

Root Starch Sampling - A Measure of Defoliation Impact

Purpose:

- To pilot test starch-rating for making recommendations to sugarmakers
- To indicate the impact of thrips defoliation on tree health

Method Used: As described in: '

Wargo, P. M. 1988. Judging vigor of deciduous hardwoods. USDA Agriculture Information Bull. No. 418 and

Wargo, P. M. 1977. Estimating starch content in roots of deciduous trees - a visual technique. USDA For. Serv. Res. Pap. NE-313

Modifications were:

- All samples were taken 1 foot from the soil line with an increment borer
- Samples were hand sectioned with a razor blade
- Samples were rated using the attached key
- Pilot testing has been done annually since 1987

Equipment Needed:

Shovel	Vise	Tweezers
Increment borer	Razor blades	Glass slides
Baggies	I ₂ KI solution	Droppers
Cooler	Hand lens	

How it Worked:

- 1988's data indicated that otherwise healthy trees, which were heavily defoliated by thrips, could recover adequately the same season
- Of the 153 trees which were sampled from 2 roots, only half had the same rating for both roots. This suggests that the ratings have limited use on a tree-by-tree basis
- On a stand-by-stand basis, results were correlated with dieback and defoliation history

How Technique Could be Improved:

- Before the method can be used operationally, questions about sample storage, sampling window, where on the tree to sample, and tree impact need to be answered

For More Information Contact:

Barbara Burns 802-886-2215
VT Division of Forestry
RR 1, Box 33
N. Springfield, VT 05150

Also Try:

Phil Wargo 203-773-2030
Chris Peterson 413-545-2665