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Thinning Hardwoods

DEMONSTRATION WOODLOT, Stand D1

LEAF
Virginia's Link to Education About Forests

A Virginia LEAF site at: SHENANDOAH VALLEY AGRICULTURE RESEARCH & EXTENTION CENTER (SVAREC) & McCormick Farm

Compiled by: Charlie Huppuch, Forester

Most forest owners value their forest for wildlife habitat, recreation and aesthetics. Given accurate information, they may manage their woodlot to achieve these and other goals using sound silviculture. Thinning over-stocked woodlots is one silvicultural management tool. Thinning can modify spacing and diversity of species to meet desired goals which may include timber, wildlife, aesthetics and more. Thinning also improves woodlot vigor by removing over-mature, suppressed, defective or weakened trees. To meet theses objective, Stand D2 was selected for a thinning research & demonstration site.

STAND DESCRIPTION

Forest Type: 12.1 Acres of mixed hardwoods

Species: Hickory, white and red oak, ash, maple, cherry, and walnut

Age Class: Three separate age classes= 100+, 80-90, and 40-50 years old

Size: Diameters ranging from 12-30 inches with average 16 inches. The younger classes are pole and small sawtimber (16"+) Defective sawtimber estimated at 15%

Trees/Acre : Well stocked to overstocked – Basal area 90-110 Sq. ft./acre

Topography: East face hill – gentle slope at bottom rising 20% to top

Site Quality: Fair oak site= estimated site index 70. Frederick Soils – previously pastured

Prescription: Demonstrate an intermediate thinning to enhance growth on crop trees for a harvest in 20 to 30- years.

- Harvest over-mature sawtimber- save vigorous older trees. Leave one den tree/acre.
- Release vigorous crop trees by "freeing the crown" from neighboring crown competition.
- Thin to remove (approx.) 13 sq.ft. pulpwood 5"-10" and 17 sq.ft. sawtimber 11"+
- Leave approximately 60-70 sq. ft. of basal area for a 60% stocking. *See guide –Priorities for Selecting Trees to Cut and Leave*

STREAMSIDE MGT. ZONE: Mark boundary around small stream and use Best Management Practices for harvesting trees and log hauling.

2014 Thinning Results

Most of the crop trees have been freed to improve their crown and spacing while removing the dying and poor form trees. Some dead trees and den trees remain for wildlife habitat. The steeper skid roads have water bars to reduce erosion. Minimal felling damage to residual trees.

Harvest Volume and Value:

Market	Marked (per acre)	Returns/ acre
Sawtimber	1,019 Bd. Ft. (Doyle)	$289.09
Pulpwood/ firewood	18.3 tons	$60.87
TOTAL		$349.96

Species	Sawtimber
Red Oak	27 sq.ft./acre
White Oak	9 sq.ft./acre
Hickory	8 sq.ft./acre
Misc.	2 sq.ft./acre
Pulpwood	38 sq.ft./acre
Average	71 sq.ft./acre

Residual Basal Area:

- Sale value (Stumpage) = $4024
- Consulting forester fees = $1155
- Revenue to Landowner = $2869*

Landowner received 50% of delivered sawtimber value and $3.32/ton for pulpwood. Consulting fees subtracted from landowner share.

*While this situation yielded a decent income to the landowner, harvesting the stand was economically marginal in reality. No timber operator was interested in thinning the stand until an operator working on site agreed to do the cutting on shares. The factors that made it marginal were:

- Too few acres to justify the cost of setting up operations
- Too little sawtimber volume and size to subsidize the sale and the quality was only fair
- The trees were difficult to gather and the drag was long. This increased operator costs.

Woodlot Owners: Owners who want to thin their stands for better health and growth need to both consider how economically feasible it will be **AND the investment aspect**. Thinning stands increases growth and improves health and thus increases the rate of return. As such, a thinning that doesn't earn, but doesn't cost, the landowner, is a win.

Landowners who want to thin marginal woodlots should consider applying for a USDA grant for subsidizing the thinning. This will require an application for Forest Stand Improvement (666) and a forest plan. The approved plan, prepared by a forester (Technical Service Provider) would then mark the timber for removal and oversee the requirements of the plan and sale contract. The owner would be eligible for a $72/acre payment (2015).

For more information about this site or the management of this forest contact: Adam Downing, Extension Forester – Northern District: 540-948-6881 adowning@vt.edu

For more on Woodland Management: https://ext.vt.edu/natural-resources/woodland-management.html

Project partners for this LEAF site are:

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