. virescens. Populations in the southeastern area were decreasing by late June. Adults became very heavy in the southeastern area in early July; larval populations of both species were about equal. Heliothis spp. problems generally decreased in the southeastern area in late August. Adults and eggs increased again in early September but most southeastern cotton fields were safe by that time.

First generation H. zea and H. virescens eggs on cotton in MISSISSIPPI in Leflore and Monroe Counties averaged 28% and 4%, respectively, the week ending June 2. Beneficials controlled first generation larvae. Control measures for second generation larvae began the week of July 7 in many areas. At least 1 treatment for bollworms had been applied to 70% of the acreage by July 28. Populations were not significantly heavier than in 1976, but control was difficult in many areas due to limited supplies of first choice insecticides.

H. zea maturity in NORTH CAROLINA, accelerated by unusually hot, dry conditions, resulted in an early emergence from corn and egg laying in cotton by July 20. Most spray programs were underway by July 29. Egg laying was heavy by July 27 and 28 in Franklin, Edgecombe, and Harnett Counties. Eggs averaged 5 per cotton square in 5 fields. By August 12, infestations in drier fields using conventional insecticides were under control. Damage exceeded 50% damaged squares and 20% damaged bolls in scattered fields that were not in a spray program.

FALL ARMYWORM (Spodoptera frugiperda) larvae in ARKANSAS fed on cotton bolls in the northeastern area in mid-August; control was difficult. This species in MISSISSIPPI is not normally considered a pest of cotton. Infestations began moving from grasses to cotton during the first of August. Up to 30% boll damage was reported in some areas of "hill section" cotton by the last week of August. Larvae continued to damage cotton until mid-September. Larvae in ALABAMA became

the major cotton pest for the first time in history. This is the third consecutive year that fall armyworm has been recorded as a cotton pest. Infestations were first reported on cotton in Lee, Dallas, and Autauga Counties the third week of July. Surveys established this species statewide with uncontrollable infestations continuing on cotton until late fall.

CABBAGE LOOPER (Trichoplusia ni) infestations in TEXAS were widespread and light on cotton statewide. A heavy population occurred in Williamson and Milam Counties in mid-July. Populations ranged 1-3 per plant in Pecos and Reeves Counties. Larvae in ARKANSAS were found in northeastern area cotton fields in early July, somewhat earlier than normal. Populations increased late July in the northeastern and southeastern areas, but generally remained below the economic threshold. Adult flights in early August were extremely heavy in the southeastern area. By late August, larval populations in this area were relatively light due to natural diseases. Cabbage looper in OKLAHOMA was heavy in scattered cotton fields in 11 counties in the southwestern, west-central, south-central, central, and north-central areas from mid-August to late September.

COTTON LEAFPERFORATOR (Bucculatrix thurberiella) populations in TEXAS were heavy in the lower Rio Grande Valley about July 8. Considerable defoliation occurred late statewide which was either damaging or beneficial depending on the stage of the cotton. Infestations in OKLAHOMA were reported from cotton in 7 counties from late July to mid-October. Heavy populations (10-20 per leaf) and considerable defoliation were reported in some areas.

COTTON SQUARE BORER (Strymon melinus) damage to cotton squares in TEXAS were up to 5% in Hardeman County in late July.

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) problems in TEXAS started early and were serious due to drought. Counts of 25 per 100 cotton plants were present in Hidalgo County on April 15. Populations continued through May and into June in the north-central, south-central, the lower Rio Grande Valley, the Gulf Coast, the Blacklands, and into the Trans-Pecos areas. Populations rapidly increased in the San Angelo area and the Rolling Plains about June 20. Damage persisted through most of July, especially in the north-central and Rolling Plains areas.

Populations of a FLEAHOPPER (Spanogonicus albofasciatus) in ARKANSAS were unusually heavy in southeastern area cotton fields. This insect causes square blasting, but is also a valuable predator.

Heavy SAY STINK BUG (Chlorochroa sayi) populations (up to 9 per 50 sweeps) in CALIFORNIA infested several cotton fields in the foothills area east of Famoso, Kern County, during July.

CONCHUELA (Chlorochroa ligata) in TEXAS caused 50-75% drop of small cotton bolls in some fields in Jones and Fisher Counties in late July.

TARNISHED PLANT BUG (Lygus lineolaris) in ARKANSAS was very light in cotton fields in the northeastern area in mid-June. During late June, populations increased in the northeastern and southern areas; some cotton fields were treated by early July. Some control problems in the southeastern area persisted from the middle to the end of July; control was generally adequate in the northeast. Population levels increased sharply in mid-August in cotton fields in the southeastern area. Infestations in MISSISSIPPI averaged 1-5% in Itawamba, Leake, Alcorn, Newton, Sunflower, Madison, and Tallahatchie Counties the week

ending June 9. Economic levels of tarnished plant bug were observed in many Delta area counties during the last of June with insecticide efforts effective. Infestations were not a threat after scheduled treatments began.

LYGUS BUGS (Lygus spp.) infestations in TEXAS occurred in Ellis and Navarro Counties in mid-June. Heavy damage and 12-32 per 100 plants were present in Hunt County on June 29. Light to moderate populations occurred in the Trans-Pecos area from July 22 through September.

COTTON APHID (Aphis gossypii) infestations in TEXAS were light to moderate on cotton in the lower Rio Grande Valley and lower Gulf Coast areas in April and May.

TOBACCO

INSECTS

BLACK CUTWORM (Agrotis ipsilon) larvae in KENTUCKY caused some damage to tobacco beds in late April and early May and also caused heavy damage to many tobacco fields in late May and early June just after setting. Damage was probably heaviest in the northern area where up to 40% of the plants were cut in some fields. About 19% of the tobacco acreage was damaged and 30% treated. Many growers had to reset missing plants because of the damage.

VARIEGATED CUTWORM (Peridroma saucia) larvae in KENTUCKY caused heavy damage to tobacco plant beds during late April and early May. Populations in some beds were heavy enough to completely consume all plants within a few days. About 23% of the beds were damaged and 36% of the beds were treated. Later in the season (mid to late July) larvae defoliated tobacco plants in the field. The heaviest damage occurred in the Bluegrass region. Larvae damaged about 16% of the tobacco acreage and 18% of the tobacco acreage was treated.

Infestations by NOCTUID MOTHS (Heliothis spp.) on tobacco in KENTUCKY were first noted for the season in a Jessamine County field on June 16. Infestation levels of 2-5% (near economic threshold) were observed in mid-July. About 45% of the acreage was treated and the problem was the worst in the western part of the State. The first larvae in TENNESSEE were noted during the week ending June 10. Of 30 tobacco fields in Macon, Smith, Sumner, and Trousdale Counties, 2 were above control levels. The first generation peaked the week ending June 17.

Infestations of a SPHINGID MOTH (Manduca sp.) in tobacco in TENNESSEE generally applied continuous pressure throughout the growing season in the area surveyed. Overall populations in Macon, Smith, Sumner, and Trousdale Counties were heavier than at any other time in the past 5 years. Controls, when applied properly, were effective. At times during the season, 50+% of the fields were above control levels.

TOBACCO FLEA BEETLE (Epitrix hirtipennis) adults in KENTUCKY caused very little damage in tobacco beds and only light to moderate damage to tobacco fields. Although adult populations during June and July were normally about 1 per plant and very seldom more than 5 per plant, damage became noticeable enough to cause about 64% of the acreage to be treated.

GRASSHOPPER nymphs and adults in KENTUCKY seriously damaged several tobacco fields statewide especially where fields were surrounded by tall grass and weeds. Treatment was needed in many fields.

SUGAR BEETS

INSECTS

BERTHA ARMYWORM (Mamestra configurata) and ZEBRA CATERPILLAR (Ceramica picta) in IDAHO almost completely defoliated all untreated sugar beets in early September in western Canyon and southwestern Owyhee Counties. Populations were about 90% bertha armyworm and 10% zebra caterpillar.

SUGARBEET ROOT MAGGOT (Tetanops myopaeformis) populations in IDAHO were sub-economic in almost all of the sugar beet areas.

MISCELLANEOUS FIELD CROPS

INSECTS

SUNFLOWER MOTH (Homoeosoma electellum) adults in TEXAS were present in all blooming sunflower fields in Castro and Lamb Counties in late June. Very heavy populations peaked in Crosby County on July 12. Infestations ranged 9-15 per head in Pecos and Reeves Counties on July 14. Populations were economic in the South Plains by August 5 and again on August 26. Infestations in KANSAS were very destructive to sunflowers. Some fields were totally lost, often aggravated by head rot which infected plants through wounds caused by larvae of sunflower moth. Most fields were treated but results were sometimes poor, often due to poor timing. Infestations were often scarce in late-planted sunflowers. In SOUTH DAKOTA at least 2 treatments were applied to about 100,000 acres of sunflowers. Fields that were not treated in many cases were total losses. In some fields the infestations were so heavy that specimens burrowed into the plant stems as well as into the plant heads. It is estimated that treatment on 100,000 acres of sunflowers will save growers \$2.5 million in prevention of insect damage to their crop.

AN OLETHREUTID MOTH (Suleima helianthana) population in CALIFORNIA was heavy enough on sunflowers in Fresno County for treatments to be applied. Damage in TEXAS occurred in some sunflower fields in Pecos and Reeves Counties in early June. Damage was noted at 5% on June 20 and up to 20% on July 12 in some fields in Castro and Lamb Counties.

Adult flights of BANDED SUNFLOWER MOTH (Phalonia hospes) and SUNFLOWER MOTH (Homoeosoma electellum) in NORTH DAKOTA were moderate to heavy in the southeast district. As of July 7, there was no evidence of larval feeding. The first H. electellum adult was collected June 29 in the east-central district. By July 15, 1st through 3rd instar H. electellum larvae were collected in the south-central area.

Damage to sunflowers by DARKSIDED CUTWORM (Euxoa messoria) and REDBACKED CUTWORM (Euxoa ochrogaster) in NORTH DAKOTA was often reported light to heavy as of June 3. Fields were replanted in some areas in the east-central and southeast districts. Minimum tillage due to drought conditions in 1976 have contributed to the problem in 1977. By June 10, damage in isolated areas in the southeast district ranged from light to heavy with 30-100% stand reductions.

BLACK CUTWORM (Agrotis ipsilon) in KANSAS caused stand thinning in seedling sunflowers in Sedgwick and McPherson Counties by mid-May.

BERTHA ARMYWORM (Mamestra configurata) in IDAHO totally defoliated several hop yards in Canyon County by the time the populations were discovered.

A PYRALID MOTH (Fumibotys fumalis) in OREGON continued to be a serious uncontrolled pest of peppermint. The heaviest and most damaging infestations were reported from Lane and Umatilla Counties. Larval averages per sq ft by area: Springfield--4.2, Junction City--5, and Stanfield--5.7. Counts were taken in mid-September in the more heavily infested plantings. Problems were also caused in Benton, Linn, Marion, Polk, and Josephine Counties.

CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) infestations throughout IDAHO commonly ranged 15-60 per sweep in rape. Chemical control decreased adult populations to almost 20 per sweep. Pod infestations of eggs and larvae stabilized near 70% with pods having 1-5 (mean of 2) insects each. Inadequately controlled infestations reduced rape seed yields by about one-third.

CURCULIONID WEEVILS (Otiorhynchus spp.) in IDAHO, primarily BLACK VINE WEEVIL (O. sulcatus) and STRAWBERRY ROOT WEEVIL (O. ovatus), caused serious damage to stands in hop yards, resulting in the removal of the crop in Canyon County.

CARROT BEETLE (Bothynus gibbosus) populations in light traps among sunflowers in the South Plains of TEXAS in June were the lightest of the past 5 years.

Populations of a FLEA BEETLE (Longitarsus waterhousei) in IDAHO remained light with only some fields needing treatment. No controls were registered that would adequately control the pest.

Extremely heavy CABBAGE APHID (Brevicoryne brassicae) populations in IDAHO developed on the rape seed crop in early spring in the northern area.

POTATOES, TOMATOES, PEPPERS

INSECTS

Heavy VARIEGATED CUTWORM (Peridroma saucia) populations in WISCONSIN were observed feeding on potato foliage in the Central Sands areas in late June, treatments were applied. Populations ranged 0.3-3 per 10 sweeps in the southeastern, Spring Green, and Central Sands potato areas. In DELAWARE, some moderate to heavy infestations (10 per row ft) were noted on scattered commercial potatoes in central Kent County during early July.

BEET ARMYWORM (Spodoptera exigua) populations in FLORIDA were very heavy on weeds (usually pigweed) and then moved to potato. Infestations on potatoes caused defoliation, tuber damage, and difficulty in grading at Hastings, St. Johns County. Grading equipment and washing did not remove larvae from potatoes going into bags and trucks. Infestations in NEW YORK were a very serious problem on potatoes on Long Island in late August.

EUROPEAN CORN BORER (Ostrinia nubilalis) larvae in KENTUCKY caused moderate to heavy damage to peppers throughout commercial pepper fields in the central and eastern regions. Damage was much heavier than in recent years. Pod infestation levels ranged from about 20% in early August to 60-70% late in the season. Treatment was applied to about 46% of the acreage. The first egg masses on potatoes in VIRGINIA were observed May 4 in Accomack County, and initial hatching occurred on May 10. Egg laying continued through May and required preventive control measures the first week in June. Infestations in untreated sweet peppers in Sussex County, DELAWARE, averaged 50+% during late August to October. Larval control in commercial acreage under the pest management program was excellent.

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) populations in IDAHO were very heavy. Many growers had to apply foliar sprays after the soil systemics had lost their effectiveness. Some fields treated with sidedress application of systemics had to be sprayed. Populations seem to enter fields later each year. Infestations in OKLAHOMA damaged potatoes in most areas from mid-April to mid-June and as late as mid-July in Cimarron County. Heavy infestations were common. Larvae, 2nd and 3rd instar, in NORTH DAKOTA ranged up to 18 (averaged 5) per potato plant by June 24 in the northeastern area. Adults were evident by June 27.

Colorado potato beetle adults in KENTUCKY were first observed in mid-April in Barren County and the first larvae of the season were found on potatoes in Warren County on May 11. Damage was heavy to potatoes in some areas. Adults in VIRGINIA were very heavy in Accomack and Northampton Counties and caused extensive damage to potato foliage by July 1. Peak populations were reached during June 22-29 at Painter. Adults throughout DELAWARE were heavy on potatoes by the first week in May. Controls were good in most treated fields. The first report of the season in NEW YORK was of light population activity in most emerged potato fields in Suffolk County on May 13. Infestations were a problem on tomato and eggplant transplants May 27 and damage was noted in early June on potatoes with inadequate protection in Suffolk County. Populations were a significant problem to growers in the capital region, where severe defoliation was noted in some cases.

TUBER FLEA BEETLE (Epitrix tuberis) infestations in OREGON were present in early planted potato fields in the northern Willamette Valley early in June. Adults ranged from 1-2 per 50 sweeps in Washington County to 6-10 per 50 sweeps in Columbia County along the field margins. Treatments were applied to the field margins of about 1,100 acres in late June.

More samples of SUGARBEET WIREWORM (Limonius californicus) and GREAT BASIN WIREWORM (Ctenicera pruinina) in IDAHO were docked at the inspection station than in previous years throughout the potato areas of the State.

VEGETABLE LEAFMINER (Liriomyza sativae) in FLORIDA was the most important pest of tomatoes in Hillsborough and Manatee Counties. L. sativae was thought to be secondary in nature as a result of overspraying for TOMATO PINWORM (Keiferia lycopersicella). L. sativae populations were under control until mid-April when the number of leaf mines increased significantly. Registered insecticides did not give adequate control. Defoliation ranged up to 90% on untreated plants in commercial fields in the spring. Defoliation was 50% even on plants treated with experimental insecticides. During the fall, populations were light in fields treated with selected insecticides for tomato pinworm control. Parasites were very active in these fields. L. sativae caused considerable concern from January through April in Dade County. Defoliation was more severe than in recent years. All indications are that the problem developed because labeled insecticides not only did not control L. sativae, but also killed parasites which could have reduced leafminer populations.

BEANS AND PEAS

DISEASES

PHASEOLI BEAN BLIGHT (Xanthomonas phaseoli) infected dry beans in NEBRASKA in many fields in Scotts Bluff, Morrill, and Box Butte Counties. Infections were common in many fields in August, usually 20-35% of the field. A much more intensive and extensive survey of dry-bean areas is planned for the 1978 season.

INSECTS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) infestations in ALABAMA became serious and damaging to lima and pole beans statewide. To a lesser extent, they were a pest of southern table peas. Adults were noted in April in the southern area as soon as the plants had 2-6 leaves.

Mexican bean beetle adults in VIRGINIA were fairly heavy on snap beans in Northumberland County by June 3, but egg laying had not begun. Egg masses were found on snap beans in the Independent City of Virginia Beach, Princess Anne County, on June 2. In Isle of Wight County, 2nd instar larvae also were infesting snap beans on that date. *Pediobius foveolatus* (a eulophid wasp) adults (500 specimens) were released in Isle of Wight County during the week of May 31. Additional releases were made in Westmoreland, Richmond, Lancaster, and Northumberland Counties. After a slow start, populations increased through July 1 but were still much lighter than usual in most areas of Accomack and Northhampton Counties.

By July 21, Mexican bean beetles were feeding on snap beans and lima beans in Accomack County and in other parts of Virginia. Dry weather apparently affected *E. varivestis* reproduction throughout the Coastal Plain area. Populations continued to be abnormally light through September 30. In the Northern Neck Counties, it continued to be very hard to find Mexican bean beetle into early September. Infestations in the eastern area were not economic. Larval populations increased slightly during the week before October 7 although no economic damage was reported. *P. foveolatus* parasitized a high percentage of the larvae that were found in Isle of Wight County and was found in many counties east of Interstate Highway 95. Although populations were very light during the spring and summer, enough of the host and the parasites survived to be found in the southeastern area. Infestations in DELAWARE were heavy on some snap beans. Controls were needed in many areas from early June through July.

For Mexican bean beetle in Idaho, see page 721.

PEA LEAF WEEVIL (*Sitona lineatus*) in IDAHO survived winter conditions at near normal population levels (100-350 sq m) for many areas of the region. Damage to seedling peas was light to moderate due to excellent growing conditions for peas. Less than 20% of the pea acreage was treated for damage by this species. In many fields, immature populations developed slowly, if at all, due to extreme drought and early maturity of the pea crop. The adult populations entering the 1977-1978 winter season were much lighter than in recent years.

PEA WEEVIL (*Bruchus pisorum*) in IDAHO was heavy (0.1-1.0 per sweep) in blooming peas due to inadequate controls throughout much of the State. Cool, cloudy weather during early July shortened egg laying. Infested peas at harvest averaged 1.6% for the entire crop and up to 89% in individual lots.

The number of WESTERN BEAN CUTWORM (*Loxagrotis albicosta*) adults taken in light traps in IDAHO was the highest recorded in the Twin Falls area. In light soil areas the adult population peaked July 20 and in heavy soils populations peaked July 27. Much bean and pea damage was noted due to poor timing, insecticides were applied too late for effective control.

PEA APHID (*Acyrtosiphon pisum*) populations in IDAHO were much heavier than normal with 50% of the pea acreage in the southern area needing treatment. Populations in peas and lentils in the northern area were very light. No treatment was needed on peas and only some acres of lentils needed treating.

GRASSHOPPER populations in WISCONSIN, mainly Melanoplus femurrubrum, were heavy in some late snapbean fields in the northwest district.

TWOSPOTTED SPIDER MITE (Tetranychus urticae) populations in IDAHO increased and remained heavy with about 60% of the bean acreage needing treatment.

COLE CROPS

INSECTS

CABBAGE LOOPER (Trichoplusia ni) larvae in northwestern ARKANSAS were extremely heavy in experimental cabbage plots in early September. This species in FLORIDA remained the most important cabbage pest in the Bradenton area of Manatee County. Larvae ranged 9-80 per plant in the spring season and 6-46 per plant in the fall on untreated plants. Damage was severe both seasons and untreated heads were unmarketable. Populations were unusually heavy at Hastings, St. Johns County, March through June. About 75 larvae per plant were noted on untreated cabbage and collard plants. Grower registered insecticides did not give good control. Continuous control measures were needed in the Everglades area.

The first cabbage looper adults of the season in NEW YORK were taken in a blacklight trap June 28 to July 4 on Long Island and July 22-28 in the north Finger Lakes region. Several early and late instars were observed July 14 in Ontario County on direct-seeded cabbage. This represented earlier than normal activity for an Upstate region. Trap catches on Long Island peaked August 9-15 with 3,000+ adults. Larvae averaged 2 per plant in cabbage fields in early and late October in Monroe County.

VARIEGATED CUTWORM (Peridroma saucia) in INDIANA was probably the outstanding pest in gardens. A problem especially in cabbage and other cole crops as well as tomatoes, it infested a large variety of other garden plants and flowers over much of the State.

IMPORTED CABBAGEWORM (Pieris rapae) and CABBAGE LOOPER (Trichoplusia ni) larvae in WISCONSIN caused a considerable amount of damage to cabbage and related crops in untreated gardens throughout the State. Cabbage looper was heavy in a pheromone trap in Washington County and the blacklight trap at the Hancock Experiment Farm in late July, scheduled pesticide treatments prevented serious damage. After 4 years of very heavy populations on cole crops in FLORIDA, no larvae and only some adults were noted at Hastings, St. Johns County.

DIAMONDBACK MOTH (Plutella xylostella) larvae in FLORIDA were very damaging and averaged 10 per plant on untreated crucifers in the Hastings area; controls were adequate.

Adults of a CHRYSOMELID BEETLE (Phyllotreta cruciferae) in OREGON ranged from 1 per 25 row ft to 2 per 10 row ft in seedling broccoli plantings in Washington and Clackamas Counties, during May and early June. Newly emerged broccoli was the most severely damaged, some plants were cut at ground level. Most infested fields needed treatment.

A WEEVIL (Baris lepidii) was first collected in Madison County, ILLINOIS, May 12, 1977, for a new western hemisphere record. The weevil infested horseradish but is known to infest several cultivated crucifers in Europe.

First generation CABBAGE MAGGOT (Hylemya brassicae) adults in the western area of WASHINGTON were heavier than normal. Satisfactory chemical controls and unseasonably warm weather reduced the impact in commercial cole crop plantings.

Heavy CABBAGE APHID (Brevicoryne brassicae) populations in FLORIDA destroyed untreated crucifers such as cabbage, collards, rutabaga, and kohlrabi at Hastings, St. Johns County; controls were adequate.

CUCURBITS

INSECTS

SQUASH BUG (Anasa tristis) in OKLAHOMA was active by mid-May in McCurtain County. Moderate to heavy infestations were reported on squash, watermelons, and pumpkins in most areas into mid-August.

GENERAL VEGETABLES

INSECTS

ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) populations and damage in CALIFORNIA increased considerably in general vegetables over 1976. Emergency use of an alternate insecticide was needed for treatment in the counties growing artichokes.

ASPARAGUS BEETLE (Crioceris asparagi) adults in DELAWARE were first noted on asparagus in all commercial fields in mid-April.

ONION THRIPS (Thrips tabaci) in IDAHO moved into onion fields early because of the drought conditions in wastelands and caused severe damage. Populations remained heavy all season, 1-2 additional treatments per field were needed.

DECIDUOUS FRUITS AND NUTS

HIGHLIGHTS

PEAR PSYLLA was very heavy on pear in parts of California. Control costs and losses on pear amounted to \$2.5 million in Rogue River Valley, Oregon. Control costs were very high in Washington. Fruit quality was affected in Idaho. Damage by CODLING MOTH and NAVEL ORANGEWORM to walnuts in California was the lightest in years.

INSECTS

ORIENTAL FRUIT MOTH (Grapholitha molesta) flights in INDIANA peaked the weeks ending April 20, July 6, and the period of August 3-30.

The first CODLING MOTH (Laspeyresia pomonella) of the season in WISCONSIN was taken in commercial pheromone traps by May 17. Adults were taken regularly through the summer until the end of August, when the apple harvest was well underway. Adult activity peaked the last week of May and late in July. Damage to untreated apples was severe at some Winnebago County sites. Infestations in INDIANA first appeared April 20; flights peaked May 1-18 and the weeks ending July 6 and August 17.

The earliest PEACHTREE BORER (Synanthedon exitiosa) adults in IDAHO were taken in pheromone traps May 27. Populations peaked June 14 and the last adult was taken July 15 in Boise Valley. Flights in INDIANA peaked the week ending August 3.

LESSER PEACHTREE BORER (Synanthedon pictipes) in INDIANA first appeared April 20 in Knox County. Adult flights peaked the weeks ending May 11, June 22, and August 17.

The PEACH TWIG BORER (Anarsia lineatella) outbreak in UTAH was above normal. Late-season ripe peaches were 25-50% infested in Box Elder and Weber County orchards.

OBLIQUEBANDED LEAFROLLER (Choristoneura rosaceana) in INDIANA first appeared about May 11 in Knox County. Adult flights peaked the weeks ending May 18 and September 16.

The first mines of a GRACILLARIID MOTH (Lithocolletis crataegella) in NEW YORK were noted May 12. First brood adults emerged June 6 in Columbia and Dutchess Counties. Heavy infestations (eggs averaged 14 and mines 3 per leaf) were noted June 20 in Chautauqua County. In mid-July, infestations were a problem to about 5% of the apple orchards along the western Ontario fruit belt.

PLUM CURCULIO (Conotrachelus nenuphar) adult emergence began in NEW HAMPSHIRE May 17 in apple orchards throughout Strafford and Rockingham Counties. Adults increased rapidly due to warm dry weather and caused moderate damage in orchards observed.

Very heavy PEAR PSYLLA (Psylla pyricola) populations in CALIFORNIA occurred on pear in Mendocino and Lake Counties. Overwintered adults in OREGON averaged 15-30 per tray in January and February in the Hood River Valley. The first egg was found in the field February 15 and the first nymph hatched April 4. Excellent prebloom control generally delayed increases until late August. A heavy buildup and heavy nymphal populations in September and October caused heavy overwintering densities (30-45 adults per tray) in early November. An early oil program delayed egg laying 4-5 weeks in Rogue River Valley. Cool spring weather in the southern area resulted in poor biological control. Control costs and losses because of crop reduction due to pear psylla were about \$2.5 million for the Rogue River Valley pear industry. Overwintering populations in WASHINGTON were very heavy. During late February and early March, limb-tap counts averaged 25+ adults. Summer populations were very heavy; most deciduous fruit orchards were damaged by early July. Control costs were very high, most pesticide costs were \$200+ per acre. In IDAHO, pear psylla caused serious damage to fruit quality at harvest because of the lack of effective insect control chemicals.

WHITE APPLE LEAFHOPPER (Typhlocyba pomaria) problems in WASHINGTON spread to new areas. Heavy populations were found in most apple-growing areas of the central area.

The first APPLE MAGGOT (Rhagoletis pomonella) adults in WISCONSIN were taken in commercial bait traps in Dodge County on July 5. Catches in traps were minimal throughout the season and far below the catches of 1976. Reports from Winnebago County indicated the lightest damage in many years. Infestations in INDIANA first appeared June 17 in Tippecanoe County; the flight peaked the week ending July 6.

Second generation PEAR SAWFLY (Caliroa cerasi) infestations in OREGON on sweet cherry at Dalles, Wasco County, appeared to increase. The pest was first noted 3 years ago in 1 orchard under overtree irrigation. Infestations were noted in several other orchards in the same general area in August and September. Pear sawfly was also a problem in some Willamette Valley cherry orchards.

Late summer populations of TWOSPOTTED SPIDER MITE (Tetranychus urticae) and MCDANIEL SPIDER MITE (T. mcdanieli) were heavier on pears in WASHINGTON than in 1976. Most growers applied 1 or 2 sprays for control. Infestations in NEW YORK were reported early, the week of May 27, on apples in the Hudson Valley. Populations were heavy in the western Ontario Lake region. McDaniel spider mite populations in IDAHO were extremely light in orchards. Many blocks of apples did not need treating because of heavy predation by Metaseiulus occidentalis (a phytoseiid mite).

PECAN NUT CASEBEARER (Acrobasis nuxvorella) adults in OKLAHOMA were active by May in Payne County. The first eggs were found on May 19 on pecans in Tulsa County. Eggs and larvae in late May and early June ranged 1-35% with most counts averaging 10% or less. Hatching was completed in most areas by June 10. Adults were again active in Payne County by July 6 and a few second generation eggs were found by July 13.

HICKORY SHUCKWORM (Laspeyresia caryana) adults in OKLAHOMA were active in Payne County April 17. Larvae infested 30-60% of the pecan shucks in Payne, Rogers, and Love Counties in October and November.

Damage by CODLING MOTH (Laspeyresia pomonella) and NAVEL ORANGEWORM (Amyelois transitella) to walnut trees in CALIFORNIA was the lightest in 18 years. Improved orchard situations and harvest practices contributed significantly to the reduction of problems. However, where problems did occur, they were severe. The critical walnut areas were in Stanislaus and Merced Counties where nearby almonds supported pest populations which migrated into walnut orchards. An unusually high number of sticktight walnuts aided the population increase.

PECAN WEEVIL (Curculio caryae) adult emergence in OKLAHOMA began in mid-July in Love County. By the end of July, emergence was heavy. Populations were heavy enough to need chemical controls in many areas by the first week of August. Moderate to heavy infestations were common in most areas. Nut damage of 70-100% was reported in untreated native pecans in several northeastern and central counties. Adults in MISSISSIPPI were first captured in cone emergence traps in Wilkinson County on August 14 and in Lowndes County on August 18 (31 weevils from 44 traps). Feeding was observed as early as August 5 in Lowndes County. Populations decreased slightly compared to 1976. By late October, larvae were mature and falling from nuts. Infestations in FLORIDA were heavy in some pecan orchards in Jefferson County.

PECAN SPITTLEBUG (Clastoptera achatina) populations in MISSISSIPPI began increasing during the last of April on pecans in Washington and Lowndes Counties. Masses averaged 2.36 per 25 branch terminals. Peak populations were reached during mid-May and decreased steadily during June and July. Dry weather during June contributed to a more reduced second generation than in 1976.

PECAN PHYLLOXERA (Phylloxera devastatrix) in MISSISSIPPI were first reported from several Delta counties on April 28. Populations peaked during late May and were not a problem after mid-June on pecans.

BLACK PECAN APHID (Tinocallis caryaefoliae) in TEXAS increased in some parts of the Trans-Pecos area by July 12. By July 22, populations were moderate to heavy on pecans. Extremely heavy populations peaked in the Blacklands with up to 15 per leaflet on native trees in Bell County on July 29.

CITRUS

INSECTS

Biological control efforts for WOOLLY WHITEFLY (Aleurothrixus floccosus) in CALIFORNIA citrus were effective in San Diego County. Heavy infestations with sooty mold were still a problem in Orange County. Beneficial insects had not caught up to pest populations.

CITRUS RUST MITE (Phyllocoptruta oleivora) problems in CALIFORNIA have been increasing in the coastal citrus-growing counties of San Diego, Ventura, and Santa Barbara over the last 3 years. About 50% of the growers have been impacted by this mite. The increase is most likely associated with tropical storms.

OTHER TROPICAL AND SUBTROPICAL FRUIT

INSECTS

An AVOCADO LEAFROLLER (Amorbia essigana) increased significantly in CALIFORNIA. The distribution was limited to Irvine, Orange County, in avocados. Major leaf damage and some fruit scarring were noted.

SMALL FRUITS

INSECTS

Concentrated infestations of a NOCTUID MOTH (Psychomorpha epimenis) in NEW YORK occurred in grape vineyards throughout the lower Finger Lakes Region from May 20 through early June. Larvae ranged 1-2 per vine. This represented an unusual outbreak for the region and many growers had to apply sprays in addition to their normal program.

EIGHTSPOTTED FORESTER (Alypia octomaculata) larvae in PENNSYLVANIA were the heaviest on concord grapes in Erie County in June. Foliar damage ranging from 0.7 to 4.6% was noted in 59% of the vineyards.

GRAPE BERRY MOTH (Endopiza viteana) infestations in PENNSYLVANIA on concord grapes were the heaviest for at least the past 10 years. In Erie County, 94% of the vineyards had 0.4-8% infested clusters at harvest time. Up to 55% of the clusters were infested in the margins of some vineyards near wooded areas. Rot caused by E. viteana prevented grape harvest in some vineyards.

GRAPEVINE LOOPER (Eulythis diversilineata) infestations of concord grapes in PENNSYLVANIA were heavier than in past years. Larvae infested 77% of the vineyards in Erie County. Foliar damage was light, ranged up to 1.7%.

GRAPE ROOT BORER (Vitacea polistiformis) populations were relatively heavy in northwestern ARKANSAS vineyards in late June.

BLACK VINE WEEVIL (Otiorrhynchus sulcatus) populations in WASHINGTON were extremely heavy in western area cranberry bogs. Treatment was needed in about 20% of the bogs.

STRAWBERRY WEEVIL (Anthonomus signatus) in south-central and southeastern ARKANSAS caused severe damage to small commercial blackberry acreages in mid-May.

ORNAMENTALS

INSECTS

BAGWORM (Thyridopteryx ephemeraeformis) larvae in OKLAHOMA began hatching about May 10 in Payne County. Moderate to heavy infestations were common on evergreens in most areas by mid-June and continued into early August. Pupation was underway by August 10 in Payne County. Infestations in KANSAS were heavier than usual in nurseries in Douglas and Shawnee Counties on junipers, arborvitae, and pines. Infestations were unusually heavy on junipers in landscapes at Topeka, Shawnee County, and Hutchinson, Reno County, during mid-July. Defoliation to junipers was heavy along State Highway 7 at Olathe and Spring Hill, Johnson County, by early August. Populations on ornamentals in OHIO were unusually light statewide. The decrease in the population is attributed to the extreme cold winter temperatures which killed the eggs.

FOREST INSECT AND DISEASE HIGHLIGHTS 1/

Eastern Conditions

Insects

SPRUCE BUDWORM (Choristoneura fumiferana) defoliated about 8 million acres in the Northeastern States and 2.2 million acres in the Lake States. The defoliation of 5.7 million acres of spruce-fir forests in MAINE in 1976 prompted a suppression project on 930 million acres in 1977. GYPSY MOTH (Lymantria dispar) populations increased dramatically and seriously defoliated 1.6 million acres. SOUTHERN PINE BEETLE (Dendroctonus frontalis) infestations decreased to the lightest levels in several years throughout the South. However, severe tree killing continued in the eastern area of TEXAS and MISSISSIPPI. FALL CANKERWORM (Aisophila pometaria) outbreaks in NORTH CAROLINA severely defoliated almost 71 million acres. Older infestations in GEORGIA expanded and intensified. FOREST TENT CATERPILLAR (Malacosoma disstria) in the tupelo forests of ALABAMA and LOUISIANA defoliated nearly 638 million acres.

Diseases

DUTCH ELM DISEASE (Ceratocystis ulmi) infection continued to spread and the intensity of damage increased. American elm trees are no longer desirable candidates for shade trees in most eastern cities and towns because of this disease. FUSIFORME RUST (Cronartium fusiforme) was the most widespread and serious disease of slash and loblolly pines in the South. PITCH CANKER

1/ The following summary is the highlights section from the "Forest Insect and Disease Conditions in the United States - 1977" 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 pages 709 and 710 in this issue of the CPPR.

(Fusarium lateritium f.sp. pini) was found in every county in FLORIDA and in localized areas from NORTH CAROLINA to LOUISIANA. This disease occurred in plantations and seed orchards. Loblolly, slash, and shortleaf pines are the most susceptible. ANNOSUS BUTT AND ROOT ROT (Fomes annosus) continued to cause losses on high hazard sites throughout the South. The predictions of geometrically increasing losses, made during the 1950's, have not materialized. The European strain of SCLERODERRIS CANCKER (Gremmeniella abietina) continued to destroy 60 to 80-ft red pines in plantations in NEW YORK. Dutch elm disease is now under quarantine regulations to prevent the artificial spread of the European strain.

Western Conditions

Insects

WESTERN SPRUCE BUDWORM (Choristoneura occidentalis) and MOUNTAIN PINE BEETLE (Dendroctonus ponderosae) continued as the insects causing the greatest concern in the West. C. occidentalis defoliated 6.5+ million acres of Douglas-fir and true fir. Defoliation was most extensive throughout MONTANA, IDAHO, eastern WASHINGTON, and WYOMING. Other infestations occurred in COLORADO, NEW MEXICO, ARIZONA, and OREGON. Many of these infestations increased in defoliation intensity from the previous year. D. ponderosae destroyed about 4.2 million acres of lodgepole and ponderosa pines. The largest infestations were in western MONTANA, Yellowstone National Park, central IDAHO, eastern OREGON, and the Black Hills of SOUTH DAKOTA. Infestations intensified greatly along the Colorado Front Range in WYOMING and UTAH. Less intense infestations were reported in CALIFORNIA and northern ARIZONA. DOUGLAS-FIR TUSSOCK MOTH (Orgyia pseudotsugata) in northern NEW MEXICO caused severe but local defoliation. DOUGLAS-FIR BEETLE (Dendroctonus pseudotsugae) infestations increased significantly in northern IDAHO, eastern OREGON, and WASHINGTON. Activity also increased in southern Idaho and Wyoming. LARCH CASEBEARER (Coleophora laricella) infestations increased in northern Idaho, western Montana, eastern Oregon, and eastern Washington. An EASTERN LARCH BEETLE (Dendroctonus simplex) infestation in interior ALASKA increased to more than 0.5 million acres. The severe drought in California and other Western States predisposed many trees to infestations.

Diseases

DWARFMISTLETOES (Arceuthobium spp.) are still the most destructive pathogens affecting conifers in the West. Heavy infections cause growth loss and tree mortality. Dwarfmistletoe and COMANDRA BLISTER RUST (Cronartium comandrae) caused problems in the Rocky Mountain region. DUTCH ELM DISEASE (Ceratocystis ulmi) continued to spread west and poses a serious threat throughout the area. Infections have now been reported from 17 States west of the Mississippi River. This disease was detected in WASHINGTON for the first time in 1977.

REGIONAL AND AREA OFFICE ADDRESSES

U.S. FOREST SERVICE

Region

1 U.S. Forest Service
Federal Building
Missoula, MT 59807

Region

2 U.S. Forest Service
11177 West Eighth Avenue
P.O. Box 25127
Lakewood, CO 80225

Region

- 3 U.S. Forest Service
Federal Building
517 Gold Avenue, SW
Albuquerque, NM 87102
- 4 U.S. Forest Service
Federal Office Building
324-25th Stret
Ogden, UT 84401
- 5 U.S. Forest Service
630 Sansome Street
San Francisco, CA 94111
- 6 U.S. Forest Service
P.O. Box 3623
Portland, OR 97208

Region

- 10 U.S. Forest Service
Federal Office Building
P.O. Box 1628
Juneau, AK 99802
- NA Northeastern Area
U.S. Forest Service
6816 Market Street
Broomall, PA 19008
- SA Southeastern Area
U.S. Forest Service
1720 Peachtree Road, NW
Atlanta, GA 30309

FOREST AND SHADE TREES

HIGHLIGHTS

Defoliation was caused by FALL CANKERWORM in Pennsylvania and by ORANGESTRIPED OAKWORM and PINKSTRIPED OAKWORM in Mississippi. FOREST TENT CATERPILLAR threatened forests in recreational areas of southwestern and south-central Indiana.

INSECTS

SPRUCE NEEDLEMINER (Endothenia albolineana) in WASHINGTON remained a serious problem on ornamental Engelmann spruce and to some degree, other ornamental spruce in the north-central area.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) larval feeding in PENNSYLVANIA began by mid-April in the central counties and had caused up to 30% damage to Scotch pine in Centre County by late April. Pupation began in early May and adult flight activity was underway by late May.

LODGEPOLE NEEDLEMINER (Coleotechnites milleri) population in CALIFORNIA increased in Yosemite National Park, some in excess of 500% over 1976. Visible defoliation increased significantly, particularly along State Highway 120, east of Tenaya Lake.

SEQUOIA PITCH MOTH (Synanthedon sequoiae), a general pest of pines in WASHINGTON for some years, was a serious problem on ornamental pines in the north-central area.

An epidemic of SILVERSPOTTED TIGER MOTH (Halisidota argentata) in larvae in CALIFORNIA caused almost 100% defoliation of all plant species on 2,500 acres in the Eden Valley and Elk Creek areas of Mendocino County.

MOUNTAIN PINE BEETLE (Dendroctonus ponderosae) damage in CALIFORNIA increased significantly, particularly to sugar pine in Butte, Shasta, Trinity, Amador, and El Dorado Counties.

RED TURPENTINE BEETLE (Dendroctonus valens) in CALIFORNIA caused a high level of mortality to Monterey pine at San Pablo Reservoir, Contra Costa County. This pine species is not native to the area.

WESTERN PINE BEETLE (Dendroctonus brevicomis) activity in CALIFORNIA increased pine tree mortality considerably in the Sierra Nevada's north of Tulare County. Mortality appears to be greatest between the 3,000 to 4,000-ft elevation. Localized areas have unusually heavy numbers of dead trees.

ENGRAVER BEETLES (Ips spp.) damage in CALIFORNIA increased significantly over 1976. Generally, Ips spp. and other pine beetles caused tree mortality; however, some trees were killed solely by Ips spp.

Feeding damage by NORTHERN PINE WEEVIL (Pissodes approximatus) and PALES WEEVIL (Hylobius pales) during fall and winter had serious effects on young ornamental pines in scattered locations throughout OHIO. These trees showed severe dieback and abnormal lateral branching around the damaged terminals. Northern pine weevil adult emergence started in late June, 1 week earlier than the early June emergence recorded for the previous 2 years. Pales weevil adults first emerged during the third week of July.

LOBLOLLY PINE SAWFLY (Neodiprion taedae linearis) caused 30-40% defoliation on 25 acres of pine in Lowndes County, MISSISSIPPI. Larvae ranged 50-500+ per infested limb. Larvae were first detected on August 10 and had decreased by the first week of May.

ELM LEAF BEETLE (Pyrrhalta luteola) again seriously skeletonized elm foliage in many areas of UTAH, from Washington and Emery Counties, north through Box Elder and Cache Counties. Infestations in ALABAMA continued to defoliate and seriously damage elms on lawn and street plantings from the central to the northern area.

TWIG GIRDLER (Oncideres cingulata) populations were moderate to heavy on hickory, ash, and carpathian trees in northwestern ARKANSAS in late September.

FALL WEBWORM (Hyphantria cunea) adults in ARKANSAS were very heavy in mid-June and actively laying eggs on carpathian, redbud, and persimmon trees in the northwestern area. By early June, larval infestations were clearly widespread in the northeastern area. Pupation began in mid-August after many large trees had been almost completely defoliated.

FALL CANKERWORM (Alsophila pometaria) egg hatch in southeastern PENNSYLVANIA began in mid-April and by mid-May defoliation of Acer rubrum (red maple) and Quercus rubra (northern red oak) was about 100% in some areas. In the northeastern counties, up to 40% defoliation of these tree species was reported on about 400,000 acres.

Larvae of ORANGESTRIPED OAKWORM (Anisota senatoria) and PINKSTRIPED OAKWORM (A. virginensis) in MISSISSIPPI infested 60,000 acres of forest in Sharkey County, feeding on oaks and hickory. About 30% defoliation was sustained. Populations were first discovered on August 25 and had decreased by the last week in September.

TENT CATERPILLARS (Malacosoma spp.) in CALIFORNIA defoliated about 3,000 acres of mountain mahogany and blue oak for the second consecutive year at Tule River Indian Reservation, Tulare County. FOREST TENT CATERPILLAR (M. disstria) expanded its range in INDIANA in 1977 and was a serious pest in about 30,000 acres of forest in the southwest and south-central districts. Millions of board feet have already been killed and more were threatened, especially in recreational areas. EASTERN TENT CATERPILLAR (M. americanum) hatch in PENNSYLVANIA began in early-April 1977 in the southeastern area. By late-April, many tents were evident in the eastern counties, with up to 15 tents per wild cherry tree in a northeastern county. The number of tents increased over 1976 in the southern counties, and 100,000+ acres in the central and eastern counties were heavily infested with tents.

Moderate to heavy TARNISHED PLANT BUG (Lygus lineolaris) populations in NORTH DAKOTA caused stunted and leaf curling on green ash by May 13.

MAN AND ANIMALS

INSECTS

HORN FLY (Haematobia irritans) populations in WISCONSIN were light all season on the majority of dairy farms. Counts of 50+ per side were reported. Very dry conditions early in the season, sanitation, and later chemical controls kept this species under control. The first adults of the season in MISSISSIPPI were observed in Choctaw and Attala Counties during mid-March. Populations peaked during mid-June then decreased due to dry, hot weather. Horn flies did not reach normal numbers during the remainder of the season. Annoying and damaging infestations in ALABAMA occurred throughout the fly season, beginning in late March in the southern area. Infestations were mainly limited to beef cattle herds.

Economic horn fly levels in FLORIDA were reached March 7 in the Gainesville area of Alachua County. This appearance was 1 month earlier than in 1976, due to the unusually cold winter and very dry summer. Populations peaked higher at 750-824 flies per animal during midsummer. The midsummer population depression was much higher than normal at 500 per animal. Economic levels continued to December 7 which is later than usual. The average population on horses was 30+ per animal at the Ocala, Marion County, horse research station; 200+ per animal was noted on some horses during the early summer.

Heavy horn fly populations in TEXAS occurred on cattle in the lower Gulf Coast area in mid-May. Populations ranged 600-1,200 per head on cattle in the Blacklands area on May 19. In the Trans-Pecos area, populations ranged 300-800 per head on cattle on May 27. Variable populations occurred statewide throughout the year with heavy populations locally in mid-August and again in late September. Infestations in OKLAHOMA were active on cattle from mid-March to early November. Populations ranged 500-1,000 per head in some areas from late April to late September and the usual midsummer decrease was not very obvious. The heaviest populations were noted from mid-August to mid-September when counts of 2,000-3,000 per head were found in some areas.

Horn fly activity in NEBRASKA was noted in the southwest district in mid-May. Adults averaged 300 per animal on untreated cattle by May 25. Populations increased gradually and leveled off at 500+ per animal on July 20. This rate of infestation was maintained through September 15 when cold weather caused populations to decrease. Adults averaged 20 per animal on treated cattle during peak infestation. Losses due to weight loss, decreased gain, and

treatment costs were estimated at \$3,500,000. Heavy horn fly populations averaged 500 per side on range cows in west-central NORTH DAKOTA by May 13. Normally, heavy populations do not occur until July.

FACE FLY (Musca autumnalis) in OKLAHOMA was reported on cattle from late April to early September. Counts ranged from light to moderate in most areas for most of this period. New county records were established for 10 central, east-central and southeastern counties. Adult activity in NEBRASKA was noted in the southwest district by mid-May. Populations remained light through June and averaged only 6 per animal on untreated cattle by July 7. By late July, the populations had stabilized at 10-20 adults per animal and were maintained through October 1 when populations decreased. Losses due to weight loss, decreased gain, treatment costs, and eye disorders are estimated at \$10 million.

Face fly adults in NORTH DAKOTA were noted at 86 per 127 fence post sticky traps in the southeastern area during the week of April 25-29. The first infestations in MISSISSIPPI were observed on cattle in Chickasaw, Winston, and Pontotoc Counties on April 5. Adults ranged from 1 to 4 per head. The population in Oktibbeha County peaked in mid-May; adults ranged 15-20 per head. A total of 9 new county records was reported.

Face fly adults were unusually heavy in some locations in KENTUCKY in late May. At one Fayette County location, adults were about 50 per face on 60 Black Angus cows and calves, many flies were resting in nearby trees. Weekly counts from an untreated herd of 14 Angus cows and 11 mixed Angus heifers in Fayette County showed 10-30 adults per face June through August.

Trace adult STABLE FLY (Stomoxys calcitrans) populations were detected in the southwest district of NEBRASKA by mid-May. Populations increased to 10-15 flies per leg on untreated cattle by July 20. Infestations remained at this level until September 15 when cold weather forced a decrease. Losses due to weight loss, decreased gain, and treatment costs were estimated at \$5,000,000.

HOUSEHOLDS AND STRUCTURES

INSECTS

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) continued as the major structural pest throughout ALABAMA. Damage by and cost of preventive controls rank it among the top 5 economic insects statewide. Damage and control costs exceed \$12 million annually.

BENEFICIAL ORGANISMS AND THEIR ENEMIES

INSECTS

CONVERGENT LADY BEETLE (Hippodamia convergens) was active in OKLAHOMA from late February to late November. The heaviest populations in wheat were 20-30 per row ft in the southwestern and west-central counties in early April, 30 per 10 sweeps of alfalfa in the west-central counties, and 1 per sorghum plant in the east-central counties in early June. Several Coccinella septempunctata (a lady beetle) adults were collected in April and May in and near the release area in Payne County. This species was released in 1975 and 1976.

H. convergens larvae ranged 2-3 per sq ft in an experimental northwestern ARKANSAS rye field in early May. Adults were relatively heavy in east-central sorghum fields in late May and northeastern sorghum fields in mid-June.

Coleomegilla maculata adults in INDIANA were lighter during 1977 than in the past. During the annual corn insect survey in October, 79 were observed on 7,500 cornstalks. This is compared with 121 on 4,725 cornstalks in 1976 and 15 on 4,700 in 1975. There were also fewer H. convergens specimens on sticky traps in Tippecanoe County corn fields. There was no indication of a fall flight, which usually occurs about October 1.

A THISTLE WEEVIL (Rhinocyllus conicus) was well established in musk thistle in the 1975 release area in Payne County, OKLAHOMA during 1977; very little spread from the original release site has been found. Populations were released in INDIANA for the first time in an attempt to help control Carduus nutans (musk thistle).

A total of 900 adults of a FLEA BEETLE (Longitarsus jacobaeae) was released in single releases in Yamhill and Lincoln Counties, OREGON. A total of 88 releases has been made. Larvae in WASHINGTON were found in leaf petioles of tansy ragwort in the spring of 1977 in 7 of 8 sites where they were released in October 1976 in Clark County. A fall survey showed that the beetles were established in 14 of 15 sites in Clark, Cowlitz, Lewis, and Pierce Counties.

CHRYSANTHEMUM LACE BUG (Corythuca marmorata) adults and nymphs in ARKANSAS were heavy in the northeastern area in late August. Infestations fed on cocklebur and giant ragweed.

A total of 5,000 specimens of a EULOPHID WASP (Pediobius foveolatus) was released in IDAHO for control of Epilachna varivestis (Mexican bean beetle) larvae at 8 sites within Boise city limits. Evidence of successful larval parasitization was observed in 4 sites, the rates of parasitism were only 15%. This species does not overwinter. Populations in INDIANA were released for the first time in Clay and Owen Counties.

ICHNEUMONID WASP (Bathyplectes curculionis) adults in OKLAHOMA were active in alfalfa by late March. Parasitized Hypera postica (alfalfa weevil) larvae ranged 5-90% during April and 29-100% in collections made in May. This parasitism may be the main reason for light alfalfa weevil adult populations during the fall.

A total of about 43,400 larvae of a CINNABAR MOTH (Tyria jacobaeae) was collected in OREGON and redistributed to all 16 western counties infested with Senecio jacobaeae (tansy ragwort). A total of 1.7 million larvae had been released in the past 4 years. T. jacobaeae is now established throughout the range of tansy ragwort. The number of townships with confirmed colonies is 233 compared to 109 in 1976.

ALFALFA LEAF-CUTTING BEE (Megachile rotundata) populations in IDAHO were generally reduced 20-50%, Ascosphaera apis (chalkbrood) infections averaged 40% on many boards. Damage was most severe in old or used boards.

FEDERAL AND STATE PROGRAMS

HIGHLIGHTS

OAT STEM RUST losses were severe on late-planted oats in Minnesota and from east-central South Dakota northward. Damage by GRASS BUGS was severe in Utah. GRASSHOPPERS caused damage in Oregon, Kansas, and Nebraska, control was good in South Dakota. JAPANESE BEETLE damage in the large corn areas of Kentucky occurred for the first time.

DISEASES

BARLEY TRITICI STEM RUST (Puccinia graminis f.sp. tritici) was observed on barley in the Southern States from FLORIDA through TEXAS in April. A severely cold winter reduced the host foliage by freezing, and probably most of the stem rust overwintered on wheat and moved from there to barley. Terminal severities reached 10% on some commercial cultivars in WEST VIRGINIA. Normally, stem rust is not a problem on winter barleys due to the combined effect of a moderate level of resistance, the cool temperatures under which barley grows, and the shorter growing season of barley as compared to wheat. Stem rust appeared on the susceptible cultivar Hypana in south-central MINNESOTA in late June, about 16 days later than on Baart wheat at the same location. Terminal severities reached 20% on the most susceptible spring barley cultivars, which were lighter than normal. Little rust was found in commercial fields. Larker is still the most resistant of cultivars, while Wolfe, Steptoe and Ypana are useful as susceptible checks. A total of 119 isolates was identified from 45 uredial collections made from barley. 1/

DUTCH ELM DISEASE (Ceratocystis ulmi) infected two new counties, Solano, and San Mateo, in CALIFORNIA. The number of new sites (known diseased trees plus area within a 1,000-ft radius) found are listed by county: Sonoma 20, Napa 5, Santa Clara 2, Marin 1, Solano 2, and San Mateo 4.

OAT STEM RUST (Puccinia graminis f.sp. avenae) was light but widespread in the Southern States. It overwintered into southern OKLAHOMA but no losses occurred in the South. An epidemic developed in east-central SOUTH DAKOTA and northward into Canada. Losses were generally confined to late fields where losses up to 30% were common. Test weights of 20 pounds per bushel, 14 pounds below the usual standard, were reported. A total of 758 collections of oat stem rust was received from which 2,138 isolates were made. Race 31 was the predominant race making up 95% of the isolates, race 61 comprised 3% of the isolates, and race 2, 1%. Race 2 occurred only in the Southern States. 1/

Oat stem rust caused about 5% yield loss on 1.75 million acres of oats in NORTH DAKOTA and about 2% yield loss on 2.59 million acres of oats in South Dakota. Additional losses due to reduction in test weight and quality occurred. Oat stem rust inoculum arrived about 7 days earlier than average (late May) and timely rains followed by an extended period of days with dew periods provided moisture for spore germination and infection. Current commercial oat varieties are susceptible to the predominant race (31) and the rust spread rapidly northward across the Dakotas. Losses were severe in late-planted areas in eastern North Dakota with yield and test weight reductions up to 50% reported in individual fields.

Race 31 caused a serious oat stem rust epidemic in MINNESOTA. By the second week of July, most fields in the west-central area matured rapidly and avoided a severe yield loss. But by July 25-28, fields in the northwestern and north-central areas had 100% prevalence and 30-40% severity readings. Many of these fields were at the milk and early dough stage. Losses ranged from 5% in earlier planted fields to 20-30% in the later planted fields. The overall disease loss in oats should be around 2% statewide. Conditions leading up to the epidemic included a large source of inoculum from Texas and Oklahoma, the initial infection occurring perhaps a few days earlier than normal due to favorable weather conditions throughout the spring and summer in the entire midwest,

1/ Contributed by A.P. Roelfs, L.D. Long, and D.H. Casper, Cereal Rust Laboratory, St. Paul, Minnesota.

early warm temperatures, frequent and timely rains in June in South Dakota (immediate source of inoculum for epidemic in Minnesota), favorable rains for Race 31 infection in the State during early July, and susceptible oat varieties. With these conditions, the epidemic increased at a rate near or at the maximum measured for this disease. The epidemic could have been much more severe if the planting of oats had been later.

WHEAT STEM RUST (Puccinia graminis f.sp. tritici) was light on wheat throughout the season. In the Southeastern States, adequate stem rust overwintered in trap plots of McNair 701 to have caused problems if this variety had been as important commercially as it was in 1972. Wheat stem rust overwintered as far north as central OKLAHOMA in the Great Plains but failed to increase fast enough to be an important disease. Much of the leaf tissue in eastern KANSAS and southern NEBRASKA was removed by TAN SPOT (Pyrenophora trichostoma) which decreased the potential of a rust epidemic. The spring wheat planting season was 2-3 weeks earlier than normal; the crop remained this early throughout the growing season. Rainfall was adequate and temperatures, especially early in the season, were warmer to much warmer than normal. Heavy rains in August delayed the harvest of the late-planted cereals, mostly in cutting and harvesting, not in plant maturity. The hard red spring, durum, northern hard red winter, and northern soft red wheats were adequately resistant to current stem rust races. 1/

A total of 445 collections of wheat stem rust was received from which 1,207 isolates were made. Race 15-TNM was the most common isolate making up 53% of the total. A percentage of these cultures is virulent on sr 17 which forms a major part of the resistance of some currently grown cultivars. The second most common was 151 QSH, 17% of the isolates. No other race comprised as much as 10% of the total. Race 15-TDM, 151 OFB, and 151-QCB made up 7%, 6%, and 5% of the isolates, respectively. 1/

For other cereal RUSTS (Puccinia spp.) see SMALL GRAINS 3(44-47):651-652.

INSECTS

Program surveys confirmed natural spread of BLACK IMPORTED FIRE ANT (Solenopsis richteri) and RED IMPORTED FIRE ANT (S. invicta) to the west and south in TEXAS and somewhat to the north in several other infested States. Control treatments were applied during CY-1977 to about 9,051,048 acres in ALABAMA, ARKANSAS, GEORGIA, LOUISIANA, MISSISSIPPI, and SOUTH CAROLINA. The diapause control program for BOLL WEEVIL (Anthonomus grandis grandis) in western TEXAS continued to prevent the westward spread to uninfested States. Migration of unusually heavy numbers of weevils into the control zone from the east required the treatment of 1.3 million acres of cotton in the High Plains of Texas program and the Big Bend area of Texas and Mexico, the highest since 1965.

The CEREAL LEAF BEETLE (Oulema melanopus) program has evolved into an effective and well coordinated effort in the colonization, distribution, and establishment of parasites. The program has demonstrated the ability of the Agency to conduct a biological control program to reduce the potential of economic damage in the infested area. An orderly phasedown of Federal involvement in this program is now in progress.

1/ Contributed by A.P. Roelfs, L.D. Long, and D.H. Casper, Cereal Rust Laboratory, St. Paul, Minnesota.

Cereal leaf beetle parasites were released in 8 insectaries where parasite populations will be allowed to multiply under ideal conditions. In 1977, the parasites were removed from 6 of the previously established insectaries and distributed in several new locations considered ideal for reproduction due to high numbers of the cereal leaf beetle. These parasites were distributed to 10 States with a total of 645 sites in 215 counties. The total number of parasites released was 542,882. It was not necessary to release the egg parasites since distribution, along with the cereal leaf beetle, has been adequate through the Northeastern States. However, it may be necessary to release the egg parasites in other locations in 1978 outside of the pattern of the prevailing winds.

CITRUS BLACKFLY (Aleurocanthus woglumi) infestation has existed in the Rio Grande Valley of TEXAS since 1971. Control activities in this area include the limited application of insecticide and release of parasites. Parasites are becoming established throughout the infested area.

An infestation of citrus blackfly in FLORIDA was detected in February 1976. An immediate program was initiated to delimit and contain this infestation, and an accelerated research and development program was begun to develop better control/eradication treatment. New regulatory treatment and control techniques have been developed as a result of this effort. Parasites have been released and are becoming established. This infestation encompasses about 1,000 square miles in Broward, Dade, and Palm Beach Counties.

An ongoing biometric detection program for citrus blackfly is being conducted in noninfested areas of Florida, Texas, and non-infested citrus-producing States of ARIZONA, CALIFORNIA, and LOUISIANA.

GRASS BUGS, mainly Labops hesperius, caused up to severe injury to planted grasses in the higher range areas of Cache, Garfield, Iron, Kane, Morgan, Sanpete, Uintah, and Utah Counties in UTAH. Many thousands of acres were infested with 300 acres sprayed for control in Morgan County. In the Cedar Breaks area of Iron County and Ephraim Canyon, Sanpete County, populations often averaged 45-50 sweeps, while in Diamond Fork of Utah County, counts ranged up to 900 per sweep. The light snow cover during the winter of 1976-1977 and the very dry spring may have reduced egg survival. Labops utahensis and Labops species were sometimes heavy in favorable habitats. Irbisia pacifica was much lighter than during 1976 in the White Valley and Beaverdam areas of Box Elder County. However, these species, in addition to Irbisia brachycera, Irbisia spp., and Labops spp. caused much bleaching of highway-side planted grasses in Iron County and elsewhere in southern Utah. L. hesperius populations (500 per 100 sweeps) caused discoloration of crested wheatgrass in roadside ditches in west-central NORTH DAKOTA by May 20.

GRASSHOPPER infestations in CALIFORNIA consisting of Camnula pellucida and Melanoplus devastator on turf, pastures, and rangeland in Monterey County were the heaviest in 10 years.

Diminution of rangeland species by Melanoplus sanguinipes indicated a resurgence of this species in OREGON. Populations of Oedaleonotus enigma enigma and Aulocara elliotti decreased. In spite of cool, wet May and June weather, 1977 developed into a year of serious grasshopper infestations on 704,640 acres in the northeastern area. Because of localized heavy Melanoplus populations and drought-induced hay shortages, a record number of hay fields received aerial treatments. C. pellucida buildups in pastures along the east side of Chewaucan Valley in Lake County indicate problems in 1978 if dry conditions continue.

Similar conditions are predicted in the Klamath Marsh area with M. sanguinipes being predominant.

The WASHINGTON adult survey showed 62,340 acres of private and Federal rangeland to be economically infested by M. sanguinipes at 8 or more per sq yd. Most of the infestation occurred on the Colville Indian Reservation in Okanogan and Ferry Counties with 31,000+ acres heavily infested.

Mostly M. sanguinipes and C. pellucida populations generally appeared on the increase in IDAHO. In June, a cooperative program of 185,572 acres was treated followed by 100,000 acres in Gem County and 82,500 acres in Minidoka County. Grasshoppers moved off the extremely dry area to adjacent crops throughout western Idaho particularly in Payette, Canyon, Gem, and Ada Counties. The severe drought statewide made interpretation of the fall adult survey extremely difficult. Populations over 8 per sq yd were recorded in fall survey portions of Idaho, Washington, Adams, Gem, Payette, Boise, Ada, Elmore, and Owyhee Counties. The number of eggs carried by the females and the general lack of profuse mating, seem to indicate that the grasshopper outlook of 1978 will probably remain about the same as in 1977.

GRASSHOPPER surveys in UTAH showed the following areas to have 8 or more adults per sq yd and the acreage likely to have outbreaks during 1978 by county: Box Elder--30,000 on private and State lands; Cache--8,000 crops and 600 private and State land; Iron--10,000 private and State land, 5,000 Forest Service, and 2,000 National Parks; Millard--5,000 Bureau of Land Management and 5,000 private and State land; Piute--3,000 forest, Sanpete--1,200 Forest Service; Sevier--6,000 Forest Service; Utah--4,000 cropland; and Washington--2,500 Forest Service. There was a total of 82,300 acres of conspicuously infested lands. Federal grasshopper control programs treated 864 acres of forest lands out of Vernal, Uintah County, and 5,184 acres of forest lands on Beaver Mountain, Beaver County.

LUBBER GRASSHOPPER (Brachystola magna) migrated into cotton in the Trans-Pecos area of TEXAS in late May. Heavy populations occurred in early June in several South Plains counties. Populations of 0-33 per 100 row ft were present east of St. Lawrence on June 9.

GRASSHOPPER (undetermined sp.) populations became heavy on rangeland in August in the Rolling Plains, the San Angelo area and the Trans-Pecos region of TEXAS, resulting in migration into cropland.

GRASSHOPPERS began hatching in the southwest area of OKLAHOMA the last of March. By early June, spotty heavy infestations were present in rangeland in 3 south-central counties, 3 northwestern counties, and all 3 Panhandle counties. Adult surveys in late August showed economic infestations in approximately 974,000 acres of rangeland in 34 counties in all areas except the north-central and central. The highest counts were 25-50 per sq yd in improved pastures in the eastern areas. Dominant species were Melanoplus bivittatus, Mermiria maculipennis, Melanoplus packardii, Phlibostroma quadrimaculatum, Melanoplus occidentalis, Syrbula admirabilis, Ageneotettix deorum, Drepanopterna femoratum, Aulocara elliotti, and Boopedon nubilum. Grasshoppers were also very common in other habitats. Damage was reported, mostly in the margins, to alfalfa, soybeans, peanuts, cotton, and wheat. Wheat damage was in September and October in the Panhandle and northwestern counties by the migratory grasshopper (Melanoplus sanguinipes) and other Melanoplus spp. Damage to home gardens was common in most areas and damage to fruit and nut trees occurred in a few areas.

DIFFERENTIAL GRASSHOPPER (Melanoplus differentialis) in KANSAS defoliated 1-20 border rows in numerous corn fields mostly in Brown, Doniphan, and Atchison Counties of the northeast district; light ear damage. Differential grasshopper infestations in this area might be worse in 1978.

Though numbers were generally low, surveys showed M. sanguinipes more abundant on rangeland throughout western Kansas in 1977 than 1976. Another important rangeland species, the HIGH PLAINS GRASSHOPPER (Dissosteira longipennis) was found in moderate numbers in a localized area south of Syracuse.

GRASSHOPPERS (Melanoplus spp.) mostly Melanoplus sanguinipes concentrations often destroyed large acreages of seedling wheat along field borders in western Kansas in September and October; most affected acreage was west of U.S. Highway 183. Surveys showed most serious and consistent field border damage occurred in the following areas: Northwest Stanton, Hamilton, northwest Kearny, western and northern Greeley, and southwest Wallace Counties. The advanced season of 1977 probably allowed development of a larger than usual second generation contributing to the problem. Following field preparation, grasshoppers concentrated along weedy margins and adjacent stubble fields. They moved back into the seedling wheat after it emerged and stripped the fields as they moved across in a gregarious fashion. Flights of grasshoppers moving from one area to another aggravated the situation. Treating was widespread in the affected area though often ineffective; much had to be replanted.

Nymphs of several grasshopper species were reported numerous in the east, north, southwest, and northeast districts of NEBRASKA on June 7-8. Unidentified nymphs ranged up to 7 per sq yd in the border rows of a corn field in Rock County on June 7. Counts were still increasing on June 20 when unidentified nymphs averaged 50+ per sq yd in a grassy field border in Jefferson County in the southeast district and counts of 35 per sq yd were common in field borders in Rock County. A summer survey reported on June 24 that nymphs and adults of Ageneotettix deorum, Aulocara ellioti, Melanoplus sanguinipes, Amphitornus coloradus, and Trachyrhachys kiowa (listed in order of abundance) ranged from 1-70+ and averaged 25 per sq yd in pastureland adjacent to the North Platte River and in Cherry and Sioux Counties. This complex caused severe damage to the range. The lowest populations were in areas treated with insecticide in 1975. Grasshoppers were also damaging alfalfa in the Panhandle. Melanoplus spp. and additional unidentified species averaged between 10-15 per sq yd in rangeland in Lincoln, Dawson, Valley, and Custer Counties from July 20 through August 10. A fall survey revealed that the major rangeland species were A. deorum, A. ellioti, M. sanguinipes, and T. kiowa. Major infestations in rangeland occurred in Cherry and Sheridan Counties and along the North Platte River where grasshoppers ranged as high as 70 per sq yd and in Knox, Boyd, and Holt Counties where grasshoppers ranged as high as 40 per sq yd. The predominant cropland species in the western half of the State were M. bivittatus, M. sanguinipes, and M. differentialis, and M. bivittatus and M. femurrubrum in the eastern half. No significant levels of parasitism were noted. A total of 2,780,000 acres of rangeland and over 1,000,000 acres of cropland was severely infested and suffered estimated dollar losses of \$3,475,000 and \$2,250,000, respectively. Large numbers of overwintering eggs, moderate winter weather conditions, and a mild spring were factors which contributed to the large populations of grasshoppers this year. With large numbers of eggs laid again this fall the potential exists for damaging infestations in several parts of Nebraska in 1978 if weather conditions favor grasshopper survival.

Melanoplus sp. populations in SOUTH DAKOTA during 1977 had the same potential for development damage in the western rangeland as during 1930-1939. Several

Federal programs for Melanoplus sp. were started for control on the western rangeland. A total of 135,000 acres of rangeland was treated under cooperation with Federal personnel and State extension service. Considerable rangeland was heavily infested in the treated area and outside the area before treatments. Controls were excellent in the Shannon, Meade, Pennington, Haakon, Dewey, and Ziebach areas of the State. The grasshopper potential was considerably decreased where treatments were applied. About 80% control was noted over the area which will decrease populations for 1978. Many other areas of rangeland in western part of the State have the potential for heavy infestations in 1978. Grasshopper potential still high for damaging populations in many areas, but timely rains in some decreased the populations considerably.

Grasshopper egg development in NORTH DAKOTA as of April 22, showed most eggs in the eyespot and segmented stages with some in the advanced stage of development. Less than 1% of the eggs were desiccated. Grasshoppers hatched in the southwestern area by April 29 and 30. By May 2, light hatching had developed in the west-central area. By May 13 light to threatening populations occurred on cropland. Newly hatched nymphs ranged 20-30 per sq yd on blue gramgrass in the west-central district. Noneconomic populations were noted in the east-central and southeast districts at this time. As of May 27 light to threatening populations occurred on cropland with some damage evident on rangeland in the west-central district as of May 27. By June 3, light to moderate damage occurred to cropland in Richland County. Roadside treatment was conducted in 8 township areas. Damage occurred on sunflowers and small grains in Richland County. Light to moderate damage occurred on barley and sunflowers in Traill County. A total of 150,000 acres of rangeland was infested with up to 40 per sq yd in the southwestern district by June 10. Treatments were applied to 4,160 acres of rangeland in the west-central area June 22. In the west-central and southwestern areas, 119,232 acres of rangeland were treated July 7-12. Damage was light on south-central area cropland as of July 15. Populations increased in the central, north-central, and southeast districts according to adult cropland survey which began July 25. Infestations decreased in the south-central, west-central, northwest, and southwest districts. Economically infested cropland acreage by county: Cass--47,560, Dickey--57,239, Dunn--8,886, Grant--41,424, Morton--19,450, Richland--22,692, Sargent--13,620, and Slope--15,129. Dominant species are Melanoplus bivittatus, M. sanguinipes, M. differentialis, M. dawsoni, and M. packardii with some M. femurrubrum. Economically infested rangeland areas by county: Billings--3,840, McKenzie--22,400, and Slope--3,500. Acreage is private, State, and Forest Service rangeland. Dominant species Ageneotettix deorum, Aulocara ellioti, Camnula pellucida, M. sanguinipes, and Trachyrhachys kiowa.

About 95,000 sex pheromone traps for GYPSY MOTH (Lymantria dispar) were placed in 40 States. Male adults were trapped for the first time in 11 counties in 7 States.

An eradication treatment for gypsy moth was applied to 2,441 acres in San Jose, CALIFORNIA, where adults were trapped in 1975 and 1976, and egg masses were found concentrated in a small 9-block area. Two aerial treatments were applied to each acre supported by ground treatment to a core area of 114 acres. Intensive larval, male adult trapping, and egg mass surveys were negative. Treatments were applied to 12,030 acres in MICHIGAN in areas removed from the central core infestation. Trapping surveys in those areas were also negative following treatment.

The second year of the intensive trapping program of 1,000 acres in Palos Park, ILLINOIS, was negative for gypsy moth after treatment in 1976. One adult was

recovered in Cook County, well removed from the treatment area. In regulatory treatments of campgrounds and other recreational areas within the general infestation about 26,000 acres were treated by air and ground.

Gypsy moth parasites were reared in a New Jersey facility and released in 10 States. In addition, parasites were reared in MARYLAND, NORTH CAROLINA, PENNSYLVANIA, VIRGINIA, and WEST VIRGINIA.

Strict JAPANESE BEETLE (*Popillia japonica*) surveys and control efforts in ALABAMA have contained this pest to the known locations in Lee, Jefferson, Winston, Cleburne, Jackson, and Calhoun Counties.

Heavy Japanese beetle populations in eastern TENNESSEE caused a great deal of damage in several areas. The zone of damaging population levels of Japanese beetle in KENTUCKY began to enter larger corn-producing areas. Before this year, heavy populations had been confined to the Eastern Region which had less than 10% of the corn acreage. However, population levels of more than 5 beetles per plant were found in the Northern and Eastern Bluegrass regions. The first corn damage of the season was reported from Madison County the last week of June. Adults continued to damage corn through mid-August. Treatments were applied to several fields in the eastern part of the Bluegrass region. Generally, fields were treated after pollination and were too late to significantly reduce yield losses resulting from silk feeding.

An adult Japanese beetle was collected from roses in garden at a residence in Champaign County, ILLINOIS, for a new county record.

The first Japanese beetles were observed on June 10 and the first eggs produced by these adults were found by June 21 in OHIO. All stages were present by August 2, which was usually early. Plants severely damaged by adult feeding include corn tassels, soybeans, beans, tomatoes, potatoes, grapes, blueberries (fruit), alders, European birch, European larch, "Kwanzan" cherry, mountain ash, roses, and sassafras. Larval populations in turf grass varied from 4 larvae per sq ft on April 25 in Portage County to 15 per sq ft in Wayne County on August 2.

The first Japanese beetle adults of the season were observed in Brunswick County, VIRGINIA, on June 2, feeding on alfalfa. Adults were subsequently reported from Amelia County on June 8, and from Fluvanna County on June 5. Japanese beetles were commonly found on ornamentals and fruit plants following the then recent heavy rains. By July 15, Japanese beetles were heavy in parts of the Coastal Plains, but damage in the mountains was lighter than during the past 2 years. In Westmoreland and Isle of Wight Counties, heavy populations of adults caused damage but populations declined by mid-July.

The trend in NEW HAMPSHIRE toward locally heavy Japanese beetle populations started during 1976 and continued in 1977. Adults were first noted on grapes the southeastern part of the State in late June. Adults increased rapidly through early July on many deciduous plants and on lawns. Adults remained heavy until early August. Populations were particularly heavy in Strafford and Rockingham Counties.

State programs for MEXICAN BEAN BEETLE (*Epilachna varivestis*) in IDAHO continued to keep the beetle from spreading from the city of Boise to commercial bean fields. A total of 5,348 vegetable gardens was surveyed and 690 were sprayed near or in Boise. Only one garden in Eagle and one in Caldwell were found infested. This is the first beetle found in 2 years in Caldwell.

Most potential MORMON CRICKET (Anabrus simplex) infestations on private and State lands in UTAH were apparently wiped out by cold, wet spring weather during hatch. Although problems were expected in several IDAHO counties, statewide populations disappeared to such an extent in May that only solitary individuals were found where economic concentrations were found the last 4 years. Either drought condition or other natural population decline probably occurred.

During 1977, 412 million sterile moths of PINK BOLLWORM (Pectinophora gossypiella) were released in the San Joaquin Valley of CALIFORNIA, largest release since this program began. A hurricane during October 1976 deposited numerous native adults in the valley. In spite of a commercial contract to supplement the Plant Protection and Quarantine Programs cooperative production, a total of 7,402 native adults was trapped, approximately a 5-fold increase over any previous year. Four larvae were reported for the first time since 1970. This indicates that a light infestation existed in the San Joaquin Valley.

About 33,000 traps were used in the valley for detection and monitoring sterile insects. Biometrically designed detection surveys are conducted in noninfested States using about 14,000 traps, which were negative during 1977.

During 1977, a total of 467 confirmed cases of SCREWORM (Cochliomyia hominivorax) was reported in the continental United States from January 1 through December 31 as follows: California 9, Arizona 397, New Mexico 22, and Texas 39. This grand total is a sharp decrease in comparison with the 29,671 confirmed cases in 1976. More than 40,500 cases were reported in Mexico. Sterile screw-worm fly releases in the U.S. totaled slightly more than 5 billion over the southwestern area in 1977. More than 9 billion sterile flies were released over Mexico.

Biometric surveys for WEST INDIAN SUGARCANE ROOT BORER (Diaprepes abbreviatus) were conducted on 3,846+ acres of citrus in FLORIDA. A new infestation was found in 43 acres of citrus. The total citrus acreage found infested was 4,594. Surveys conducted in other citrus-growing States were negative.

WEEDS

WITCHWEED (Striga asiatica) occurs in 30 counties on about 382,000 acres in NORTH CAROLINA and SOUTH CAROLINA. The eradication program was continued on 50,000 acres in the periphery of the infestation. Herbicides were applied in corn, idle land, and gardens, and ethylene was injected into the soil to cause suicidal germination of witchweed seed. A promising new chemical was applied to about 350 acres of corn.

ADDENDA from the Minnesota Disease Summary

Although COMMON MAIZE RUST (*Puccinia sorghi*) in MINNESOTA is common in sweet and dent corn, prevalence and severity were much heavier than in previous seasons. Prevalence was 100% with variable severities on dent corn. From July 11-21, severity ranged trace to 5% in 22 counties in the southern one-half area with 10% severity in Blue Earth County. From July 26 to August 11, severity was mostly 5% in 12 counties throughout the southern one-fourth area and trace to 20% in 4 counties in the northwestern area. From August 22 to September 27, severities ranged 5-30% in 21 counties throughout the southern one-half area with most 30% severities in the southeastern area. Urediospores moved into the State from the southern corn belt somewhat earlier due to early favorable conditions for the disease throughout the Midwest. The rust became well established and self-perpetuating within the State. Late-planted sweet corn was heavily rusted; those planted after May 30 were most severely affected. Prevalence was 100% with severities ranging 20-40%. Yield losses ranged 10-100% in some cases. The estimated loss for sweet corn was \$1.3 million, based on \$47 per ton.

Infections of MAIZE DWARF MOSAIC POTYVIRUSES (MDMV) were noted in MINNESOTA for a new State record. Collections of the infected plants were made in 2 fresh market sweet corn fields in late August and early September 1976 from Anoka County, about 30 miles north of the Twin Cities metropolitan area, by F. Pflieger and R. Morrison. Isolates were maintained by R.J. Zeyen and positively identified, in conjunction with J. Hill, as MAIZE DWARF MOSAIC POTYVIRUS B. The following counties were confirmed for MDMV by isolates obtained from sweet and dent corn in 1977 and maintained in the greenhouse: Strain A--Clay, Hennepin, Le Sueur, McLeod, Meeker, Mower, Pope, Ramsey, Renville, Rice, Rock, Sherburne, Sibley, Stearns, Wabasha, and Washington; strain B--Dakota, Fillmore, Le Sueur, Olmsted, Ramsey, Stearns, Wabasha, Wright, and Anoka (1976 isolate). The date of probable infection in the State was established as the first week of July for 1977. Prevalence of MDMV in sweet corn ranged from less than 1% to 100%. No signs of infection foci in any of the fields implicates winged aphid flight in the distribution of the disease. Sweet corn planted after May 30 was most severely affected. Late dent corn plantings, primarily for silage, were similarly affected. MDMV infected about 15% (18,750 acres) of the total sweet corn acreage; the affected acreage was planted after May 30. Severity of infection ranged 1-100% with crop losses from trace to 100%. Based on the value of \$47 per ton for sweet corn, the estimated loss in the State directly due to MDMV was \$2.2 million.

Since DIFFUSA POWDERY MILDEW (*Microsphaera diffusa*) was first observed in MINNESOTA in the fall of 1972 on greenhouse-grown *Glycine max* (soybean), cultivar 'Clay', in Ramsey County, it has been regularly found in experimental soybean plots in this county. During 1977, collections and determinations from commercial soybean [physiological maturity unless stated otherwise] fields were made in the following counties (1 field each) for new county records by E.L. Stromberg.

<u>County</u>	<u>Nearest City</u>	<u>Collection Date</u>	<u>Prevalence/Severity</u>
Chippewa	Gluek	Sep 22	100%/90%
Faribault	Frost	Aug 21	80%/5% [seed full size]
Freeborn	Glenville	Aug 30	20%/10%
Jackson	Round Lake	Sep 21	100%/90%

New county records for diffusa powdery mildew in Minnesota continued.

<u>County</u>	<u>Nearest City</u>	<u>Collection Date</u>	<u>Prevalence/Severity</u>
Kandiyohi	Willmar	Sep 22	100%/90%
Lac Qui Parle	Bellingham	Sep 28	25%/15%
Martin	Dunnell	Sep 21	75%/*
Meeker	Willmar	Oct 18	70%/**
Mower	Taopi	Sep 20	100%/75%
Pipestone	Holland	Oct 5	15%/25%
Renville	Fairfax	Sep 13	100%/25%
Yellow Medicine	Porter	Aug 25	15%/10% [seed near full size]

* stems covered with mycelia and conidia

** stems covered with mycelia and conidia, leaves defoliated

With rapid spread of this pathogen into commercial fields since its first report in 1972 and its possible potential to mutate toward greater virulence, this powdery mildew could pose a threat to soybean production.

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ESTIMATED LOSSES FROM RUST IN 1977

Compiled by David L. Long 1/

Acres harvested and yield and production records based on Crop Production 1977 Annual Summary, USDA, CRPr2-1 (78). Loss data, summary of estimates by personnel of the State Departments of Agriculture, University extension and research projects, Plant Protection Programs of the Animal and Plant Health Inspection Service, the Science and Education Administration, USDA, Crop Quality Council, and the Cereal Rust Laboratory.

State	1,000 of acres harvested	Yield in bushels per acre	Production in 1,000 bushels	WINTER WHEAT						
				Stem rust		Leaf rust		Stripe rust		
				Per-cent	1,000 bushels	Per-cent	1,000 bushels	Per-cent	1,000 bushels	
Alabama	90	28.0	2,520	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Arkansas	660	39.0	25,740	Trace	Trace	Trace	Trace	Trace	Trace	Trace
California	650	64.0	41,600	0	Trace	Trace	Trace	Trace	Trace	Trace
Colorado	2,550	22.0	56,100	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Florida	13	29.0	377	0	Trace	Trace	Trace	Trace	Trace	Trace
Georgia	100	33.0	3,300	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Idaho	830	39.0	32,370	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Illinois	1,590	43.0	68,370	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Indiana	1,240	45.0	55,800	0	Trace	Trace	Trace	Trace	Trace	Trace
Iowa	85	37.0	3,145	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Kansas	12,100	28.5	344,850	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Kentucky	274	37.0	10,138	0	Trace	Trace	Trace	Trace	Trace	Trace
Michigan	825	40.0	33,000	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Minnesota	105	33.0	3,465	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Mississippi	105	34.0	3,570	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Missouri	1,550	39.0	60,450	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Montana	2,800	29.0	81,200	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Nebraska	2,950	35.0	103,250	Trace	Trace	Trace	Trace	Trace	Trace	Trace
North Carolina	200	30.0	6,000	0	Trace	Trace	Trace	Trace	Trace	Trace
North Dakota	104	23.0	2,392	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Ohio	1,540	47.0	72,380	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Oklahoma	6,500	27.0	175,500	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Oregon	1,130	38.0	42,940	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Pennsylvania	270	33.0	8,910	Trace	Trace	Trace	Trace	Trace	Trace	Trace
South Carolina	95	29.0	2,755	Trace	Trace	Trace	Trace	Trace	Trace	Trace
South Dakota	680	25.0	17,000	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Tennessee	280	36.0	10,080	0	Trace	Trace	Trace	Trace	Trace	Trace
Texas	4,700	25.0	117,500	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Virginia	205	31.0	6,355	0	Trace	Trace	Trace	Trace	Trace	Trace
Washington	2,800	34.0	95,200	Trace	Trace	Trace	Trace	Trace	Trace	Trace
West Virginia	10	31.0	310	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Wisconsin	60	43.0	2,580	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Wyoming	260	20.0	5,200	Trace	Trace	Trace	Trace	Trace	Trace	Trace
U.S. TOTAL	48,419	31.5	1,526,713							
TOTAL of above	47,151	31.7	1,494,347	Trace	Trace	Trace	Trace	Trace	Trace	Trace
Mean of above								0.8	12,744.5	0.1
										1,241.1

SPRING WHEAT

State	1,000 of acres harvested	Yield in bushels per acre	Production in 1,000 of bushels	Stem rust		Losses due to -		Stripe rust	
				Per-1,000 bushels	Trace	Per-cent	Leaf rust 1,000 bushels	Per-cent	1,000 bushels
Colorado	25	40.0	1,000	Trace	Trace	Trace	Trace	Trace	Trace
Idaho	360	51.0	18,360	0	0	0	0	0	0
Minnesota	3,140	40.0	125,600	Trace	Trace	Trace	Trace	Trace	Trace
Montana	2,040	22.0	44,880	Trace	Trace	Trace	Trace	Trace	Trace
North Dakota	6,680	25.0	167,000	Trace	Trace	Trace	Trace	Trace	Trace
Oregon	70	34.0	2,380	0	0	0	0	0	0
South Dakota	2,200	23.5	51,700	Trace	Trace	0.5	259.8	0	0
Washington	185	33.0	6,105	0	0	0	0	0	0
Wisconsin	15	33.0	495	Trace	Trace	0.1	0.5	0	0
Wyoming	21	20.0	420	Trace	Trace	0	0	0	0
U.S. TOTAL	14,772	28.4	419,116						
Total of above	14,736	28.4	417,940	Trace	Trace	0.06	260.3		
Mean of above									

DURUM WHEAT

State	1,000 of acres harvested	Yield in bushels per acre	Production in 1,000 of bushels	Stem rust		Losses due to -		Stripe rust	
				Per-1,000 bushels	Trace	Per-cent	Leaf rust 1,000 bushels	Per-cent	1,000 bushels
California	28	75.0	2,100	0	0	0	0	0	0
Minnesota	82	34.5	2,829	0	0	0	0	0	0
Montana	220	22.0	4,840	0	0	0	0	0	0
North Dakota	2,470	24.5	60,515	0	0	0	0	0	0
South Dakota	136	24.0	3,264	0	0	0	0	0	0
U.S. TOTAL	3,025	26.4	79,964						
Total of above	2,936	24.3	73,548	0	0	0	0	0	0
Mean of above									

OATS

State	1,000 of acres harvested	Yield in bushels per acre	Production in 1,000 bushels	Losses due to -		
				Stem rust	Per-cent	Crown Rust
				Per-cent	1,000 bushels	Per-cent
					1,000 bushels	1,000 bushels
Alabama	25	41.0	1,025	Trace	Trace	Trace
Arkansas	50	70.0	3,500	0	0	Trace
California	104	51.0	5,304	0.1	5.0	Trace
Colorado	31	46.0	1,426	0	0	Trace
Florida	12	45.0	540	Trace	Trace	Trace
Georgia	55	50.0	2,750	0	0	Trace
Idaho	45	57.0	2,565	0	0	Trace
Illinois	340	61.0	20,740	Trace	Trace	Trace
Indiana	150	53.0	7,950	0	0	Trace
Iowa	1,375	59.0	81,125	Trace	Trace	Trace
Kansas	210	45.0	9,450	Trace	Trace	Trace
Kentucky	9	35.0	315	0	0	Trace
Michigan	340	55.0	18,700	Trace	Trace	Trace
Minnesota	2,380	68.0	161,840	1.0	1,635.0	Trace
Mississippi	13	45.0	585	Trace	Trace	Trace
Missouri	145	50.0	7,250	Trace	Trace	Trace
Montana	140	40.0	5,600	Trace	Trace	Trace
Nebraska	670	58.0	38,860	Trace	Trace	Trace
North Carolina	75	42.0	3,150	0	0	Trace
North Dakota	1,500	40.0	60,000	4.0	2,500.0	Trace
Ohio	420	59.0	24,780	0	0	Trace
Oklahoma	130	46.0	5,980	Trace	Trace	Trace
Oregon	80	65.0	5,200	0	0	Trace
Pennsylvania	350	53.0	18,550	Trace	Trace	Trace
South Carolina	55	46.0	2,530	Trace	Trace	Trace
South Dakota	2,450	54.0	132,300	2.0	2,700.1	Trace
Tennessee	25	43.0	1,075	0	0	Trace
Texas	600	40.0	24,000	3.5	873.3	0.31
Virginia	34	44.0	1,496	0	0	Trace
Washington	35	43.0	1,505	Trace	Trace	Trace
West Virginia	12	41.0	492	0	0	Trace
Wisconsin	1,170	65.0	76,050	0.1	76.2	0.1
Wyoming	45	38.0	1,710	0	0	Trace
U.S. TOTAL	13,447	55.6	747,914			
Total of above	13,075	55.7	728,343	1.1	7,789.6	0.02
Mean of above						

BARLEY

State	1,000 of acres harvested	Yield in bushels per acre	Production in 1,000 bushels	Losses due to -			
				Stem rust	Leaf rust	Stripe rust	
				Per-cent	1,000 bushels	Per-cent	1,000 bushels
California	950	56.0	53,200	0	0	0	0
Colorado	230	59.0	13,750	Trace	Trace	Trace	Trace
Georgia	7	37.0	259	Trace	Trace	Trace	Trace
Idaho	850	47.0	39,950	0	0	1.0	403.5
Illinois	9	42.0	378	0	0	0	0
Indiana	8	40.0	320	0	0	0	0
Kansas	65	36.0	2,340	0	0	Trace	Trace
Kentucky	25	46.0	1,150	0	0	0	0
Michigan	19	52.0	988	0	0	0	0
Minnesota	1,030	51.0	52,530	Trace	Trace	Trace	Trace
Missouri	8	37.0	296	0	0	0	0
Montana	1,520	36.5	55,480	Trace	Trace	Trace	Trace
Nebraska	34	45.0	1,530	0	0	0	0
North Carolina	55	40.0	2,200	0	0	0	0
North Dakota	2,530	39.0	98,670	Trace	Trace	Trace	Trace
Ohio	11	51.0	561	0	0	0	0
Oklahoma	120	35.0	4,200	0	0	Trace	Trace
Oregon	190	47.0	8,930	0	0	Trace	Trace
Pennsylvania	125	50.0	6,250	0	0	0	0
South Carolina	21	40.0	840	0	0	0	0
South Dakota	640	42.0	26,880	Trace	Trace	Trace	Trace
Tennessee	13	39.0	507	0	0	0	0
Texas	85	40.0	3,400	Trace	Trace	Trace	Trace
Virginia	92	44.0	4,048	0	0	Trace	Trace
Washington	350	27.0	9,450	0	0	Trace	Trace
West Virginia	9	42.0	378	Trace	Trace	5.0	19.9
Wisconsin	29	54.0	1,566	0	0	0	0
Wyoming	133	55.0	7,315	0	0	0	0
U.S. TOTAL	9,490	43.8	415,803				
Total of above	9,158	43.4	397,366	Trace	Trace	0.1	423.4
Mean of above							0

RYE

State	1,000 of acres harvested	Yield in bushels per acre	Production in 1,000 bushels	Losses due to -			Stripe rust 1,000 bushels
				Per- cent	1,000 bushels	Per- cent	
Colorado	4	20.0	80	0	0	0	0
Georgia	95	21.0	1,995	0	0	Trace	Trace
Illinois	15	22.0	330	0	0	0	0
Indiana	10	26.0	260	0	0	0	0
Kansas	10	18.0	180	0	0	0	0
Kentucky	4	27.0	108	0	0	Trace	Trace
Michigan	19	24.0	456	0	0	Trace	Trace
Minnesota	84	29.0	2,436	Trace	Trace	Trace	Trace
Missouri	6	27.0	162	0	0	0	0
Nebraska	50	21.0	1,050	0	0	0	0
North Carolina	21	19.0	399	0	0	1.0	4.0
North Dakota	70	25.0	1,750	Trace	Trace	Trace	Trace
Ohio	8	31.0	248	0	0	Trace	Trace
Oklahoma	34	19.0	646	0	0	0	0
Oregon	5	25.0	125	0	0	Trace	Trace
Pennsylvania	12	31.0	372	0	0	0	0
South Carolina	32	20.0	640	0	0	0	0
South Dakota	120	29.0	3,480	0	0	0	0
Tennessee	2	23.0	46	0	0	0	0
Texas	25	16.0	400	0	0	Trace	Trace
Virginia	14	25.0	350	0	0	Trace	Trace
Washington	3	20.0	60	0	0	Trace	Trace
Wisconsin	14	26.0	364	Trace	Trace	Trace	Trace
Wyoming	3	19.0	57	0	0	0	0
U.S. TOTAL	694	24.5	16,998				
Total of above	660		15,994			Trace	4.0
Mean of above		24.2		Trace		0.03	

PESTS NOT KNOWN TO OCCUR IN THE UNITED STATES
Or
Of Limited Distribution

LINED CLICK BEETLE
Agriotes lineatus (L.)

A WIREWORM
Agriotes obscurus (L.)

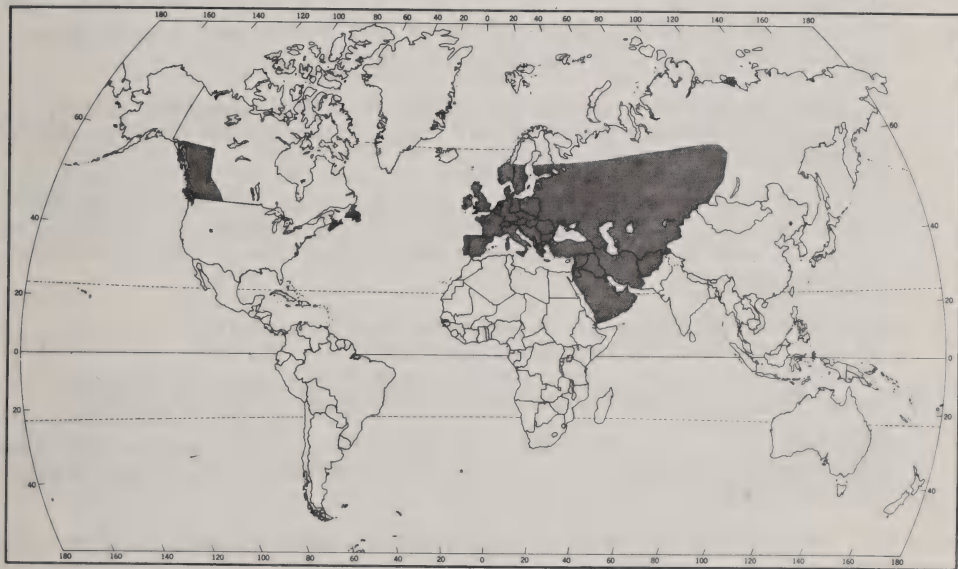
A WIREWORM
Agriotes sputator (L.)

Coleoptera: Elateridae

CONTRIBUTED BY: T.J. Spilman ¹/

ECONOMIC IMPORTANCE

These 3 species are considered major pests in Europe and western Asia. All severely infest germinating seeds, roots, root crops, and tuberous crops. Grain is so severely damaged by A. lineatus in the Soviet Union and Denmark that replanting is sometimes necessary. Cereals and sugar beets in Germany, nursery plantations in the British Isles, and young grape stock in Italy have been greatly damaged. A. lineatus and A. obscurus are responsible for most wireworm damage in Switzerland. They are serious pests in Canada; A. lineatus was responsible for 60% loss to potatoes in a field on Vancouver Island in 1949 and caused great damage in Yarmouth, Nova Scotia, in 1954.



GENERAL DISTRIBUTION OF AGRIOTES LINEATUS, OBSCURUS, SPUTATOR

¹/ Systematic Entomology Laboratory, IIBIII, Federal Research, SEA, USDA.
Mail address: c/o U.S. National Museum, Washington, DC 20560.

DISTRIBUTION

Canada (British Columbia, New Brunswick, Newfoundland, Nova Scotia). A. lineatus was first found in Nova Scotia in 1947 and on the west coast in British Columbia in 1949, A. obscurus in Nova Scotia about 1859 and in British Columbia in 1949, and A. sputator in New Brunswick in 1939. Central Asia, Europe, Middle East, Near East, and Siberian USSR.

HOSTS

Barley, buckwheat, cabbage, carrot, clover, corn, fir, flax, garlic, grape, hops, Jerusalem artichoke, lettuce, lupine, oak, onion, pea, peach, pine, potato, rape, rye, spruce, sugar beet, sunflower, tobacco, tomato, turnip, wheat, and some other grains and grasses.

CHARACTERS

ADULTS - These 3 introduced species belong to the sputator species-group of Agriotes; this group can be characterized by the following combination of characters: Frontal carinae directed ventrally toward labrum, pronotal punctures deep, simple, not umbilicate, and interspaces on metasternum and ventral parts of pronotum smooth and shiny or reticulated and dull. From other North American members of the sputator group, the 3 can be eliminated by the following combinations.

1. Prosternal sutures strongly excavated--lineatus, obscurus, sputator.
2. Elytral striae in definite pairs, odd intervals wider, lighter color, and generally with twice as much pubescence than even intervals--lineatus (Fig. 1).
3. Elytral striae evenly spaced, or at most only vaguely appearing in pairs--obscurus (Fig. 2), sputator (Fig. 3).
4. Form robust; pronotum slightly wider than long, punctures coarse, very close; mandibles very broad, chisel-like; prosternum very finely, sparsely punctured; 6-8.5 mm long--sputator.
5. Form slightly robust; pronotum about 1.2 times as long as wide, punctures moderate, separated by about one-half their diameters; mandibles not as broad, more tapering; prosternum very finely, sparsely punctured; 6-8.5 mm long--sputator.

LARVAE - These 3 species can be separated from many other wireworms by a pair of subovate, deep, pigmented spots dorsally near the base of the pointed last abdominal segment. To separate sputator, obscurus, and lineatus from other Agriotes wireworms, the following combinations can be used.

1. Abdominal segment 9 with 2 color spots (Fig. 4-5); mandible with prominent preapical tooth or projection; head with definite spot behind base of antenna--lineatus, obscurus, sputator.
2. Areas around and between coxae with many small conspicuous sclerotized plates (Fig. 7)--sputator.

3. Areas between coxae with small, inconspicuous plates; areas around coxae with fine lines radiating from coxa, the lined areas different from areas between coxae (Fig. 6); apex of segment 9 more or less pointed; first 8 abdominal segments usually with a minute seta in front of anterotergal seta or in front of both the lateral and spiracular anterotergal setae (Fig. 8)--lineatus and obscurus.

4. Abdominal segment 9 slightly more slender than in lineatus, ratio of length to width is 1.03:1.10--obscurus.

5. Abdominal segment 9 slightly more slender than in obscurus, ratio of length to width is 1.12:1.23--lineatus.

CHARACTERISTIC DAMAGE

Larvae gnaw at the stems a few centimeters above ground level causing them to break, wither, and die within 1 or 2 days.

DETECTION NOTES

1. Dig in the soil of suspicious plants and check for presence of larvae.
2. Submit any suspect specimens for identification in an alcohol vial.

BIOLOGY

In Europe the habits of the 3 species are similar. Eggs hatch in 40 days. Larvae burrow deep into soil in hot and dry times; occasionally larvae are cannibalistic; larval development usually requires 4 years, with 2 moults each year. (Temperature is an important factor in development; in the laboratory at optimal temperature the life cycle can be completed in 1 year with the larva going through 11 instars.) In the summer of the fourth year the pupa forms in the larval chamber. The adult digs to the surface and emerges in the spring of the fifth year. Adults congregate on bunches of grass and clover lying on the ground; they can also be collected under stones, boards, and other debris. Adults usually do not fly and are nocturnal but occasionally become active in daylight during warm or stormy weather. They feed in leaves of grasses and legumes, rarely on animal matter. Mating and oviposition occurs during mid-April. Females prefer to lay eggs under pasture grasses and clover; each lays 120-300 eggs in groups of 3-20.

REFERENCES

- Aguilar, J. d'. 1961. Ann. Epiphyt. Hors. Ser., 11:7-95, illus.
- Balachowsky, A.S. 1962. Entomologie appliquee a l'agriculture, Traite, Tome 1, Coleop. Vol. 1, p. 211-229, illus.
- Balachowsky, A., and L. Mesnil. 1935. Les insectes nuisibles aux plantes cultivees. Vol 1, 1137 p.
- Becker, E.C. 1956. Canadian Entomol. 88(suppl. 1):1-101, illus.
- Eidt, D.C. 1953. Canadian Entomol. 85:408-414, illus.
- _____. 1954. Canadian Entomol. 86:481-494, illus.

See illustrations next page.

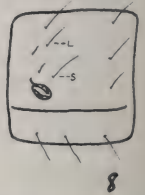
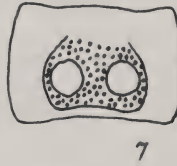
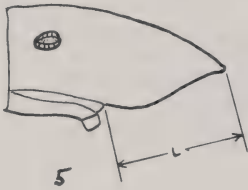
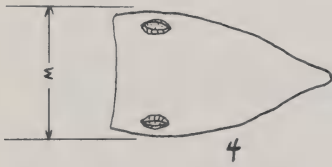
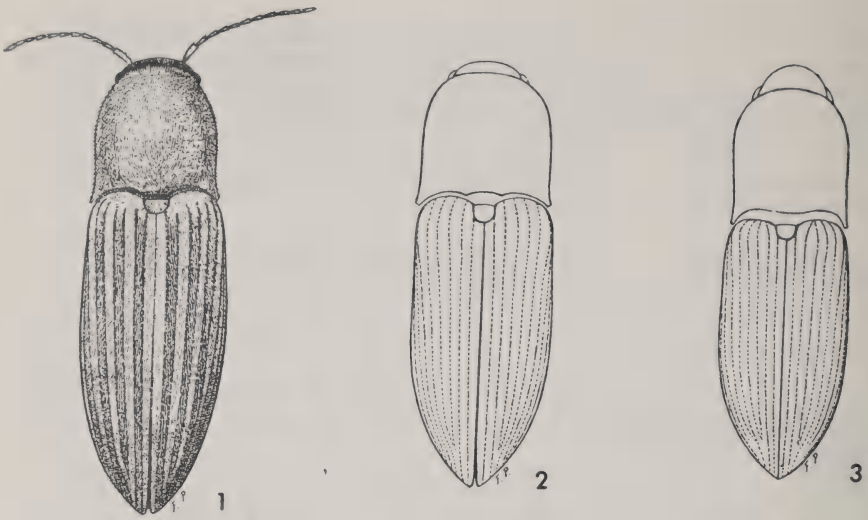
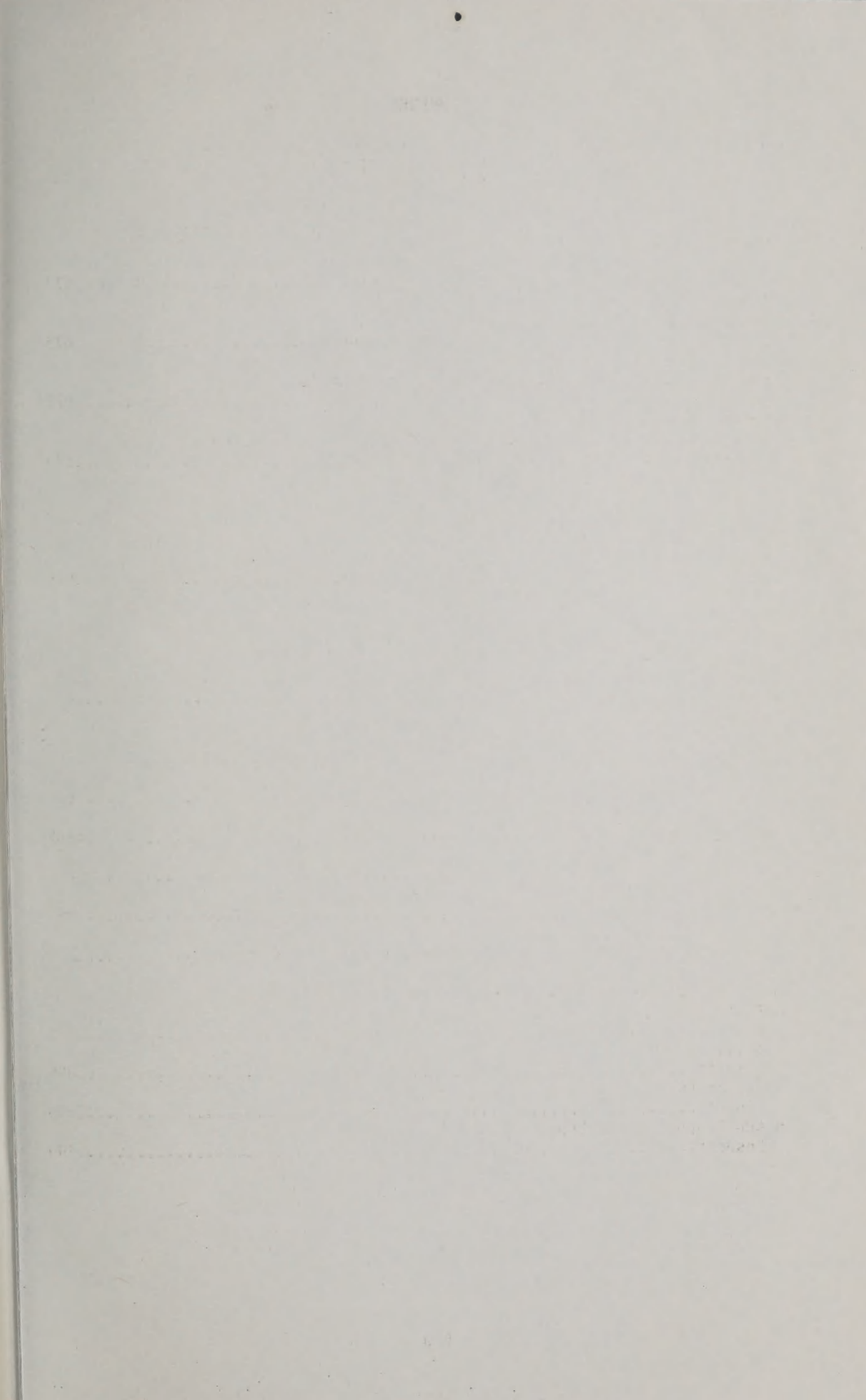
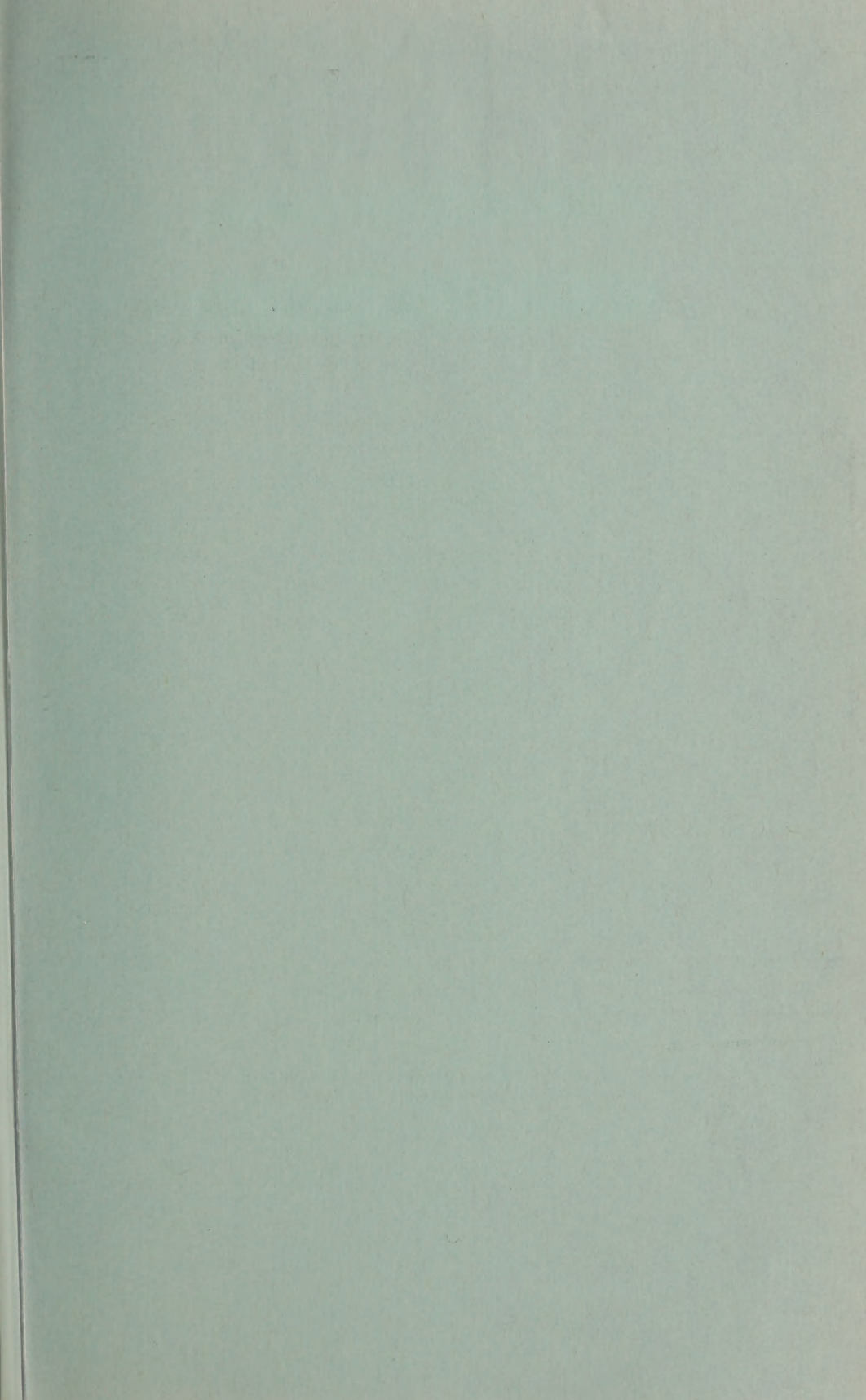


Fig. 1-3. *Agriotes* adults, dorsal view (from Balachowsky). 1 - *lineatus*, 2 - *obscurus*, 3 - *sputator*. Fig. 4-8. *Agriotes* larvae (from Becker). 4 - abdominal segment 9, dorsal view, W-width; 5 - abdominal segment 9, lateral view, L-length; 6 - metasternum, *lineatus*; 7 - metasternum, *sputator*; 8 - abdominal segment 6, lateral view, *obscurus*, L-lateral anterotergal seta, S-spiracular anterotergal seta.

No. 5 of Series

U.S. Dep. Agric.
Coop. Plant Pest Rep.
3(48-52):731-734, 1978





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