

Japanese Beetle Pest Alert

A coordinated response to eradicate Japanese beetle in Vancouver

Japanese beetle (*Popillia japonica*) was found for the first time in B.C. in the False Creek area of Vancouver in 2017. Japanese beetle is an invasive, regulated pest that feeds on the roots of turf grass and foliage of more than 300 plant species including both food and landscape plants. If this pest spreads, it could cause damage to B.C.'s agricultural sector, as well as food and ornamental gardens and turf in lawns, parks, sports fields and golf courses.

The Ministry of Agriculture, Canadian Food Inspection Agency (CFIA), City of Vancouver, and other industry and non-governmental stakeholders are working together to respond to the detection of Japanese beetle.

Identification of Japanese Beetle

Adult beetles (Figure 1) are approximately 10 mm long. They are metallic green with bronze-coloured wing covers with white tufts of hair on along the sides and rear of the abdomen.

Larvae (Figure 2) are C-shaped creamy white grubs with a yellowish-brown head. They live in the soil and feed on grass roots, growing to a length of up to 25 mm by maturity. Japanese beetle grubs are very similar in appearance to other beetle grubs like European chafer.



Figure 1.

Japanese beetle adult

Photo courtesy David Cappaert, Bugwood.org



Figure 2.

Japanese beetle larva (grub)

Photo courtesy David Cappaert, Bugwood.org

Life Cycle

Japanese beetle has one generation per year. The timing of their life cycle in B.C. has not been fully determined yet but beetles are expected to emerge from the soil in late June to early July, with populations peaking in late July to August. They feed on fruit and foliage of many species of plants. Beetles begin flying when the temperature is about 21°C. Most flights are short distances, but the beetle is capable of flying up to 8 kilometres with the wind.

Over her life span of several weeks, a female beetle deposits up to 60 eggs in soil of moist lawns and other grassy areas, within 2-5 cm of the soil surface. Eggs hatch in about two weeks and the small larvae begin to feed on grass roots through the summer and fall. Larvae spend the winter from 5 to 31 cm below the surface and resume feeding in the spring. There are three larval stages or instars. Most pass the winter in the 3rd instar. Once larvae are full grown, they pupate in the soil in May or June for about two weeks before they emerge as adult beetles.

Hosts and Feeding Damage

Japanese beetle adults feed on the foliage and fruit of over 300 species of plants, including small fruits, tree fruits, vegetables, field crops, woody and herbaceous ornamentals and shade trees. Preferred hosts include many plants in the rose family such as peach, apple, apricot, cherry, plum, and rose, as well as maple, elm, hollyhock, London plane, grapes, corn, asparagus and blueberries. As such, establishment of Japanese beetle in B.C. has the potential to seriously impact agricultural crops, as well as cause damage to urban gardens and landscapes.

Beetles prefer to feed on plants exposed to direct sunlight, beginning at the top and working downward. They feed on the upper surface of foliage, chewing the tissue between the veins, leaving a lace-like skeleton (see Figure 3).

Japanese beetle larvae feed primarily on the roots of turfgrass, but will also feed on roots of other plants. Injured turf develops dead brown patches in late summer to fall. Affected turf can be easily lifted and pulled back to reveal the grubs beneath. Additional damage may be caused by birds or animals such as skunks and raccoons digging for grubs (Figure 4).



Figure 3.

Japanese beetle feeding damage. Photo courtesy Steven Katovich, USDA Forest Service, Bugwood.org



Figure 4.

Damage to turf caused by Japanese beetle larvae (grubs) feeding on roots. Photo courtesy M.G. Klein, USDA Agricultural Research Service, Bugwood.org

Eradication Program

The British Columbia Ministry of Agriculture is leading a coordinated effort to eradicate Japanese beetle in Vancouver, in cooperation with the Canadian Food Inspection Agency, the City of Vancouver, and other industry and non-governmental stakeholders. This cooperative program will involve several components, including:

- Surveillance - CFIA will be conducting an intensive trapping program for Japanese beetle in and around the infested area. This is important to determine where the beetle is present, and to monitor its spread.
- Movement Controls - CFIA has established a regulated area where the beetle is present. There will be movement restrictions on plant material, landscape waste and soil to help prevent spread of Japanese beetle out of the infested area.
- Treatments – A larvicide will be applied to turf in the infested areas to kill Japanese beetle larvae. The treatment will be applied manually by trained and licensed pest management specialists and will be as unobtrusive as possible.

Surveillance

CFIA will be conducting an intensive trapping program for Japanese beetle in and around the infested area, in addition to traps normally placed across Southern B.C. Trapping is important to determine where and when the beetle is present, and to monitor its spread over time. The traps (see Figure 5) contain a Japanese beetle attractant which is a combination of a floral lure and a pheromone. The traps and lures do not pose a risk to animals or humans.



Figure 5.

Japanese beetle trap

Movement Controls

As part of the coordinated response to the detection of Japanese beetle, the CFIA has established a regulated area for Japanese beetle around the False Creek area of Vancouver.

Effective until further notice, the movement of plant material and soil out of the regulated area is restricted:

- The movement of rooted plants and soil out of the regulated area is restricted all year round.
- The movement of above-ground plant parts (including grass clippings) out of the regulated area is restricted between June 15 and October 15, which is the flight period of the adult beetles.

For more information about the regulated area and details on how to obtain a movement certificate, refer to the

Treatments

The coordinated response for 2019 includes a single larvicide treatment of turfgrass on public and private lands within the treatment zone.

The Ministry of Agriculture is coordinating the treatment plan with the City of Vancouver. CFIA, Landscapers, and other stakeholders based on the identified priority areas.

The City of Vancouver and the Vancouver Parks Board will treat public lands with turf grass in and around where Japanese beetle has been detected.

The larvicide used to treat for this pest (Acelepyrn) is a "reduced risk pesticide" approved by Health Canada. The product is applied by ground application once a year, and the Japanese beetle larvae contact or ingest the chemical while they are feeding on turf and plant roots. Acelepyrn (chlorantraniliprole) was selected for the treatment due to its very low toxicity and favourable environmental profile. The larvicide targets root-eating grubs, and will not impact people, pets, mammals, birds, bees, butterflies or other plants and animals, including any mammals or birds that eat the treated grubs. The treatment will be applied manually by trained and licensed pest management specialists and will be as unobtrusive as possible.

What you can do to help

Report sightings of Japanese Beetle in British Columbia to the [Canadian Food Inspection Agency](#).

Do not remove, relocate or interfere with Japanese beetle traps.

Do not transport soil or plant parts out of the regulated area (as described under movement controls) without permission from the CFIA. You can also assist the CFIA by reporting all illegal movement of regulated materials.

Report Japanese Beetle

Report sightings of Japanese beetle in B.C. to the Canadian Food Inspection Agency:

Call 1-800-442-2342 or visit www.inspection.gc.ca/jb

Resources

[Japanese Beetle Factsheet](#) - Canadian Food Inspection Agency

[Japanese Beetle Infested Place Order for the City of Vancouver](#) - Canadian Food Inspection Agency

[Acelepryn Q & A](#) (PDF)

More information

For current information on the Cooperative Japanese Beetle Eradication Program, please visit the following websites:

[Canadian Food Inspection Agency](#)

[City of Vancouver](#)

[Invasive Species Council of BC](#)

AgriService BC

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Have a question? Call or email us.

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