



NORTHERN HARDWOOD NOTES

Fork Occurrence And Correction

Forking in the opposite-branched sugar maple and white ash can cause trouble. Forks always occur in the large overstory trees that we depend on for the final crop. Quality of the main stem drops on forked trees-along with merchantable volume-and the risk of crown or tree breakage increases in managed stands.

Catastrophies such as ice storms were once thought to cause forking; now we know that the culprit is an insect called a bud miner that overwinters in and kills the terminal bud. The lateral shoots bend upward to take the place of the terminal shoot, creating the fork. In north-central Wisconsin terminal buds are lost to bud miners every 3 to 5 years, so forking occurs repeatedly on a tree from the seedling stage through maturity. Little, if anything, can be done to control the insect, so good silviculture must be practiced to develop the best quality and value.

Fork Correction in All-Aged Stands

Forks are less common in all-aged than even-aged stands. Fork correction is continual in stands with different sized trees because the taller overstory trees shade out part of the fork. For this reason the stem will generally develop 2½ to 4 logs of merchantable height and there is no breakage in the crown.

Fork Correction in Even-Aged Stands

Forking occurs in every overstory sugar maple and most ashes in even-aged stands. These trees seldom produce more than two logs because of forking. Forks in large trees in even-aged stands occur lower and last longer than in all-aged stands and more crowns are lost as the forked branches grow larger and heavier.

To correct forking in even-aged stands you must maintain stand density at or slightly greater than recommended residual levels. Don't thin too early (before the stand averages 6 inches in diameter) or too heavily (more than the stocking curve recommends) in pure sugar maple or forks will increase in size and take longer to correct. On the other hand, don't keep the stand too dense or crown vigor will decline, stimulating epicormic sprouts on the lower bole.

Forks correct themselves when neighboring crowns cause one side of the fork to lose vigor so that the other can take over as a single central stem. Nearly a fifth of the forks on a pole-size, even-aged stand corrected completely after 17 years; ("D" on the following page); three-fifths corrected partially by that time ("A";"B"; "C" on the following page).

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Stages in fork correction in an even-aged stand growing at recommended stocking levels.



- A-No fork correction
- B-One fork member gaining dominance over the other
- C-One member of original fork degraded to large limb size
- D-Complete fork correction; no reduction in stem size above the original fork