

The Ten Most Important Plant Feeding Pests in Indiana

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On first thought, it might seem not too difficult to prepare a list of the ten most important plant feeding insects in Indiana. The entomology staff at Purdue University, along with those in other states, was asked to prepare such a list for use by the Agricultural Research Service of the U. S. Department of Agriculture. Results of this nationwide survey are published in Volume 7, number 21 of the Cooperative Insect Report issued by the above named agency.

The Purdue Staff reached a general agreement on about twenty insects but beyond this there was marked disagreement as to those of most importance and the order in which they should be listed. This is what one would expect, since there is no scientific data on which to base such selections and it thus becomes largely a matter of personal opinion. Then, too, there are many sets of criteria which can be applied to the making of such a list. For example, what is an important insect? Should the list be confined to individual species, or should it include closely related groups such as cutworms and aphids? Would not a minor pest of a widely grown crop such as corn, be more important than a major pest of a minor crop? Are control measures available and, if so, how practical are they and to what extent are they used? Since insect populations fluctuate widely, should the selections be based on a single year or on a period of years? Should related forms, such as mites, be included? How important are shade trees and plants of an aesthetic value in comparison with those upon which people depend for a living? These are only a few of the criteria considered, but be as it may, here is our list of insects (and one mite) along with some reasons for including them.

1. **Corn Earworm** *Heliothis zea* (Boddie)—This pest is of major importance on a widely grown crop. It also attacks tomatoes and tobacco in this area. It maintains a high level of abundance, and on field corn no practical control measures are available.

2. **Potato Leafhopper** *Empoasca fabae* (Harr.)—This is a general feeder responsible for most alfalfa yellowing and "tip burn" or "hopper blight" on potatoes. It is also an important pest of apples, soybeans, clover, garden beans and many flowers and shrubs.

3. **European Corn Borer** *Pyrausta nubilalis* (Hbn.)—Corn borer populations and damage fluctuate greatly from year to year, but it is difficult to exclude this pest because of the great importance of corn to the economy of Indiana.

4. **Cutworms** family Noctuidae—These insects were considered as a group because of their close relationship and similarity of habits and control. They are general feeders, more or less abundant every year,

and damage many important crops including corn, legumes, pastures, vegetables and tobacco.

5. **Smaller European Elm Bark Beetle** *Scolytus multistriatus* (Marsh.)—This insect is the primary vector of the Dutch elm disease and is therefore indirectly responsible for the vast sums of time and money now being spent for the removal and replacement of diseased trees.

6. **Meadow Spittlebug** *Philaenus leucophthalmus* (L.)—The spittlebug is a major pest of alfalfa and clover and sometimes causes losses ranging up to 50 percent of the crop. It is not difficult to control and many crop sprayers have been purchased with this use in mind. The spittlebug is also an important pest of strawberries.

7. **Two-Spotted Spider Mite** *Tetranychus telarius* (L.)—This mite is the one commonly referred to as the "red spider". It is a general feeder and causes extensive damage to apples and to a variety of trees, shrubs, small fruits, vegetables and flowers.

8. **Coddling Moth** *Carpocapsa pomonella* (L.)—This insect is responsible for a great majority of "wormy apples". It is a specialized feeder on a minor crop but was included because it usually destroys the crop in both home and commercial orchards unless time-consuming and costly control measures are applied.

9. **Hessian Fly** *Phytophaga destructor* (Say)—This pest of wheat is always present and is held in check by a general observance of the fly free date for seeding wheat. Even so, it causes considerable damage in some years.

10. **Aphids family Aphididae**—Here again, aphids are considered as a group and as such they are among the most common insects in Indiana. The various species feed on a variety of important crops or plants including legumes, corn, vegetables, fruits, trees, shrubs and flowers.