



Best Management Practices

Avoiding Invasive Insect Pests and Diseases in Christmas Trees

Wisconsin Department of Agriculture, Trade and Consumer Protection

Wisconsin is one of the top 5 Christmas tree-producing states in the nation. In order to protect your industry, you need to be aware of forest insect pests and diseases, including how they spread, how they can affect your trees, and how to reduce the risks. These best management practices, or BMPs, will help keep your Christmas trees healthy and thriving.



Buying seedlings

- Buy seedlings from reputable growers who take actions to prevent the spread of insects and diseases, such as elongate hemlock scale, gypsy moth, and pine shoot beetle.
- Make sure seedling shipments comply with rules for shipping plant material into or within Wisconsin.
- Know the quarantine status of pests in states where you purchase seedlings. Request certification to ensure plants have been inspected prior to shipping.

Receiving trees in spring

- Inspect incoming stock closely for signs of infestation or damage. In particular, scout for invasive insects or diseases that are not known to occur in Wisconsin.
- If you find an unknown insect or disease on incoming plant material, isolate it and contact your local nursery inspector.

Reducing susceptibility to diseases and pests

- Select tree species that are suitable to your site conditions.
- Plant trees promptly to prevent undue seedling stress.
- Ensure that roots are properly positioned to avoid J-rooting.

The growing season

- Scout throughout the season to identify pest issues as they arise. Treat at the appropriate time, with pesticides labeled for the pest and plant.
- Control weeds and grass between trees to maintain air flow and reduce opportunities for fungal pathogens to get established.
- Sterilize shearing tools often and avoid shearing trees when needles are wet to reduce the chance of spreading disease between trees.
- Be aware that tree dieback may be due to root rot pathogens, like *Phytophthora*, *Armillaria*, or *Heterobasidion annosum*.
- Train staff to identify quarantined forest insects to avoid spreading these pests.
 - **Gypsy moth** larva can defoliate hundreds of species of trees and shrubs causing stress that can lead to loss of vigor, secondary infestations and mortality. Learn to identify gypsy moth life stages and make sure shipped trees are free of buff-

The growing season (cont.)

colored egg masses. DATCP will provide gypsy moth identification training upon request.

- **Pine shoot beetle** adults feed on new shoots, completely hollowing them out, causing unsightly branch flagging. Watch for damage on Scotch, Austrian, and white pine.
- **Elongate hemlock scale** is an oval brown or white scale found on the undersides of hemlock, fir or spruce needles. It has been introduced into 16 states, including Michigan and North Carolina. Difficult to control, this pest causes yellowing and needle loss.
- Contact your local nursery inspector about hard to identify insect or disease issues.

Shipping and selling trees

- Make sure you have the proper shipping paperwork. Shipping out of state and out of quarantine requires a compliance agreement with the USDA. Including a plant health certificate, or PHC, with tree shipments can also facilitate interstate shipping.
- Familiarize yourself with other states' plant and pest movement regulations summarized on the National Plant Board website.
- Keep shipping paperwork with the trees. Maintain shipping records for incoming and outgoing trees, in case a problem arises.
- Do not sell trees that are infested with pests or diseases.
- Be aware that other holiday articles, like wreaths and roping, can also be a vector for harmful forest pests.

Resources

- DATCP Christmas tree program coordinator Brooke Sanneh, (608) 235-7861, brooke.sanneh@wisconsin.gov
- USDA APHIS Plant Health Safeguarding Specialists (contact for compliance agreements)
 - Nick Zebro, (715) 241-5245, Nick.I.Zebro@aphis.usda.gov
 - Ellen Natzke, (608) 286-3610, Ellen.M.Natzke@aphis.usda.gov
 - G. Dave Hutton, (608) 286-3605, Dave.Hutton@aphis.usda.gov
- DATCP nursery inspectors
<https://datcp.wi.gov/Documents/NurseryInspTerritories.pdf>
- USDA Forest Service Christmas Tree Pest Manual
<https://www.fs.usda.gov/naspf/> ~ Search for Christmas Tree Pest Manual
- National Plant Board, State Regulatory Summaries
<http://nationalplantboard.org/laws-and-regulations/>
- Elongate hemlock scale facts
<https://www.forestpests.org/acrobat/EHScale.pdf>
- Gypsy moth facts
https://datcp.wi.gov/Pages/Programs_Services/GMQuarantineRegs.aspx
- Pine shoot beetle facts
https://datcp.wi.gov/Pages/Programs_Services/PineShootBeetle.aspx
- Phytophthora root rot
<https://hort.uwex.edu/articles/phytophthora-root-rot-of-christmas-trees/>