

Larch Virtual Experiment Station Research Note #7

Operational Larch Plantations in West Forks

By David Maass

A second visit this year to formerly Scott Paper's, now Weyerhaeuser's, operational exotic larch plantations yielded more information on exotic larch growth and yield.

On September 12th 2018, Lloyd Irland, Ken Laustsen and I visited three plantations on the Wilson Pond Road in West Forks. We were unable to identify the species of the first plantation because of the lack of cones or other confirming evidence. However, the second two were confirmed to be European and it's assumed that the first was as well.

The plantations were cruised using a 20 BAF prism. Plots were taken in fully stocked portions of the stands. Diameter was measured using a d-tape at breast height to the nearest 0.1 inches. Height was estimated on all selected trees using a Suunto Clinometer and using the topographic scale. Height was estimated to the nearest foot.

Volume calculations were made using Kozak taper volume equations (Li 2012) using European larch parameters as provided by Aaron Weiskittel's tech. English dimensions of diameter and height were converted to metric dimensions, run through macro to calculate volumes in cubic meters. These were then converted to cubic feet (35.31 ft³/m³). Merchantable volumes were calculated to a 3" (9 cm) top diameter above a 6" (.15 m) stump. Cords were computed at 85 ft³ per cord. Tons were computed at 48 pounds per cubic foot and 2000 pounds per cord.

Age was estimated from Google Earth historic map information. There is a possibility that the plantations may be 5 or 6 years older, thus reducing the MAI by as much as 20%.

Summary of the data is as follows:

Table1: Summary of two plantations in West Forks, ME

Plantation	Age	Tpa	BA/ac	Q MD	Ht (ft)	Merc h vol (ft ³ /ac)	Cords /ac	Merc h tons/ac	MAI (ft ³ /ac/yr)	MAI (cords/ac/yr)	MAI (tons/ac/yr)	MAI (m ³ /ha/yr)
1	22	365	140	9.8	66	4197	49.4	317	190.8	2.2	14.4	13.3
2	21	442	150	8.5	65	4597	54.1	110	218.9	2.6	5.3	14.7
3	21	646	187	8.0	54	4683	55.1	112.4	223.0	2.6	5.4	15.6

Soils information for Plantation 1: Chesuncook-Elliotsville-Telos Association, very stony

Soil name	Consistency	Depth	Drainage	Parent material
Chesuncook	Gravelly silt loam	21" to 31" to densic material	Moderately well drained	Coarse loamy lodgement till
Elliotsville	Channery loam	12" to 43" to lentic bedrock	Well drained	Coarse loamy subglacial till
Telos	loam	15" to 23" to densic material	Somewhat poorly drained	Loamy lodgement till

Soils information for Plantation 2: Danfoth-Elliotsville: Plot 1

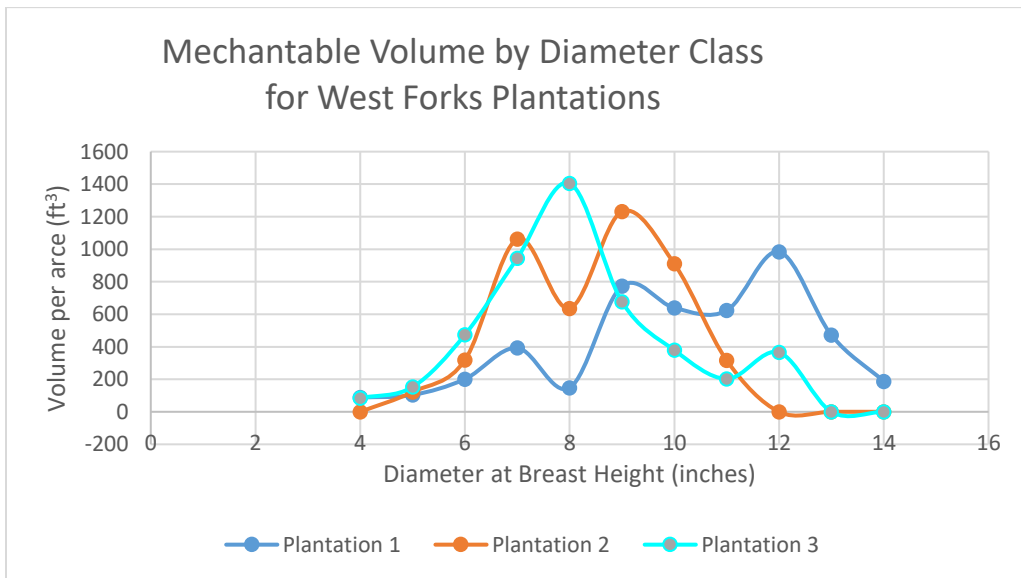
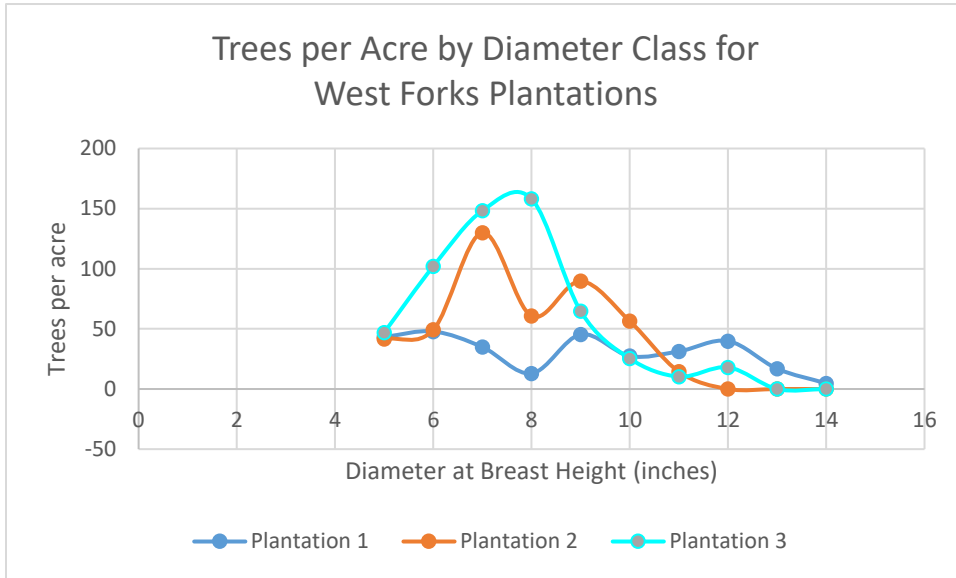
Soil name	Consistency	Depth	Drainage	Parent material
Danforth	Channery silt loam/channery fine sandy loam	More than 80"	Well drained	Loamy-skeletal supraglacial meltout till derived from slate
Elliotsville	Channery loam	12" to 43" to lentic bedrock	Well drained	Coarse loamy subglacial till
Plots 2 through 4: Telos-Monson-Monarda				
Telos	loam	15" to 23" to densic material	Somewhat poorly drained	Loamy lodgement till
Monson	Silt loam	12" to 27" to densic material	Poorly drained	Loamy lodgement till
Monarda	Loam/channery loam	11" to 25" to lentic bedrock	Somewhat excessively drained	Loamy subglacial till

Soils information for Plantation 3: Danforth-Elliotsville

Soil name	Consistency	Depth	Drainage	Parent material
Danforth	Channery silt loam/channery fine sandy loam	More than 80"	Well drained	Loamy-skeletal supraglacial meltout till derived from slate

Elliottsville	Channery loam	12" to 43" to lentic bedrock	Well drained	Coarse loamy subglacial till
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Charts 1 and 2 below demonstrate the trees per acre and volume per acre by diameter class.



Both plantations, despite small age differences, had similar profiles in trees per acre and volume by diameter class.

REFERENCES

Li et al, 2012, Regional Stem Taper Equations for Eleven Conifers in the Acadia Region of North America Development and Assessment. NJAF 29(1)5-14.