



NORTHERN HARDWOOD NOTES

Epicormic Sprouting

Thin too much the first time and you are likely to get a surge of epicormic sprouts. These small branches that can mar a clean bole and cause serious degrade often develop profusely in pole and small sawtimber before and after initial thinning, particularly under even-age management.

A tree of nearly any size can break out heavily in epicormic sprouts. Epicormics originate from "dormant buds" that form annually in normal bud scales and at the base of branches. Unlike vegetative and flower buds, they are very small or embedded in the bark, and have a "strand" connection to the pith. As the tree increases in diameter, the strands increase in length allowing the bud to survive and sprout whenever conditions are right.

What keeps dormant buds in check are "growth regulators" made by the growing terminal buds in a healthy and vigorous crown. Small-crowned, crowded trees—such as suppressed and intermediate trees in the understory or crowded overstory trees in unmanaged, even-aged stands—don't produce enough regulators, so the buds break dormancy and sprout. (It's not light striking the bud that causes sprouting). Some intermediate and co-dominant trees don't put out epicormic sprouts until right after a stand is first thinned. Then the sprouts receiving the most light often grow rapidly into large limbs that can reduce bole quality.

Tree species such as basswood and white ash that inherently grow tall and have large vigorous crowns, generally sprout less than sugar maple and yellow birch because of their more dominant position.

Controls

Even-aged Stands

1. Follow even-age stocking guides (see Note 4.03). Thin to the proper level, preferably about a third but *never* more than 40 percent of the basal area. This light thinning will allow the crowns to build up in size and release growth regulators while shading out sprouts that develop.
2. In later thinnings when trees are 10 inches d.b.h. and larger, if the crown diameter is 20 times the d.b.h. or more, you can thin more heavily without risk of epicormic sprouts. In shelterwood cuttings, large-crowned trees of all species can be left in open conditions without danger of sprouts developing.

Uneven-aged Stands

If crowns are released gradually by maintaining the proper stand structure, epicormic sprouts are seldom a problem.

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