

Heteronychus arator

Black Maize Beetle

**NOT KNOWN TO
OCCUR IN IDAHO**



Photo by Hanna Royals, Screening Aids, USDA APHIS ITP, Bugwood.org

HOSTS

Host concerns for Idaho would be barley, wheat, corn, grape, potato and possibly turf.

LIFE HISTORY

Eggs: White, oval, and measuring approximately 1.8 mm long at time of oviposition. Eggs grow larger through development and become more round in shape. Eggs are laid singly at a soil depth of 1 to 5 cm. Females lay between 12 to 20 eggs total. In the field eggs hatch after approximately 20 days.

Larvae: There are three larval instars. Larvae are creamy white except for the brown head capsule and hind segments of the abdomen, which appear dark gray/blue green, where the contents of the gut (plant roots and soil) show through the body wall. The head capsule is smooth, measuring 1.5 mm, 2.4 mm, and 4.0 mm at each respective instar. The third instar is approximately 25 mm long when fully developed. Black maize beetle larvae are soil-dwelling and resemble white 'curl grubs', with three pairs of easily visible legs on the thorax.

Pupa: The larvae, when fully grown, enter a short-lived pupal stage, which measures approximately 15 mm long and is typically coleopteran in form (cylindrical shape), initially pale yellow, but becoming reddish-brown nearer to the time of emergence.

Adult: Adults are 12 to 15 mm long; shiny black dorsally and reddish-brown ventrally. The females are slightly larger than males. Males and females are readily differentiated by the shape of the foreleg tarsus

DAMAGE

The adult is considered the main pest stage attacking a wide variety of plants. However, larvae can cause damage to turf and underground crops, notably potato tubers. In corn, the beetles chew into the stems of the growing plants just below the soil surface, causing rapid wilt of the growing center leaves ('deadheart') and death of the plant. The damaged area of the stem has a frayed (shredded) appearance, which distinguishes it from the damage caused by cutworms. The fraying is caused by the beetles consuming the soft tissues but leaving the fibrous material. Beetles may attack the ears of lodged plants. On grape, significant damage is also caused by adults feeding on stem cortex below the soil surface which can cause wilting or death of the plants. The grubs (larvae) prefer to feed on organic matter in the soil but may cause some root damage.