Oak Silviculture

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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 2\textsuperscript{nd} or 3\textsuperscript{rd} 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.)
- May be patchy; think about group/patch release.
### How About Sprouts??

*(from Brose et al., GTR NRS -33)*

<table>
<thead>
<tr>
<th>Dbh</th>
<th>Percent Sprouting</th>
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</thead>
<tbody>
<tr>
<td>2-5</td>
<td>100</td>
</tr>
<tr>
<td>6-11</td>
<td>60</td>
</tr>
<tr>
<td>12-16</td>
<td>45</td>
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<tr>
<td>17+</td>
<td>30</td>
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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).