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# The Southwestern Corn Borer

Circular 424

EXTENSION SERVICE - OKLAHOMA A AND M. COLLEGE  
SHAWNEE GROVE, *Disgostomy*  
Stillwater, Oklahoma

# THE SOUTHWESTERN CORN BORER\*

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The southwestern corn borer has become one of Oklahoma's serious corn pests in recent years. A native of Mexico, this pest entered Arizona and New Mexico about 1913, spread northeastward and is now firmly established in three-fifths of Oklahoma. In 1931, it was found in Texas and Cimarron Counties for the first time. In 1933 it did serious damage to corn in the vicinity of Boise City. Since then it has spread over the western two-thirds of Kansas and in two counties in Nebraska. It is known to be as far east in Oklahoma as eastern Pawnee County and in the vicinity of Seminole in Seminole County. The spread has been faster during rainy years than during dry ones.

## DAMAGE

The injury is caused principally by the larval or worm stage of this insect feeding within and girdling the corn stalks. In some fields from 80 to 100 percent of the stalks are infested. Many stalks break over during windy weather and much of the corn is lost. Damage is also done to the foliage earlier in the season. Late corn is often damaged by the borer feeding into the terminal bud causing what is known as "dead heart." The white terminal leaves are evidence of the cut or injured bud.

## PLANTS ATTACKED

Field corn is the principal plant attacked; however, the southwestern corn borer will feed upon sweet corn, pop corn and sorghums, both forage and grain types. The damage to sorghums, broom corn, Johnson grass and sudan grass is usually light and not of much economic importance.

## LIFE CYCLE

The southwestern corn borer passes the winter in the larval or worm stage in the lower portion of the stubble, usually one or more inches below the surface of the ground. The larva pupates in May or June. The moths emerge from late May until the middle of June. The moths are dingy white in color and about two-thirds inch long. They remain hidden during the day but are quite active at night. Soon after the moths emerge, they mate and begin laying eggs on the leaves and

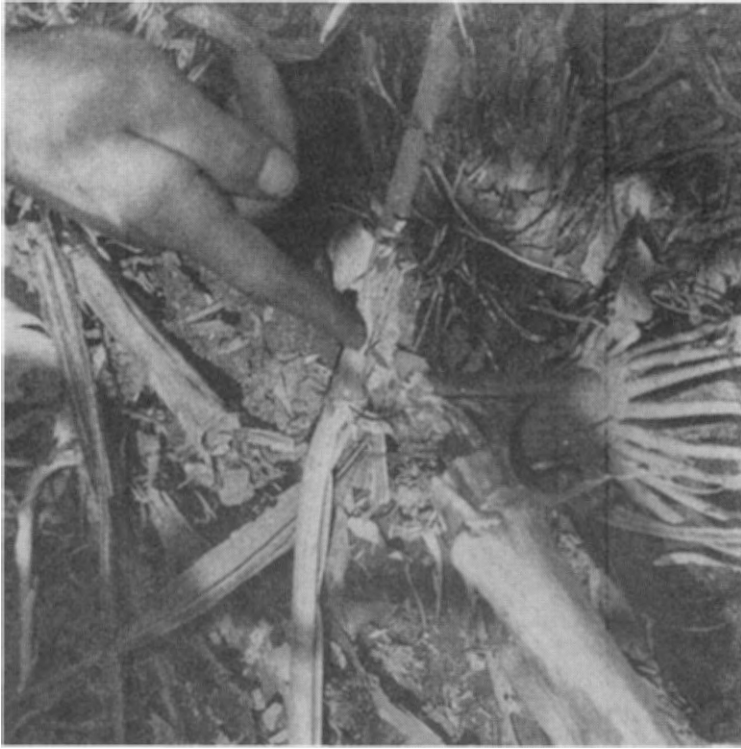
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\* *Diatraea grandiosella* Dyar.



stems of the growing corn. The eggs hatch within a few days into tiny, dull white borers with regular patterns of black spots. They first feed on the leaves. Later they enter the stalk where they complete their growth, pupate and emerge as moths to lay eggs for the second generation. This is the brood that causes the most damage.

After feeding on the leaves and entering the stalk, the borers of the second generation begin to tunnel toward the lower portion of the plant and finally end up in the corn stubble where they over-winter. The overwintered borers lack the black spots that are so characteristic of the borers working in the plants during the summer.



## CONTROL

Several methods of control have been recommended for controlling this pest. However, none are entirely satisfactory.

1. Substitute sorghums for corn in those sections of the state where this is practical.
2. Plant early and plant an early maturing variety. This tends to decrease "dead heart" caused by first generation borers.
3. Practice low cutting of stalks when used for silage or fodder.
4. Listing out the corn stubble gives promise as a method of control. The stubble should be left exposed during winter. This is practicable on fields that do not blow.
5. The one-way disk cultivator throws the stubble to the surface and at the same time cuts and splits many of the stalks. This practice has proved satisfactory in some sections of the county.

There is some promise that a variety may be developed that is resistant to the damage of the southwestern corn borer.