

Are You Eating My Crops? 6: Black maize beetle

The black maize beetle (*Heteronychus arator*) is a pest to pasturelands, turf, and agricultural crops in Australia, New Zealand, and Africa, and is the sixth headliner in our 12-month series called 'Are you eating my crops?' Individual pests chosen for this series have not yet been reported in Texas, but are on the 'Watch List' due to their high level of pest importance or risk due to host availability. During this series we will cover several different crop pests, what to look for, and what they look like.

Adult black maize beetles are between 12-15 mm long, with a shiny black topside and a reddish-brown underside. The adult is the main pest stage, is the only aboveground stage, and is capable of flight. The entire rest of the lifecycle is spent below ground. Eggs are white, oval, and about 1.8 mm long at the time oviposition. As they develop, they will become larger and rounder. Females lay eggs individually at a soil depth of 1-5 cm. Females will lay between 12 to 20 eggs. Eggs hatch after about 20 days. There are three larval instar stages, measuring 1.5 mm, 2.4 mm, and 4.0 mm respectively. The third instar can grow to 25 mm (about 1 inch) when fully developed. The grub-like larvae are creamy white with a brown head and hind segments. They have three pairs of legs and resemble white "curl grubs". Larvae eat plant roots and underground crops, potentially causing damage to turf, horticulture crops (like potatoes), and ornamentals. The preferred host of the larvae seems to be turf grasses.

Black maize beetles cause significant damage to corn, grapes, potatoes, small grains, sugarcane, and turf grasses. In corn, the beetles will chew into the stems of the growing plant just below the soil surface, causing rapid wilt of the growing center leaves and death of the plant. The damaged area of the plant has a frayed or shredded appearance caused by the beetles consuming the soft tissue, but leaving the fibrous material behind. This damage can distinguish it from the damage caused by cutworms. In grapes, the beetle will chew the cortex of the stem just below the soils surface, causing 'ringbarking' of the vine, wilting, and vine collapse. Ringbarking will cause growth distortion and is potentially fatal to the plant.

Black maize beetles can be mistaken for many other dark colored beetles, especially other scarab beetles. If you have question or concerns regarding the headliners, OR you believe you have identified a black maize beetle infestation, contact invasives@shsu.edu for further instructions.



Illustration of each stage of the life cycle of the black maize beetle (*Heteronychus arator*). NSW Agriculture



Black maize beetle. Pest and Diseases Image Library.



Larval damage

Black beetle larvae damage to tall fescue. Credit: oregonstate.edu, AgResearch