# Christmas Tree Farm – Insect / Disease Management

You are a Christmas tree farmer in Iowa. You know that it is important to keep your trees healthy so they can grow well and look nice for customers. Recently you’ve noticed that some of your trees have curled needles at the ends of their branches. You’ve also noticed that some trees in the middle of the field have died – for no obvious reason. You know the problems could be solved by insects or diseases but aren’t sure the exact cause. You would like to set up a scouting program for your field and identify the causes of the problems.

After you start your scouting program you identify two main issues. 1) Aphids have been feeding on the needles causing them to curl. AND 2) Some trees have a fungus at their roots causing needle drop and ultimately the trees die.

1. Give a brief overview of the issue that Christmas tree farmers face.
2. What limitations or constraints does the farmer face? Describe and explain each.
3. What are the potential solutions that address this issue?
4. What impacts might each solution have on people?
5. What impacts might each solution have on the natural environment?

Suggested resources:

* <https://www.canr.msu.edu/christmas_trees/pest-management/>
* <https://christmastrees.ces.ncsu.edu/christmastrees-pest-management-in-christmas-trees/>
* <https://www.canr.msu.edu/dA/ed7b350e64/E3237%20WCAG%202.0.pdf?language_id=1>
* <https://www.canr.msu.edu/resources/michigan-christmas-tree-pest-management-guide>
* <https://extension.psu.edu/ipm-basics-for-christmas-trees>