

South Dakota State University

# Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange

---

SDSU Extension Fact Sheets

SDSU Extension

---

1968

## Corn Insects – Below Ground

B. H. Kantack

Wayne L. Berndt

Follow this and additional works at: [https://openprairie.sdstate.edu/extension\\_fact](https://openprairie.sdstate.edu/extension_fact)

---

### Recommended Citation

Kantack, B. H. and Berndt, Wayne L., "Corn Insects – Below Ground" (1968). *SDSU Extension Fact Sheets*. 1332.

[https://openprairie.sdstate.edu/extension\\_fact/1332](https://openprairie.sdstate.edu/extension_fact/1332)

This Fact Sheet is brought to you for free and open access by the SDSU Extension at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in SDSU Extension Fact Sheets by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact [michael.biondo@sdstate.edu](mailto:michael.biondo@sdstate.edu).

# Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



For current policies and practices, contact SDSU Extension

Website: [extension.sdstate.edu](http://extension.sdstate.edu)

Phone: 605-688-4792

Email: [sdsu.extension@sdstate.edu](mailto:sdsu.extension@sdstate.edu)

SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture.

SOUTH DAKOTA  
STATE UNIVERSITY  
SEP 9 1969  
LIBRARY

# CORN INSECTS—BELOW GROUND

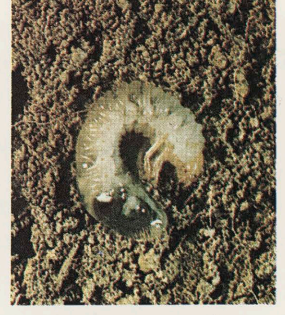
For safe and effective use of insecticides, always identify the problem correctly.



2. Corn rootworm larva



5. Wireworm



6. White grub



3. "Goose-neck" symptoms of corn rootworm infestation



7. Black cutworm



8. Corn root aphid



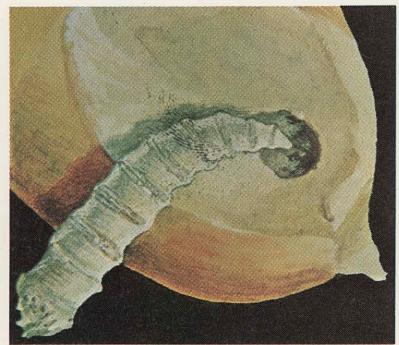
1. Corn rootworm adults (top-bottom: Northern, Western and Southern)



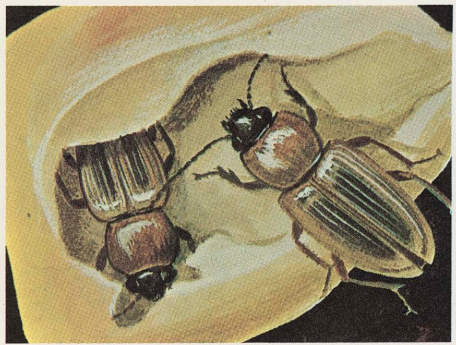
4. Corn rootworm damage



9. Grape colaspis and damage



10. Seed corn maggot



11. Seed corn beetle



12. Billbug (feeds on seedling corn plants below ground; holes in lower leaves of larger corn are evidence of earlier feeding)

## CORN INSECTS - BELOW GROUND

By B. H. Kantack, Extension Entomologist, and Wayne L. Bemdt, Extension Pesticide Specialist

1. CORN ROOTWORM ADULTS, Diabrotica spp. These beetles lay eggs which overwinter in the soil, and the larvae feed on corn roots. The western and northern species account for most of the damage in South Dakota. The southern species is a minor pest on corn and unlike the western and northern species overwinters as an adult in states to the south. The northern and western corn rootworm beetles lay eggs in late August and September. Eggs hatch the following June and July. The larvae feed on corn roots for 3 to 4 weeks, then pupate in the soil and change into beetles. These beetles emerge in July and August, feed on pollen and corn silks, lay their eggs and die.
2. CORN ROOTWORM LARVAE. The larvae of all three rootworm species are alike in appearance. When mature they are approximately 1/2 to 5/8 inch long and cream-white. The head is brown and a dark brown spot is visible on the posterior end. Feeding occurs on the corn roots and eventually the entire root system can be destroyed.
3. "GOOSE-NECK." These symptoms may result from rootworm damage to corn. Partial or complete destruction of the corn plant's root system allows the stalk to lean or be blown over. Then, if enough roots are present or new roots regenerated, the corn plants again try to grow upright. This results in curvature or goose-necking symptoms shown by the stalks. Damaged plants produce poor ears and lodged or leaning plants make harvesting operations difficult.
4. CORN ROOTWORM DAMAGE. Damage by corn rootworm larvae can cause severe yield reductions. The root system is often completely destroyed in heavily infested fields as the injured plant roots are usually attacked by disease organisms following rootworm injury. Losses resulting from a rootworm infestation may range from a light yield reduction to total loss of the crop.
5. WIREWORMS, Family Elateridae. Most wireworm larvae are usually hard, dark-brown, smooth wire-like worms varying from 1/2 to 1 1/2 inches long when full grown. Other species are white to yellowish and soft in texture. Wireworms are especially destructive to corn and grasses but small grain is also attacked. Damage is usually most severe during the first one or two crop years following sod. Adult beetles live 10 to 12 months and the larvae require 2 to 6 years in the soil to mature, depending on the species. Wireworms cause injury by eating the seeds prior to germination and by eating the roots and often destroying the growing point of developing plants. Feeding may result in stunting or death of the plants.
6. WHITE GRUBS, Phyllophaga spp. Adults are commonly called May beetles or June bugs. There are numerous species of white grubs, however, most of the species damaging corn have a 3-year life cycle. These beetle larvae (grubs) build up in uncultivated land. Severe damage often occurs on new corn plantings following sod. Corn planted on land under continuous cultivation is usually not severely injured by this insect. White grubs do not attack the seed but feed on the developing roots. Grub feeding can kill or cause severe stunting of young plants.
7. BLACK CUTWORM, Agrotis ipsilon (Hufnagel). There are a number of species of cutworm, however, the black cutworm is the most common species attacking corn in South Dakota. Although the black cutworm can be found anywhere, this species is more common in heavier black soils in river bottoms and lower, poorly drained areas in the fields. They usually cut the plants off below the soil surface. Cutworms can usually be found by digging in the soil near damaged plants. The black cutworms overwinter as partially grown larvae and attain a length of nearly 2 inches before pupating and changing into the adult moths.
8. CORN ROOT APHID, Anuraphis maidiradicis (Forbes). Corn infested by the corn root aphid germinates normally and reaches a height of 3 to 10 inches. Growth is then retarded and the plant leaves become yellow or reddish. The root aphids are about the size of a pin head; they suck sap from the plant. In order to exist this aphid needs the help of a small ant called the Cornfield Ant. These ants place the aphids on the corn roots and feed on the honeydew produced by the aphids. Many small ant hills around corn plants are a good indication of a root aphid infestation. This aphid is usually more prevalent on light soils during drier years.
9. GRAPE COLASPIS, Colaspis flavida (Say). Corn planted on clover sod and to a lesser extent other legumes will sometimes wilt when 6 to 10 inches high. The plants may die or just be retarded in growth. This insect is a curved, fat bodied, short legged grub about 1/8 to 1/6 inch long when full grown. The adult is a small pale brown beetle.
10. SEED CORN MAGGOT, Hylemya platura (Meigen). Seeds attacked by the seed corn maggot usually fail to germinate or if germination occurs the plants are weak and retarded. Injury is usually most severe on wet soils high in organic matter. Early planted fields are often more subject to attack.
11. SEED CORN BEETLE, Agonoderus lecontei (Chaudoir). This insect attacks seeds before they sprout. Damage is usually more severe where cold weather has delayed germination or low vitality seed was planted.
12. BILLBUG, Sphenophorus spp. Adult billbugs injure corn plants by feeding on the seedling plants. The larvae or grubs of these beetles feed on the lower stalks. Adults feed on the seedling plants just below ground level and when the leaves unfold the injury is evident.

For further information on control of these pests consult your local county Extension agent, or the Extension Service, South Dakota State University, Brookings, South Dakota 57006.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. John T. Stone, Director of Extension, South Dakota State University, Brookings 57006.