COMMON SMALL GRAIN INSECTS

For safe and effective use of insecticides, always identify the problem correctly.

1. Cereal leaf beetle adult, eggs, larva, and damage
2. Greenbug and damage
3. Thrips (greatly enlarged)
4. Hessian fly larva, and puparium showing location behind lower leaf sheaths
5. Armyworm
6. Grasshopper
7. Chinch bug nymphs and adult, and adult greatly enlarged
8. Wheat stem maggot
9. Wheat stem sawfly
10. Common stalk borer
11. Wireworm and damage to seed

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COMMON SMALL GRAIN INSECTS OF INDIANA

1. CEREAL LEAF BEETLE, *Oulema melanopus* (Linnaeus).
The cereal leaf beetle is primarily a pest of oats but also feeds on wheat and other plants of the grass family. The beetles leave hibernation in early spring and fly to wheat, barley and wild grasses to feed. When spring-seeded oats come up, they move into this crop where they continue to feed and lay most of their eggs. The eggs hatch into slug-like larvae, which skeletonize the leaves and do the most damage. When mature, these larvae pulate in the soil and emerge as beetles in June and July. The beetles soon become inactive and go through periods of summer and winter hibernations until the following spring.

2. GREENBUG, *Schizaphis graminum* (Rondani). This grain aphid feeds on grain sorghum, wheat and other small grains but is only a sporadic pest in Indiana. Most of the damage occurs in sorghum and wheat-producing states west of the Mississippi River. The aphids suck sap from the plants and inject a toxic saliva into the wounds which discolors and destroys the plant tissues. Complete loss of the crop may result. Other species of aphids also feed on small grains. For control in grain sorghum, see E-69.

3. THRIPS, Order Thysanoptera. Several species of thrips feed on small grains, but they seldom do enough damage to justify treatment. They rasp or scratch the plant surface and feed on the juices that ooze from the wounds. Discoloration and wilting result, especially if plants already suffer from lack of moisture. Thrips are very tiny insects. Some species will crawl on people and are referred to as “oats bugs.”

4. HESSIAN FLY, *Mayetiola destructor* (Say). At one time Hessian fly was a serious pest of wheat, but in recent years damage has been minimized by widespread use of resistant varieties. The Hessian fly has at least two generations each year. One attacks wheat in the fall making plants stunted, abnormal in growth and subject to winter kill. Another generation attacks in the spring, resulting in broken straws, poorly-filled heads and reduced yields. Damage is done by the larvae. Both larvae and the brown puparia (flaxseeds) are found by stripping away the lower leaf sheaths. Sometimes additional generations develop on volunteer wheat.

5. ARMYWORM, *Pseudaletia unipuncta* (Haworth). Armyworms are always present, but in some years they occur in outbreak numbers on individual farms and in individual fields. Infestations in grain fields are most likely to develop if the plants are lodged or if the soil is covered with plant debris. The insects may also migrate into grain fields from pastures and grassy areas where eggs are also laid. Damage usually occurs during the last half of May and June. The worms first strip the leaves from small grain plants but will eat the heads if worm populations are heavy. Armyworms also feed on other plants of the grass family. For control, see E-57.

6. GRASSHOPPER, Family Acrididae. Grasshoppers are mainly a problem in spring wheat-growing areas. They seldom cause trouble in Indiana, because small grains are harvested before grasshoppers are large enough to do much damage and because wheat comes up in the fall after most of the insects have disappeared. For control, see E-19.

7. CHINCH BUG, *Blissus leucopterus leucopterus* (Say). Chinch bugs are most likely to occur in central Indiana. The spring generation develops in small grain especially during dry seasons and in areas of the field where the stand is thin and poor. The bugs feed by sucking sap from the plants. When grain matures and no longer provides sufficient food, the bugs will leave, crawling into fence rows, grass pastures or corn fields. A second generation is produced each year but is widely scattered and the bugs are seldom concentrated in any one crop.

8. WHEAT STEM MAGGOT, *Meromyza americana* Fitch. The wheat stem maggot is a minor small grain pest in Indiana. During the spring and early summer pale green maggots bore in the upper part of the stems, causing the heads to turn white and die. A fall generation infests the lower part of the stems or crown of the plant, causing injury similar to that of the fall generation Hessian fly.

9. WHEAT STEM SAWFLY, *Cephus cinctus* Norton. This is also a minor pest in Indiana. It is much more serious in the northern wheat-growing areas west of the Mississippi River. In Indiana, wireworms do feed on the roots of small grains especially those planted on land that was previously in sod. Damage, however, is minor. The insects require from 3 to 5 years to complete their growth and are most common in muck and other loose-textured soils. Adults of wireworms are the common “click beetles.”

Current Control Information

The information and color illustrations presented here are designed to help you correctly identify some common grain insects found in Indiana. These insects and the problems they cause do not change, but the methods of dealing with them do. Therefore, Purdue University Extension entomologist have prepared the following publications to keep you up-to-date on the latest recommended control methods and materials.

E-19, Grasshoppers
E-57, Armyworm and Fall Armyworm
E-69, Greenbug on Grain Sorghum

Single copies of these publications, revised periodically, may be obtained by Indiana residents, from their local Indiana county Extension office, or from the Publications Mailing Room, 301 South 2nd Street, Lafayette, IN 47905-1092.

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