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COMMON SMALL GRAIN INSECTS

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



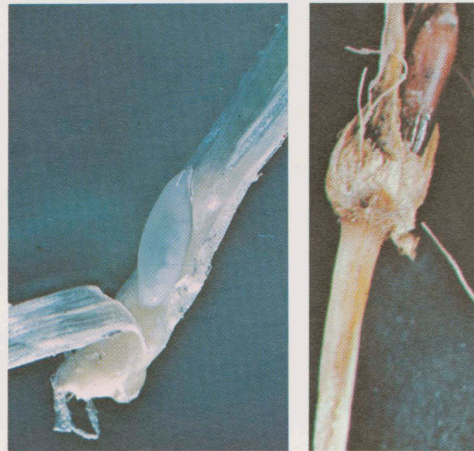
1. Cereal leaf beetle adult, eggs, larva, and damage



2. Greenbug and damage



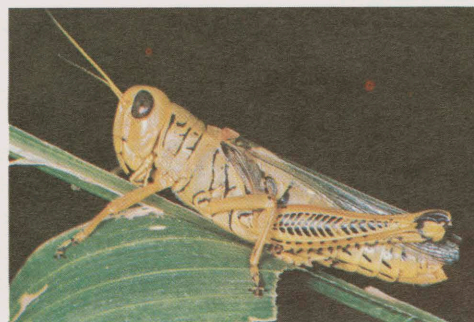
3. Thrips (greatly enlarged)



4. Hessian fly larva, and puparium showing location behind lower leaf sheaths



5. Armyworm



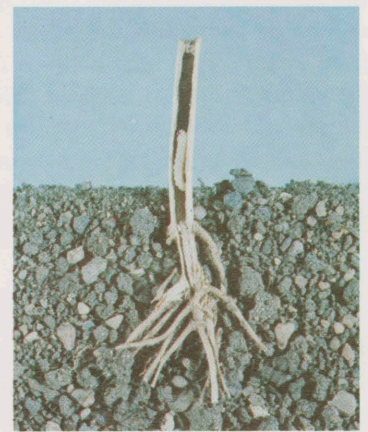
6. Grasshopper



7. Chinch bug nymphs and adult, and adult greatly enlarged



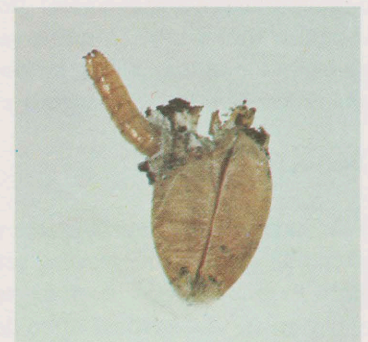
8. Wheat stem maggot



9. Wheat stem sawfly



10. Common stalk borer



11. Wireworm and damage to seed

B. H. Kantack, Ext. Entomologist
W. L. Berndt, Ext. Pesticide Specialist

1. Cereal Leaf Beetle

Not known to occur in South Dakota, this insect is primarily a pest of oats but feeds on wheat and other plants in the grass family. Adult beetles hibernate, overwinter, and move to wheat, barley, and wild grasses to feed early in the spring. The slug-like larvae skeletonize leaves and do the bulk of the damage. Larvae pupate in the soil and beetles emerge during June and July. Adult beetles then become inactive and go through summer and winter hibernation periods becoming active in the spring.

2. Greenbug

Greenbugs feed on all the small grains (sorghum) and many wild and cultivated grasses in an area stretching from Texas into South Dakota. This aphid sucks sap from the plants and while feeding, injects a toxic saliva which destroys the plant tissue. Injured plants turn yellow and die. Complete loss of the crop often results. The greenbug is the most important aphid that attacks small grain in South Dakota.

3. Thrips

Thrips are a minor pest in South Dakota although there are several species that feed on small grain. Economic injury by thrips to barley does occur. Thrips feed by rasping or scraping the plant leaf surface and then feed on the juices that ooze from the wounds. Discoloration and wilting result. Damage appears more severe during dry seasons.

4. Hessian Fly

Hessian fly has been a serious pest of wheat but damage has been reduced by use of resistant wheat varieties. There are at least two generations, and sometimes more, of this insect each year. Wheat plants are attacked in the fall causing stunting and abnormal growth, which in turn increases winter kill. A spring generation attacks the plants in the spring causing broken straws, unfilled heads, and reduced yields. Damage is caused by the larvae.

5. Armyworm

Armyworm populations fluctuate with destructive numbers occurring during some growing seasons. Infestation in grain fields often arise from migration from pasture or grassy areas. Infestations often develop in grain fields where heavy growth and lodging are present. All grass crops are attacked. Under hunger stress worms will feed on many other plants.

6. Grasshopper

Grasshoppers are a problem on both spring and fall-sown small grains. Severe injury is frequently caused by grasshoppers eating off the bracts or cutting off the newly formed heads. Winter wheat fields are subjected to injury each fall in South Dakota. Severe damage in field borders is quite common where control measures are not taken.

7. Chinch Bug

This insect is of little economic importance in S.D. during periods of normal rainfall; it usually requires 2 or 3 years of less than normal precipitation to trigger a build-up. The adult insect overwinters and a spring generation develops in small grain fields. Bugs suck sap from plants. As grain matures insects migrate to adjacent corn fields, pastures, and fence rows.

8. Wheat Stem Maggot

Not a major insect pest, but this maggot is present in S.D. each year. During spring and early summer maggots bore in the plant stems and cause heads to turn white and die. Damage caused by the fall infestation resembles hessian fly injury. Principal host plants among cultivated crops are: wheat, rye, barley, oats, bluegrass, timothy grass, and wild grasses.

9. Wheat Stem Sawfly

This native grass-feeding sawfly has become a pest of small grains in the northern wheat belt of S.D. especially on wheat, spring rye, barley, and others. Wheat infested by the sawfly shows fallen straw resembling injury by hessian fly or jointworm. Examination of infested straw will show the inside filled with fine sawdust--like cuttings, in which a wrinkled-bodied, brown-headed larva 1/3 to 1/2 inch long, pale yellow in color, will be found. Larvae are nearly legless and have a short pointed projection at the tail end.

10. Common Stalk Borer

This insect will attack almost any plant with a soft stem of sufficient size to shelter its body. Young larvae enter small grain plant stems causing them to wilt and die. Injury is usually confined to the outer edge of a field and very seldom are populations of sufficient magnitude to cause economic damage.

11. Wireworm

Wireworms are destructive to nearly all cultivated crops especially corn and grasses and all small grains. Wheat wireworms have a 4-year or longer life cycle. These insects attack the seeds--eat out the germ and hollow out the seed completely. The worms also bore into underground portions of the stems causing surviving plants to wither and die. Injury from this insect can be severe.