



Asian Jumping Worms Wriggle as They Invade

These invasive worms can devastate productive forests and gardens.

by Phyllis Pugnetti for Yakima Valley Master Gardeners

Already a recognized threat from the Midwest to the Eastern Seaboard, these pests have none of the beneficial qualities of our native earthworms.

YOSHI KATAGIRI, MINNESOTA DEPARTMENT OF NATURAL RESOURCES PHOTO

Asian jumping worms are a pest that arrived in the eastern United States from Asia in the 1920s. They have gradually spread throughout the eastern states and have been moving slowly into the West. In recent years, they have been spotted in several states, including Oregon, where they have spread into six counties along the I-5 corridor. Earthworms can migrate 30 feet per year, while jumping worms can infest up to 17 acres in a single season. Although jumping worms are not a common pest in Washington, if you see them you should take immediate action.

Jumping worms are easily identified by their, snake-like slithering, violent thrashing, and jumping up to an inch into the air above the soil. They are glossy grey or brown in color and can grow up to eight inches long. They also can be identified by their clitellum, a band that circles the body of the worm that is milky white and flat, not bulging outward like

most other indigenous worms. Jumping worms are the only worm known to have a white clitellum.

Jumping worms have voracious appetites, outcompeting native worms for food. They can consume all the mulch and leaf litter on the surface of native areas, leaving behind bare soil. This allows invasive plants and animals to move into the area, altering native ecosystems. Jumping worms are equally destructive in home yards and gardens.

Native earthworm castings (excrement) contain extremely important microbes that help fight soil-borne diseases and repel pest insects. Their castings also improve soil structure and increase water holding capacity.

However, the gut in jumping worms is so different that the outcome is the opposite. When castings of jumping worms dry out they become hard gravel-like granules that don't readily re-absorb and hold water. This has a negative effect on overall soil structure.

Jumping worms are aggressive reproducers and will generate several new generations each year. They don't need a mate, because they have both male and female reproductive organs. They burrow into the soil laying tiny cocoons. The adult worms die during the winter, but their cocoons survive, hatch in spring, and start the cycle again.

Jumping worms can be easily seen when a mulch layer is raked aside. They move quickly, aggressively writhing and slithering side to side, and jumping up off the soil. If you find jumping worms, remove all mulch in the affected area of the garden and kill any worms that are left on top of the soil. Place both mulch and dead worms in a plastic garbage bag and *treat as garbage not yard waste*.

To deprive jumping worms of their food source, do not add new mulch to that area. To reduce the risk of spreading jumping worms, shake off the roots of shared or newly purchased plants. Buy bare root plants when possible. Never share compost, mulch, soil, or plants that come from a known infestation

area. When moving from one area of the yard to another, clean shoes, tools, and tires of garden equipment.

If jumping worms are contained in small areas, you can try heating the soil to sterilize it. Cover wet soil with clear plastic during the summer when daytime temperatures are high. Take soil temperature readings 3-4 inches deep, using a compost thermometer. When the temperature consistently remains above 104°F, for 3-5 days, both worms and cocoons will die. This method is fairly successful if worms are in small isolated areas of your yard. Unfortunately, winter weather in Yakima does not drop to the required -12°F which is necessary to winter-kill cocoons.

Currently, there are no effective chemical controls for jumping worms, although research is ongoing. Research at University of Wisconsin of organic methods shows some promise. Irrigating with a solution made of 1/3 cup dry mustard powder added to each gallon of water will irritate the worms, driving them to the soil surface where you can hand pick and kill. Additionally, diatomaceous earth turned into the top 2 inches of soil plus a thin layer added to the soil surface may have moderate results in killing worms.

Once soil is infested with jumping worms it is nearly impossible to eradicate this persistent pest, but you can take measures to decrease their population, limit their spread, and reduce the the damage they do to soil.

