Japanese Beetle (JB)

Description

The JB in adulthood (Figure 1) is roughly ½ inch (12mm) long and ¼ inch (6mm) wide. The body is oval shaped with a metallic green color and bronze outer wings. A key feature of the adult JB are the small white tufts of hair along the sides and rear of the abdomen. The eggs are about one millimeter, round-oval, and cream colored. The larvae (Figure 2) grow to about one inch (~25mm) long, are an off-white color, and have a C-shaped body. The pupa is generally the same size as a full adult and changes color from off-white to metallic green as it progresses.

Figure 1: JB Adults Feeding (Credit: Whitney Cranshaw CSU)

JB is typically brought into the state on out-of-state nursery stock and aboard aircraft from eastern US states. Incoming nursery stock must be preceded by a Compliance Agreement from the exporter, that ensures measures are taken to prevent the further spread of JB.

Figure 2: JB Larva (David Cappaert MSU)

Life Cycle

Eggs hatch in the early fall and the larvae remain underground feeding on roots until pupation in the late spring. The adults emerge during the summer months to feed on above ground plant material, returning to the soil to lay eggs in the late summer. Exact date ranges vary depending on weather. See Figure 3.

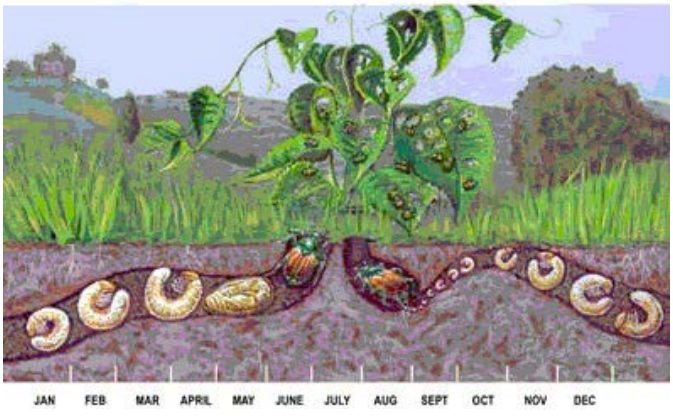

Figure 3: JB Life Cycle (Joel Floyd USDA, APHIS, PPQ)

Symptoms

Adult JB feed on leaves, flowers, and fruit. Their feeding pattern will leave a skeletal appearance to foliage they have targeted, as they consume the material in between the veins of the leaf. Adults prefer feeding in groups on plants in direct sunlight. Typical damage includes yellowing, wilting, defoliation, and even plant death.

Larvae prefer to feed on the roots of well maintained turfgrass, resulting in stunting, yellowing, and death. Symptoms may only arise after an infestation is already present.

Management

There are a wide variety of chemical options labeled for the control of JB, such as; imidacloprid, malathion, permethrin, and more. Consult your county or reservation Extension agent for information on which is best for the present situation. For biological control of JB, nematodes such as *Steinernema glaseri* and *Heterorhabditis bacteriophora* are commercially available as a form of JB larvae control. Additionally, JB traps can be used to monitor their movement patterns, and JB resistant plants can be selected to dissuade infestations. Some examples of resistant plants are Arborvitae (*Thuja occidentalis)*, Common chokecherry *(Prunus virginiana)*, Lilac *(Syringa vulgaris)*, and many more. Contact your Extension agent, or MDA Nursery/Quarantine specialist for a more complete list of resistant plants.

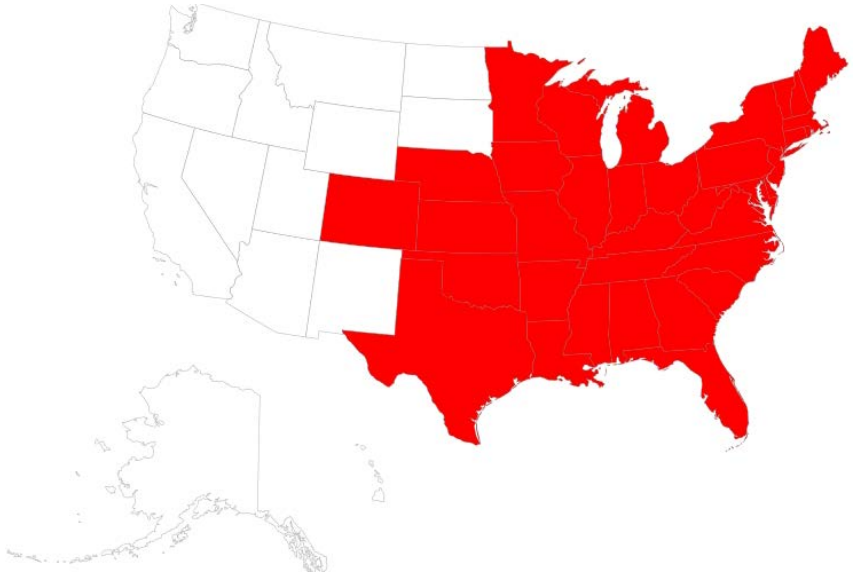

Figure 4: Map of states regulated by Montana Exterior Quarantine MTQ-2013-01 (Import Paperwork Required)

Currently, the states subject to quarantine requirements are Alabama, Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin. As well as the Canadian provinces of Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island.

Carson Thomas

Nursery/Quarantine Specialist

302 N. Roberts St. Helena, MT 59601

(406)444-3428

carson.thomas@mt.gov

agr.mt.gov/Topics/Nurseries

JB is currently found in the city of Billings and elsewhere in Yellowstone county, with occasional “hitchhikers” around the state. JB poses a massive threat to both native and horticultural interests, targeting more than 300 host species. If you believe you have found JB, report it to the Quarantine specialist. If possible, collect a sample and preserve it in rubbing alcohol for verification. Early detection is key to avoiding an outbreak.