Asiatic Garden Beetle

Pest Facts

Distribution

- Asiatic garden beetle (*Maladera castanea*) is a non-native species in North America that was introduced to the northeast U.S. from Japan in the 1920s.  
- Following its initial introduction, populations have spread through the Northeastern U.S. and parts of Eastern Canada, westward – as far as Kansas and Missouri, and southward – as far as Georgia and Alabama (Skelley, 2013).

Host Range

- Asiatic garden beetle has a wide host range – over 100 hosts are known, consisting primarily of perennial ornamentals.  
- It has historically been a pest of ornamentals and turf grass but can also damage vegetables and row crops, including corn, soybeans, and wheat.
- Asiatic garden beetle is also known to feed on several common weed species, including marestail, giant ragweed, chickweed, purple deadnettle, pokeweed, and Virginia creeper (DiFonzo, 2018; Pekarcik, 2018).

Natural Enemies

- Although there are naturally occurring diseases and nematodes that affect Asiatic garden beetle, there are no major native enemies of this imported pest.

Identification

Larvae in the soil

- Larvae are up to ½ inch long and can be identified most easily by the enlarged maxillary palps just behind the mouth parts. These are light-colored fleshy appendages that appear to be in constant motion (Figure 2).
- Asiatic garden beetle larvae also have a characteristic anal slit and semi-circular raster pattern under the tail.

Adults in soil or on foliage

- Adults are scarab-shaped, tan- or cinnamon-brown-colored beetles with a slight iridescent sheen. They are slightly smaller than Japanese beetles (about 5/16 to 3/8 inch in length).

Injury Symptoms and Impact on Crop

- Crop injury symptoms are primarily the result of larval root feeding. Symptoms closely resemble root feeding by other grub pests including annual and biennial white grubs and Japanese beetles in the spring.
- Larval feeding removes root hairs and may damage the mesocotyl between the seed and the main root system. This reduces early vigor until the affected plants can regrow an adequate root system.
- Root damage can cause stunting and discoloration of plants and can kill plants if severe enough. Stand losses of over 40% due to larval feeding have been observed (Pecarcik, 2018).
- Aboveground symptoms are often not visible until feeding has already been underway for several days.
- Heavy infestations are most common in sandy soils.
- Adult feeding is rarely a problem in row crops, but may be noticeable on nearby vegetable or ornamental foliage as feeding on the leaves (especially at night and particularly around the leaf edges).

Pest Status

- Asiatic garden beetle has historically been a sporadic pest of field crops.
- In recent years, however, it has become a more frequent pest of corn in Indiana, Michigan, and Ohio.
Scout for Asiatic garden beetle larvae in corn by digging around plants in the field during the early vegetative growth stages to look for signs of root feeding or presence of larvae.

- Focus scouting on plants that appear to be suffering some sort of stress. Damaged plants often appear stunted and purplish.
- Asiatic garden beetle is most prevalent in fields with sandy soil and damage often occurs in irregular patches.
- Root feeding ceases when larvae enter the pupal stage, typically around the end of May. Later-planted fields generally have a lower risk of root feeding damage.

- Asiatic garden beetle adults are active from June through September. They are nocturnal and attracted to outdoor lights and feed on nearby foliage. Monitor these locations to get a sense of relative population levels in an area.

Winter Survival

- Soil disturbance may promote larval mortality and predation to a low degree; thus, no-till may be conducive to higher survival.
- Dry soils that promote desiccation are least conducive to winter survival.

Weed Management

- Asiatic garden beetles appear to have a preference for several common weed species such as giant ragweed and marestail.
- Managing weed populations can help prevent them from acting as an attractant for egg-laying adults later in the growing season.
- Grubs feeding on weeds early in the season appear to continue feeding on the weeds even after a corn crop is established. Controlling these weeds with a herbicide application will force the feeding grubs to shift their feeding to the corn plants, which can cause a rapid escalation in damage to the corn crop.

Insecticides

- Data on insecticide efficacy for Asiatic garden beetle control in corn are limited. Insecticides labeled for corn rootworm control may provide suppression of Asiatic garden beetle. Check insecticide product labels for specific guidelines.
- Preliminary investigations suggest that high-rate insecticide seed treatments can provide protection against low to moderate feeding pressure, but further research is needed.
- Rescue treatments applied in a growing corn crop after damage has been detected are not likely to be effective.

References


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