



Developing a Lot Scouting Program

What is Crop Scouting?

A fancy name for making observations on your lot. The use of the term implies the observations are being made using scientific methods on fair, representative samples and that they're being recorded so that they may be tracked later on. Crop Scouting on Christmas tree lots should be done at least on a bi-weekly basis during the growing season, but can start as early as January if the temperatures have started to warm up. Over time, you

should have an idea of the pests or diseases that you should be monitoring or that are starting to immerge as well as which areas in your lot are most susceptible.

Concept of Crop Scouting:

- Identify potential pests and diseases
- Diagnosis visible indicators
- Gauge the health of the lot from a representative sample
- Monitoring over time and support decision making.



What are we Looking for?

Signs of pest and disease presence and damage. Mental notes of anything that seems off or not in place.

- Colour
- Foliage health
- Who is there?
 - Growth stage
 - Location
 - Population strength

Tool Box

✓	Items
	Notebook & Pen
	Map
	Scout Board (White or Black)
	Flagging Ribbon
	Bags for Samples
	Marker for labeling
	Knife
	Hand Pruners
	Hand lens (10x)
	Traps
	Camera/GPS/Smart Phone
	Sanitizer (for tools)

Be Thorough

When you're out scouting, you should be committed. A quality examination/sample should be done when looking at your selected trees.

- Beat the foliage over your hoop,
- Make good notes,
- Track your Location,
- Use your map,
- Check regularly,
- Take samples,
- Take Photos.



Field Data Sheets and Record Keeping

This is an example sheet but should be altered for your lots.

Field ID & Date	Location	Visual Observation	Likely Diagnosis	Notes
Block 1 on March 30/20	Next to main road (Pink flag)	Tree was yellow	Root rot? Wet area	Photo #3
Block 2 on March 30/20	Corner piece	Multicolored foliage	Needle cast	Took a foliage sample

In the field, write down everything you notice.

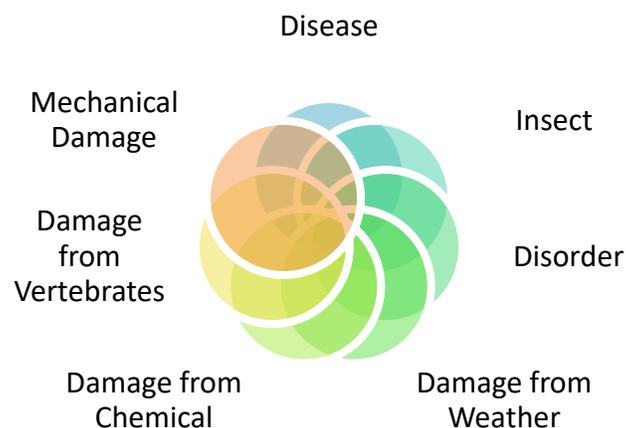
When you get home, match up the problem areas with:

- Soil maps
- Soil and tissue tests
- Spray records
- Historic outbreaks
- Fertilizer applications
- Seedling genetics

Diagnosis

When you're finally at the diagnosis stage, you'll have a list of symptoms that could be part of potential problems. Most likely your problem could be caused by three different things, from this chart or spanning different categories than from here. The categories are based on the Pacific North-West Extension publication identifying and management Christmas Tree diseases, pests, and other problems. No matter what problem you have, looking at the diagram, you could have a combination of multiple problems.

PDF: <https://catalog.extension.oregonstate.edu/sites/catalog/files/project/supplemental/pnw659/pnw659.pdf>



Mechanical Damage

- Damage on branch ends
- Broken Branches (Lower)
- Scrapes on bark
- Usually near roads
- Are your tools dull?
- New growth takes it the worst

Vertebrate Damage

- Antler Rubs
- Feeding
- Seedling Stem damage
- Bark loss
- Broken tops

Chemical Damage

- Curling of new growth
- Red burns
- Follows spray/application patterns
- Swelling of shoots
- Pale Foliage
- Yellow Needle tips

Weather Damage

- Frost: *wilted new growth, curling, browning*
- Drought: *from green to reddish brown, wilting, interior needle loss, slow growth*
- Heat: *groupings of needles turn red-brown*
- Winter injury: *needle, bark, and buds affected; can't obtain water*

Disorder

- Interior Needle Loss
- Needle Necrosis
- Mottling

Insects

- Aphids
- Balsam Twig aphid
- Balsam woolly adelgid
- Needle midge
- Spider mites
- Scales
- Whitemarked tussock moth
- Balsam fir sawfly
- Gypsy moth
- Eastern back-headed budworm
- Hemlock looper
- Rusty tussock moth
- Spruce budworm
- Spruce web-spinning sawfly
- Balsam gall midge
- Seedling debarking weevil



Beneficial Insects

- Predatory Bugs
- Stink bugs
- Lacewings
- Ground beetles
- Rove beetles
- Fireflies
- Soldier beetles
- Click beetles
- Ladybird Beetles
- Snipe flies
- Robber flies
- Hover flies
- Tachinids
- Red-eyed bees
- Chalcids
- Parasitic non-stinging wasps
- Wasps
- Hornets

Diseases

- Root rot (Phytophthora)
- Cankers
- Needle Blight
- Needle Casts (Rhizosphaera pini.)
- Needle rusts

Before you start using controls, are you sure about the following?

- What are your symptoms?
- What category does this most likely fall into?
- Have I Dealt with this before?
- Could it be anything else?
- Do I have confirmation?

