

Oak Silviculture

W.B. Leak

How Much Red Oak In Maine?

Maybe 2 ½ percent of the volume

Maybe ½ percent of the sapling understory.

Major Oak Silvi Problems

- Regen

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Where Does Oak Grow?

Dry Sites:

Outwash

Shallow Bedrock

Sandy Tills

Abandoned Agricultural Sites***

Especially Under Pine*** (wildlife effect)











Then.....After the Pine Harvest

- The oak develops into a fine stand. Some of our best oak stands developed after pine.
- But even after a careful oak shelterwood, the oak does not readily regenerate.
- On some sites (e.g. sandy), pine regenerates under the oak – possibly another wildlife influence.



Sources of Regen Problems

- Seed supply?
- Seed losses?
- Germination?
- Browsing?
- Competition?
- All of the above!!

Seed Supply

- 1. Medium or better crops every 2nd or 3rd year (with exceptions).
- 2. Best production from seed trees 18 in. plus.
- 3. Half the crop “lost” from insects*, birds, mammals – before the acorns hit the ground.
- 4. On the ground surface, 98% eaten or destroyed; buried: 50%.
- 5. Bottom line: bury the acorns thru’ logging activity.

The Oak Regeneration Process

- Develops best from advanced regen present altho' groups/patches in white pine may produce moderate oak stocking.
- Advanced oak regen should be 1-foot-plus tall with sizeable root collar diameter. Commonly, occurs under pine. (wildlife influence.)
- Look for 500-2000 advanced oak/acre.
- May be patchy; think about group/patch release.



How About Sprouts??

(from Brose et al, GTR NRS -33)

• Dbh	Percent Sprouting
• 2-5	100
• 6-11	60
• 12-16	45
• 17+	30



No Advanced Oak???

- Advanced oak does not seem to develop under heavy hardwood (e.g. beech) understories. Try light harvest (biomass?) from below after good acorn crop (remember, we're trying to bury the acorns).
- Once you have 1-foot tall advanced oak, release it through group/patch overstory removal.
- Some may try to experiment with chemicals or fire.

After the Regen Stage

- 1. Precommercial crop-tree thinning works well. Oak responds well.
- 2. Commercial thinning (residual 60-80 sq.ft./acre).