

Asian Jumping Worms in Maine

What you should know...

Background

The invasive Asian jumping worm (*Amyntas agrestis*) has many common names, including Jersey wrigglers, crazy worms, and snake worms. They are currently found in the Southeast, along the Eastern Seaboard, and mid-Atlantic, Midwest, and some Northwestern states. Their impact here in New England is most concerning, as they live in the top layer of the soil and aggressively feed on leaf litter and soil organic matter, often damaging or displacing many other species of plants and animals. They get their name because of how they thrash around,” says Mac Callaham, a US Forest Service researcher specializing in soils. “They can flip themselves a foot off the ground.” They are considered non-native and invasive because they did not evolve with plants and animals in the U.S. and because they can harm other species in the ecosystem.

All earthworms found in Maine are non-native, having recolonized after the last glacial retreat, and most are harmful to forest ecosystems.

How can I tell I have them?

There are several ways to determine if you have Asian Jumping worms. First, European earthworms will move gently, side to side, in your hand, while a Jumping Worm will thrash about wildly. Second, when observing a European earthworm, the clitellum, a thick ring found in a worm's epidermis (skin), will be thick and bumpy. In contrast, the Jumping Worm's clitellum is smooth and even with the skin (see figures on the right, courtesy Wisconsin DNR).



Photo of Earthworm and Asian Jumping Clitellum; Asian Jumping worm clitellum on the bottom (photo courtesy Wisconsin DNR).



Top photo by Wisconsin Master Gardener, bottom photo by Holger Casselmann

How are they spread?

Since jumping worms live in the soil, they can be spread in compost, leaves, manure, mulch, potting mixes, potted plants, or balled and burlap trees and shrubs. Raking or blowing leaves can move and concentrate earthworms or their egg sacks, called cocoons. Some municipalities

collect fallen leaves from residents and then return them as compost. This, too, can spread the invasive worms. This may be one mechanism that can spread jumping worms in Maine. State of Maine Horticulturist Gary Fish reports that one take-home message seems to be “consumer beware” about any soil or soil amendments, like compost, loam, manure, potting mixes, wood mulch, and wood chips. Because the various intake streams for these products contain green plant material or animal residues, there is the possibility of contamination with worm cocoons, invasive plant seeds, or other pests. Gary further states, “I am not sure how these products could be made safer, except to deposit these materials on impervious surfaces and to visually inspect all of the product before offering for sale or mixing-in with other materials already onsite.” “Additionally, end-users could pile material on their site and simply observe/monitor for a year to see if anything bad emerges.”

Composting materials above 105 degrees F can kill worms and their cocoons. Still, if the heated materials are stored after cooling in an unprotected site, these previously heated materials can also be re-infested by jumping worms.

Other thoughts include asking generators to physically separate soil from the feedstock materials to help prevent the spread of jumping worms. Ultimately, it is up to the receiving facility to isolate incoming loads and visually inspect for Jumping Worm presence before releasing them for mixing or direct sale.

What do I do if I believe I have Jumping Worms?

First, report the worms using the Maine DACF Jumping Worm Report Form.

Use the QR below to access the report form. Unfortunately, no approved pesticides or other treatment is currently available to prevent or eradicate jumping worms. Research is ongoing by Dr. Josef Gorres, a University of Vermont Department of Plant and Soil Science professor, and others around the U.S. Prevention is the most effective action, and there are several things you can do to limit their presence.

To solarize, make a pile 6-8 inches high of organic material on a clear plastic sheet, allowing plenty of uncovered plastic on the outer edges. Cover with another piece of plastic, pulling up the edges from the bottom and tucking the upper piece below the bottom to prevent worms from escaping.

Leave the enclosed pile in the sun for 2-3 days. The internal temperature needs to exceed 105 degrees F to kill the jumping worms and their cocoons. Once materials are composted or solarized, they must be stored in concrete bunkers or other protective structures to prevent re-infestation.

References

Maine Jumping Worm website
<https://www.maine.gov/dacf/php/horticulture/jumpingworms.shtml>

[Jumping worms | Amyntas spp. | Wisconsin DNR](#)

<https://www.uvm.edu/news/extension/invasion-jumping-worms>

Questions?

For questions, please get in touch with Gary Fish, Maine State Horticulturist, at gary.fish@maine.gov or (207) 287-7545.

