

Root Arch - A Measure of Defoliation Impact

Purpose:

To present starch-feeding foraging recommendations to
 suggest the impact of thrips defoliation on tree health

Methods Used:

Wargo, M. 1988. Judging vigor deciduous hardwoods. USDA
 Agr. Inform. Bull. 418 and
 Wargo, M. 1977. Estimating starch content in roots of
 deciduous trees - a visual technique. USDA For. Serv.
 Res. Pap. NW-313
 Modification on site:
 - All samples were taken 1 foot from the soil line with an
 increment auger
 - Samples were hand sectioned with a razor blade
 - Samples were stained using the attached key
 - Pilot test has been done annually since 1987

Equipment Needed:

Shovel	Vase	Tweezers
Increment auger	Razor blades	Glass slides
Bags	IKI solution	Droppers
Clipboard	Hand lens	

How it Worked:

- 1988' heavy defoliation same as 1987' indicated that otherwise healthy trees, which were defoliated by thrips, could recover adequately the same as healthy trees, which were not defoliated.

- Of the 53 samples which were sampled from 2 roots, only half had staining for both roots. This suggests that the staining was limited to one of the y-tree basis.

- On a stand basis, results were correlated with dieback and defoliation history.

How Techniques 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

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