DEPARTMENT OF NATURAL RESOURCES

# Best Practices for Disposing of Materials Infested with Jumping Worms (*Amynthas* and *Metaphire* species) for Nursery and Landscape Professionals

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Developed by the Minnesota Department of Natural Resources (DNR) and the Minnesota Pollution Control Agency (MPCA)

## Overview

Nursery and Landscape professionals need to dispose of landscape materials that are infested with jumping worms in ways that do not spread these invasive species to new areas. The following are recommendations for how to handle infested materials safely and legally to minimize the risk of spreading jumping worms.

**Whenever possible, the first and best option is to keep materials that may be infested with jumping worms on-site.** Keeping material on-site reduces the risk of spreading jumping worms to new areas.

If the infested material must be removed from a site, follow the Minnesota waste management hierarchy (Minnesota Statutes, section 115A.02, paragraph b). Options higher on the hierarchy are preferred from a waste management perspective. Following the hierarchy, the best option is to compost the material when an appropriate site is available; when composting is not feasible, the next option is to incinerate the material at a waste-to-energy (WTE) facility; the final option is landfilling. See below for material-specific disposal guidelines.

**Verify in advance whether a facility accepts material with jumping worms.** Such facilities will follow best practices that minimize the risk of further spread.

**Facility contacts:**

- Directory of compost sites
- Contact your county solid waste officer to find your closest waste-to-energy facility.
- Landfill contacts

## Yard Waste

- Yard waste is defined as garden wastes, leaves, lawn cuttings, weeds, shrub and tree waste, and prunings (Minnesota Statues, section 115A.03 Subd. 38). **Yard waste is prohibited from disposal in a waste-to-energy facility or landfill unless the Minnesota Pollution Control Agency (MPCA) authorizes disposal.**
- The best option is to keep the infested material on-site if possible.
- If infested yard waste must be removed from a site, the preferred management method is composting at a site that follows the process to further reduce pathogens (PFRP). The PFRP involves a combination of temperature (131°F or above), time, and turning on a schedule. When

properly implemented, this process is sufficient to kill jumping worms and their eggs and cocoons, which requires exposure to temperatures of at least 104° F for at least 3 days.
    - The MPCA maintains a directory of composting sites. Sites that compost food waste ("SSOM"= source-separated organic material) are required to meet PFRP standards. These sites appear as green dots on the MPCA map.
    - Sites that only compost yard waste are not required to follow PFRP, so they will need to verify that they meet PFRP before accepting the material. Bringing infested material to a site that does not meet PFRP standards could result in the spread of jumping worms to many more sites via infested compost. Ask the composting facility if they follow the Seal of Testing Assurance standards approved by the US Composting Council.
- If composting at a site that follows the PFRP is not feasible, the MPCA will need to authorize disposal via waste-to-energy or, if waste-to-energy is not feasible, via landfilling.
    - The MPCA requires verification from the Minnesota Department of Natural Resources (DNR) or the Minnesota Department of Agriculture (MDA) that jumping worms are present prior to authorizing disposal. Contact Laura Van Riper (Laura.Vanriper@state.mn.us) at the DNR with photos of the worms to ensure proper identification. Follow the DNR photo guidance below:
        - Send high resolution, clear photos of the worms. Rinse off the worm so that it is free of soil. Place the worm on a plain surface such as a piece of cardboard or pavement (tan and gray backgrounds work better than white backgrounds). Make sure the photos are in focus and have a clear view of the ring around the body (clitellum) in relation to the head as staff will count the body segments between the head and clitellum. Do not use the zoom feature on your phone as this decreases the clarity of the photo.
    - After verification, the DNR will coordinate with MPCA staff to obtain a disposal authorization letter.
    - Each county maintains a directory of waste haulers who can arrange disposal for a fee. Contact your county's solid waste administrator for assistance. Waste-to-energy is preferred over landfilling when possible. See page 1 for facility contact information.

## Soil, Sod, or Compost

- For sites with jumping worm-infested soil, sod or compost the best option is to keep the infested material on-site when possible.
- When the infested soil, sod or compost must be removed from a site:
    - Soil or compost without plant material is not considered yard waste and is not restricted from disposal. It can be disposed of in a landfill.
    - Each county maintains a directory of waste haulers who can arrange disposal for a fee. Contact your county's solid waste administrator for assistance. See page 1 for disposal facility contact information.
    - Compost facilities will not accept infested soil, sod or compost because soil does not go through the PFRP process.
    - Waste-to-energy facilities are unlikely to accept soil, sod or compost for incineration.

# Mulch

- Like soil, the best option is to keep jumping worm-infested mulch on-site when possible.
- If infested mulch must be removed from a site, the preferred management method is composting at a site that follows the process to further reduce pathogens (PFRP). See guidance for composting in the "Yard Waste" section above.
- Mulch that is being sold as a product is not considered yard waste and is not restricted from disposal. If composting is not an option, the infested mulch product can be disposed of via waste-to-energy or, if waste-to-energy is not an option, via landfilling.
    - Each county maintains a directory of waste haulers who can arrange disposal for a fee. Contact your county's solid waste administrator for assistance. See page 1 for disposal facility contact information.
- Mulch that is not being sold as a product may be considered yard waste and cannot legally be disposed of via waste-to-energy or landfilling without authorization from the MPCA. The MPCA will want verification from the DNR or MDA that jumping worms are present in the mulch prior to authorizing disposal. Follow the guidance on DNR verification and MPCA authorization in the "Yard Waste" section above.

# Plants in Containers

- Plants in containers that are being sold as a product are not considered yard waste and are not restricted from disposal via waste-to-energy or landfilling.
    - If plants are removed from containers, they can be composted at a facility that meets PFRP if a facility will accept them. See guidance on composting in the "Yard Waste" section above.
    - If composting is not feasible, plants can be disposed of along with containers and growing media. Incineration of these material at a waste-to-energy facility is preferable to landfilling because incineration fully destroys the infested material. If waste-to-energy is not an option, the material can be landfilled.
    - Each county maintains a directory of waste haulers who can arrange disposal for a fee. Contact your county's solid waste administrator for assistance. See page 1 for disposal facility contact information.
- Plants in containers that are not being sold as a product may be considered yard waste and cannot legally be disposed of via waste-to-energy or landfilling without authorization from the MPCA. The MPCA will want verification from DNR or MDA that jumping worms are present in the materials prior to authorizing disposal. Follow the guidance on DNR verification and MPCA authorization in the "Yard Waste" section above.
- Containers and growing media are not considered yard waste if the plants have been removed and can be disposed of by waste-to-energy or landfilling.

# Contact

- Contact Laura.Vanriper@state.mn.us with any questions or concerns.