

Insects of Indiana for 1950

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Weather always plays a major part in insect abundance or scarcity and conditions which may favor one insect may be unfavorable to another and vice versa.

Mild weather prevailed early but during May and the greater part of June the weather was cold and unfavorable for some insects, particularly the corn borer. Cold and wet weather also prevailed during August and September, in fact many insects showed indications of early hibernation. A warm spell in October lasting over two weeks reactivated many insects. In general, however, the season was unfavorable for many of our major insects, particularly field crop insects, flies, pollinating insects, etc.

Cereal and Forage Crop Insects

Chinch bugs (*Blissus leucopterus* Say) showed up conspicuously in six northeastern and three northwestern counties, for the first time in a number of years. Although the outbreaks were scattered and the damage not great, nevertheless it forecasts possible increase and destructiveness in 1951.

Spittle bugs (*Philaneus leucophthalmus* L.) were again abundant and were in conspicuous numbers in the southern half of the State as well as in the northern half. This insect has, in fact, become one of the major pests of forage crops in Indiana. Many plants, both wild and cultivated, were attacked and damage and abundance was especially noticeable on legumes and strawberry. Of the legumes, red clover, alfalfa, and sweet clover, were most commonly attacked, causing deformity of the terminal shoots and, because of the spittle, preventing proper curing of hay. On strawberries the spittle was messy and hurt the appearance of the marketed berries.

Sweet clover weevil (*Hypera cylindricollis* Fahr.) is a serious pest in many parts of Indiana, especially in the western part of the State where sweet clover is a major soil-improvement crop. This weevil was also found feeding on alsike and red clover. There is evidence that the species has spread to the south end of the State.

The northern (*Diabrotica longicornis* Say) and southern (*D. 12-punctata* Fab.) corn root worm adults were very destructive to corn in the bottom lands along the Ohio, White, and Wabash rivers in southwestern Indiana, where they are known as silk beetles, because they eat off the green silks of corn, preventing fertilization of the grains. Airplane spraying with DDT has given good results.

The European corn borer (*Pyrausta nubilalis* Hon.) wintered over in larger numbers than for several years but delayed corn planting and

unfavorable weather were responsible for a decrease in abundance and destructiveness, excepting in extreme southern parts of the State.

Wheat jointworm (*Harmolita tritici* Fitch) showed an increase over 1949 and was responsible for considerable losses. Furthermore, the increase resulted in a marked and serious increase of the straw itch mite (*Pediculoides ventricosus* Newp.) which is predaceous on the jointworm. It would appear from the abundance of the mite that there may be a decrease in jointworm in 1951.

The potato leafhopper (*Empoasca fabae* Harr.), was very abundant, especially in the northern half of the State, causing a yellowing of the foliage of alfalfa and noticeably reducing the seed yield as well as the forage.

Caterpillars (armyworm, *Cirphis unipuncta* Haw.; fall armyworm, *Laphygma frugiperda* S. and A.; and corn earworm, *Heliothis obsoleta* Fab.) were abundant and destructive in many parts of the State, especially in the southern half.

Vegetable Insects

An onion aphid (*Micromyzus formosanus* Tak.) was sent in from Brownstown in southern Indiana where it was reported very abundant on onion. This species was described from Formosa and in 1935 Essig reported it as a new species (*M. alliumcepa*) from California. Apparently it has not been found previous to its occurrence in Indiana, since its discovery in California.

Potato flea beetle (*Epitrix cucumeris* Harr.) was destructive in May and June to small direct seeded and new transplanted tomatoes.

Mexican bean beetle (*Epilachna varivestis* Muls.) showed an increase over recent years.

The bean leaf beetle (*Cerotoma trifurcata* Forst.) was quite abundant early in the season and a second generation appeared the last of July and August. In addition to beans, red clover and soybeans were slightly attacked.

Cabbage maggot (*Hylemyia brassicae* Bouchè) is on the increase on cabbage in the spring and turnips and radishes in the fall. In the Indianapolis area as high as 75 percent of fall turnips are infested.

Aphids were unusually abundant on various crops including tomato, potato, turnip, cabbage and melon.

Hornworms (*Protoparce sexta* Johan, and *P. quinquemaculata* Haw.) were apparently not as generally abundant as last year but there were regions where they were very destructive.

The greenhouse centipede (*Scutigera immaculata* Newp.) affectionately known as galloping elephants or galloping dragons by greenhouse vegetable growers, has been on the increase the past three years and is giving greenhouse growers much concern.

Fruit Insects

With the rather general use of parathion on peaches, most of the

pest problems have been solved. These include Oriental fruit moth (*Laspeyresia molesta* Busck), plum curculio (*Conotrachelus nenuphar* Herbst), mites (*Paratetranychus pilosus* C. and F. and *Tetranychus telarius* L.) and aphids (*Myzus persicae* Sulz.) However the plant bugs, which blemish the fruit, known as catfacing, are still major and unsolved problems. Also the lesser peach tree borer (*Synanthedon pictipes* G. and R.) is on the increase and becoming a major pest.

On apple the major pest, codling moth (*Carpocapsa pomonella* L.), is at low level, perhaps largely because of the general use of DDT. The mild weather this fall permitted a build-up and they are going into winter quarters in moderately large numbers. Mites, of the two species referred to above, seem to be more widespread than in previous years but have not built up appreciably, probably because of the cool and wet summer and a better knowledge of control on the part of the growers. Plum curculio was serious in many orchards causing blemishes on the fruits. In northern Indiana the apple maggot (*Rhagoletis pomonella* Walsh) was more abundant than usual.

In southwestern Indiana the 13-year brood of the 17-year cicada (*Magicicada septendecim* L.) made its appearance in very large numbers, damaging trees by the egg slits made in the branches, causing them to break over.

Forbes scale (*Aspidiotus forbesi* Johns.) has become an outstanding pest in southern Indiana and is superceding the San Jose scale as the major scale pest in orchards.

The rose chafer (*Macrodactylus subspinosus* Fab.) was unusually abundant and destructive, especially in the northern part of the State, attacking apples, grapes, and roses as well as other plants.

Shade Tree Insects

Aphids of various species were exceptionally abundant the past year on oak, elm, maple, tulip tree, and willow, resulting in honey dew deposits on leaves, development of sooty mold fungus, attractive to flies, spotting of automobiles, and premature dropping of leaves.

Walking sticks (*Diapheromera femorata* Say) again defoliated a 30-acre oak woodlot in Starke County.

Bagworms (*Thyridopteryx ephemeraeformis* Haw.) were very abundant in central and southern Indiana, and were especially destructive to junipers and arbor vitae. For the first time they were found in the extreme northern end of the State.

The fall webworm (*Hyphantria cuneae* Dru.) is commonly abundant in southern Indiana, but this year it has been abundant in northern, as well as southern Indiana.

The oak twig pruner (*Ellaphidon villosum* Fab.) was conspicuously abundant in northern Indiana.

Phloem necrosis (carried by the elm leafhopper *Scaphoideus luteolus* Vand.) and Dutch elm disease carried by the European elm bark beetle (*Scolytus multistriatus* Marsh), continue to take a heavy

toll of American elms. The publicity given to these two diseases has resulted in itinerant "tree doctors" with all kinds of remedies.

Red spiders (*Tetranychus telarius* L.) were abundant and destructive, especially on evergreens.

The strawberry root weevil or crown girdler (*Brachyrhinus ovatus* L.) was reported seriously injuring yew (*Taxus*) plantings in northern Indiana.

The bronze birch borer (*Agrilus anxius* Gory) has been more destructive, according to reports, than for many years.

The locust leaf miner (*Chalepus dorsalis* Thunb.) was more widely distributed in the south end of the State than in the past.

Stored Grain Insects

The Angoumois grain moth (*Sitotroga cerealella* Oliv.) has become a serious problem in the southern half of the State, no doubt due to large grain surpluses and mild winters the past two years. Especially serious are the infestations of popcorn and hominy corn, because such infestations represent adulteration under the Food and Drug Administration regulations. For the first time, according to our records it caused field infestations of wheat in southern Indiana. Furthermore, the larvae are hosts of the straw or grain itch mite which has been so annoying the past fall.

Bran beetles (*Tribolium confusum* Duv., *Oryzaephilus surinamensis* L., etc.) have been a serious problem in Clinton and Benton oats, two new varieties. The trouble can be attributed to the fact that the two varieties of oats referred to require a week or ten days longer to mature than other varieties, but growers are cutting them the same time as their other fields. Therefore, they are thrashed and stored at a rather high moisture content and thus are susceptible to infestation.

Annoying and Home Pests

Oats bugs (*Anaphothrips striatus* Osb.) were unusually abundant. Complaints referred not only to their irritations but also to the fact that they came through house screens and got into foods being prepared in kitchens.

The clover mite (*Bryobia praetiosa* Koch) was a very annoying pest the past spring, migrating into homes.

Hackberry is one tree commonly used to replace elms being killed by Dutch elm disease and phloem necrosis. This may result in the appearance of a new annoying pest, since it has been observed that the adult psyllids emerging from hackberry leaf galls get into homes, through screens, sometimes in enormous numbers.

Termites have been the subject of many inquiries as usual. Our principal concern is dealing with the questionable and fraudulent commercial operators who have taken thousands of dollars from Indiana citizens. At Purdue we have rather complete information on the dependable and questionable operators and can give information regarding them.

Powder post beetles (Lycertidae) are major pests throughout the state.

Cockroaches are still the number one household pests, judging from the number of inquiries received.

The cluster or attic fly (*Pollenia rudis* Fab.) was frequently reported last spring and already this fall reports are being received. As is generally known this fly is a parasite of earthworms and in seeking winter quarters, frequently enters homes where it remains **semi-dormant**, coming out as sluggish and annoying flies in the fall, winter or spring, as warmth (natural or artificial) activates them.

Miscellaneous Insects

During the past year or two the Entomology Department at Purdue has given more attention to legume seed production through the control of destructive insects and utilization of beneficial forms. These studies show real promise in increasing legume seed production. An interesting observation in connection with these studies is the apparent increase in bumble bees. For a number of years bumble bees, of major importance in red clover pollination, have been on the decrease, but in 1950, for reasons not yet known, the bumble bee population has definitely increased.