

## Oystershell Scale Survey

PURPOSE: To determine population trends over time.

EQUIPMENT NEEDED: Pole pruners, hand pruners, bags and labels

TIME OF YEAR: Early August preferred (when new scales are shiny) but can be done in late summer or autumn.

### Field Methods

The sampling plot should be located in a hardwood stand containing American beech trees infested with oystershell scale. Beech should be the predominant species, if possible. Select one suppressed, one intermediate, and one codominant beech as permanent sample trees and tag these trees.

Prune two whole live branches (with at least 3 years of growth) from the mid-crown of each sample tree, selecting the second branch from the side of the crown that is opposite the first branch. Prune five twigs with three years of growth from each branch and place these in a bag labelled for that tree. Take the branches back to the laboratory for measurements and counts.

### Laboratory Methods

Select the most recent three-years worth of terminal growth on each twig for counts of scales. Measure the twig length for each year and record in millimeters. Remove the side twigs from the terminals being used for counts to facilitate moving the specimens under the microscope. Then, using a dissecting microscope at a magnification of about 10-15X, count and record the number of live scales for each year. Initially, one should flip some of the scales over with a needle to verify if they are alive or not. It is helpful to touch each scale with a red or other brightly colored magic marker as they are counted, to avoid recounting them. Then calculate number of scales per millimeter for each branch. Average the 10 twigs to get mean number of scales per mm for each tree.

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