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Sugarcane beetle in corn

Sudan Gyawaly, Graduate Student; Curt A. Laub, Research Associate, and Roger R. Youngman, Professor and Extension Specialist

Department of Entomology; Virginia Tech

Coleoptera: Scarabaeidae, *Euetheola humilis* (Burmeister)

Complete metamorphosis: egg, larva, pupa, adult

Description

Sugarcane beetle, also known as rough-headed corn stalk beetle, is a stout dome-shaped beetle about ½ inch long (Fig. 1). The beetle is dull black in color and has numerous small dots on the thorax and wing cover. The forelegs of the beetle are mole-like and are used for digging through the soil. The eggs are oval, white, smooth and about 0.078 inch in diameter when fully developed. The larvae are called white grubs. The grubs have a white body, red head capsule and six yellowish legs. The mature grubs are about 1¼ inch long and curl to a C-shape when disturbed. The pupa is about ¾ inch in length. The pupa is white initially but changes to pale brown.

Fig.1. Adult sugarcane beetle

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Life cycle

The sugarcane beetle completes one generation per year and the adult is the overwintering stage. The adult is responsible for causing the most damage to plants. Adults become active as temperature begins to increase in late April or early May. Adults may remain in the same field or fly to other areas depending upon the availability of food. They mate and lay eggs singly or in clusters of 3–4 in the soil. Eggs are typically laid in early June, and hatch in about 2 weeks. The grubs are commonly found in midsummer and take about 2 months to fully mature. The pupal stage lasts for about 2 weeks with adult emergence in mid-September.

Host plants

The common hosts of the beetle include corn, sugarcane and rice. The sugarcane beetle is reported to attack other plants such as sweet potato, turfgrass, strawberry, cotton, rose and wild grasses.

Damage

The adults feed mainly on roots and in the crowns of corn plants. However, they will bore in the stalk at or just below ground level giving the stalk a ragged appearance (Fig. 2). Injured plants may show yellowish stripes on leaves that are similar to nutrient deficiency (Fig. 3). The feeding may eventually cause plants to wilt, and some plants will die if damage is serious enough. The beetles generally stop feeding when corn reaches a height of about 18 inches. Sugarcane beetle larvae feed on decaying plant material.

Fig. 2. Sugarcane beetle and feeding on corn seedling	**Fig. 3. Damage symptom on corn leaves**
	

Distribution

The beetle is distributed widely in gulf coast states. In Virginia, it mainly occurs in the eastern part of the state.

Pest management

Corn planted in old sod fields are at higher risk to sugarcane beetle damage. Avoidance of these fields may help reduce the damage.

Also, combining a high rate of a seed treatment (e.g. neonicotinoid) with an in-furrow treatment (e.g. pyrethroids and organophosphates) is recommended for sugarcane beetle control (North Carolina Agricultural Chemicals Manual).

Resources:

Anonymous 2012. North Carolina Agricultural Chemicals Manual.

Murillo A. C. 2011. A Study of the Sugarcane Beetle (Coleoptera: Scarabaeidae) in North Carolina Turfgrass. MS Thesis. NCSU.

Phillips, W. J., Fox, H. 1917. The rough-headed corn stalk beetle in the southern states and its control. U.S. Dept. Agr. Farmers' Bul. 875.

Smith, T. P. 2006. Biology and chemical ecology of the sugarcane beetle and integrated pest management of sweet potato soil insects in Louisiana. Ph.D. Dissertation, LSU.

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