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GUIDE TO THE PLANTATION LOOP TRAIL

A short loop trail near the headquarters provides vivid demonstrations of the value of several tree species for forest plantations. This guide contains background information for each lettered point along the trail. The trail starts just southeast of the garage, barn, and lumber shed.

Stop No.

A.. Three Black Walnuts were sown in 1934. After 31 years of growth these trees ranged from 11.9 to 13.9 inches in diameter 4.5 feet above ground (d. b. h.) and were from 47 to 58 feet tall. They are growing on Marlow fine sandy loam at about an elevation of 8 feet above sea level. Seed source is unknown.

Walk diagonally across the field, down to the far end of the larch plantation.

B. Dahurian larch Larix dahurica Turcz. of unknown origin planted in 1939. Lightly thinned in 1951 and 1956.

C. Several Jack Pine planted in 1939. Seeds were collected from natural stand on Welch Mountain, Waterville, New Hampshire.

D. Trail passes through rows of 68 different seed sources of Scotch Pine planted in 1942. Rows are representative of the International Union Forest Research Organization (IUFRO) provenance study plots on the Vincent State Forest in Deering. No sources possess desirable form and fast growth. Scandinavian sources, while straight, are nearly all dead due to overtopping by adjacent-rows.

Stops E to H are in a 1948 plantation of 31 seed sources of European Larch. Each small, rectangular plot was planted with two-year old seedlings of a seed source. This is another of the IUFRO experiments, described in Fox Forest Bulletin 13.

E Larix decidua var. polonica from Slovakia. At age 12 (1958) height of the 5 tallest trees averaged 26.6 ft. This source was then the most desirable, with good height growth, adequate diameter growth and relatively straight boles.

F. Larix decidua var. decidua from Switzerland. At age 12 height of 5 tallest trees averaged 17.2 ft. This source was one of the slowest growing and least promising for use in New Hampshire.

G. Larix decidua var. decidua from Italy. At age 12 height of 5 tallest trees averaged 17 9 ft. Another poorly performing source.

H. Larix decidua var. polonica from Poland. At age 12 the five tallest trees averaged 29.9 ft. Basal sweep and crooks more than offset the value of greater height and diameter growth compared to the straighter Slovakian source. (A replicate of the Slovakian source bounds this plot on the uphill (or western side.)

Proceed up the road.

I. Mixed plantation of Norway and White Spruce planted in 1934. After 29 years average height was 40 ft., d. b. h. was 6.4 in., basal area was 204 sq. ft/acre, and yield, including previous light thinnings, 52 cd/a in 4 in. and larger wood. Mean annual growth has been at the rates of 179 cu. ft/a/or 1.8 cds/a.

Proceed through spruce plot.

J. Mixed 1935 plantation of Red and White Pine, containing clumps or scattered trees of European larch, Norway and White Spruce, and Balsam Fir. Relative growth on Marlow fine sandy loam is apparent for combinations of many of these species where crowns adjoin.

K. A narrow strip cutting in a red pine plantation (935) shows typically rapid development of hardwoods. Adjacent trees were too densely stocked and young to produce the appreciable seed source needed for softwood reproduction.

L. Hybrid poplars developed by Dr. E. J. Schreiner at Rumford, Maine, planted as unrooted cuttings in 1935. Trees have been thinned twice (see Fox Forest Notes 26 and 56 for details).

Turn left and follow trail to road, cross into pine plantation.

M. Mixed red and scotch pine planted in 1934 and thinned in 1945 - 46 and 1955 - 56.

Cross highway to red pine spacing plots.

N. Plot 4 planted 1934 at 8 x 8 spacing. Thinned in 1957. (See Fox Forest Notes 35,70 and 71 for details of spacing trial.)

0. Series of plots planted at 6 x 6, 5 x 5, 4 x 4, etc. in 1934. One-half of each plot was thinned in 1948 and 1957, one-half retained as untreated control.

The 1957 thinning included 5 acres of surrounding plantation and yielded over 4,000 posts, 11 cards pulpwood and much additional charcoal wood.

A Fomes annosus study initiated by Orson K. Miller in 1959, is being carried on by the Northeastern Forest Experiment Station. Each tree and stump is examined twice yearly. The number of infections has increased, but no mortality has yet occurred. Trees within 25' of an infection center are marked by yellow dots.

Continue to larch - spruce plots.

P. Larch on stand margin, whose characters suggest it to be a Japanese larch, showing development of open grown tree. Planted in 1936; 15. 1" d. b. h. and 65' high in 1963 after 26 growing seasons.

Q. Plot 34 - European larch of Scotch origin planted in 1936 as two-year seedlings. Thinned in 1951 and 1958.

R. Plot 33 - European larch from Italy. Planted in 1936 and thinned in 1951 and 1955.

S. Series of Norway spruce plots from different sources. Planted in 1936, weeded in 1946 and thinned for Christmas trees in 1952 and for poles and posts in 1958 - 59. Current annual growth about 200 cubic feet/acre and 2.4 cords/acre.

T. White spruce of same age and treatment as adjacent Norway spruce. (Details given in Fox Forest Note 78). Growth has not differed significantly from the Norway spruce.

U. Plot 36 - European larch planted in 1942 and thinned in 1951, 1955, 1959 and 1963. Flagpoles and posts were products obtained. At age 21, 450 trees per acre remained, having an average d. b. h. of 6.3 inches and volume of 23 cords/acre.

V. Red spruce planted in 1936.