HISTORY OF A RED PINE SEED PRODUCTION AREA

By: David I. Maass, Research Forester

Scott Paper Company
Natural Resources Division
Fairfield, Maine

ABSTRACT--With increased interest in planting red pine (Pinus resinosa, Ait.) on Scott Paper Company land, it was felt that a local source of seed should be developed. About 500 acres of red pine occur naturally on company land near Eustis, Me. An area was selected for treatment that was 65 years old, with with a site index of 55 feet at 50 years. In the fall of 1977, an initial cutting was done on ten acres to reduce the stand from 195 ft. ^{2} basal area, 390 trees and 6,192 cubic feet per acre to ill ft. ^{2} basal area, 158 trees and 2,951 cubic feet per acre. The thinning was done from below in order to leave the best formed trees with the largest crowns. A second thinning took place in the fall of 1979, and included the area in the first thinning, and a 22-acre buffer strip. The buffer strip was thinned again in the fall of 1981, and 195 bushels of cones were collected from the tops of felled trees and by climbing. Eighteen acres of a 35-year old stand nearby were also thinned to about 300 trees per acre.

Scott Paper Company is increasing the area it plants every year. Red pine (Pinus resinosa, Ait.) has been one of the primary species which has been planted, because of its uniform quality, good growth, relative disease and insect freeness, and ease of handling. However, most of the seed that has been used has come from the Lake States.

There was interest in developing a local source of seed if it could be done easily and inexpensively. About 500 acres of red pine occur naturally on company land near Eustis. A portion of this area was considered for development of a seed production area.

The ten-acre area selected was nearly pure red pine with a site index of 55 years at age 50. There was a scattering of black spruce (Picea mariana B.S.P.) and white pine (Pinus strobus L.), with black spruce making up the regeneration.

The original stand (based on eight 1/10 acre plots) had 195 square feet of basal area, 390 trees and 6,192 cubic feet per acre. The average diameter at breast height was 9.2 inches and the height of the tallest ten percent of the trees was 64 feet. The stand age was 65 years old at the stump (See Table No. 1). The stand was marked to thin from below, leaving the best formed trees with the biggest crowns. Some consideration was also given to spacing. It was desired to remove about one-third of the basal area. After the first cutting in 1977, the stand had 111 square feet of basal area, 158 trees and 2,951 cubic feet per acre.

Two years later, the original ten acres and a 22-acre buffer strip were marked for thinning. The original ten acres were marked to remove about half of the remaining basal area, again leaving the biggest trees with the best crowns. The buffer was marked to remove nearly half of the basal area and volume. This cutting was completed in the fall of 1979.

With the onset of what looked like a good cone crop in 1981, the buffer strip alone was marked for thinning with plans to collect cones from the tops. That fall, 17 local townspeople helped collect cones over a three-week period. Some collected as little as half a bushel and one as much as 40 bushels. In addition, professional tree climbers were hired to pick cones from trees in the original area. This was discontinued after one week because of the cost. A total of 195 bushels were picked. Most of these came from the ground crew, who covered the area thoroughly. The seed was extracted at the Maritimes Forest Seed Centre, and yielded 88.7 pounds of seed at 60,000 seeds per pound (See Table No. 2).

TABLE NO. 1

RED PINE SEED PRODUCTION AREA

		1977 Before Thinning	1981 After Two Thinnings
Trees per Acre		390	75
Basal Area per Acre (Sq. Ft.)		195.0	65.3
Stand Diameter (Inches)		9.2	12.4
Stand Height - Tallest 10% (Feet)		64	N/A
Volume per Acre	(Cu. Ft.)	6,192	2,015
	(Cords)	63.84	20.77

Data based on eight 1/10 acre plots.

TABLE NO. 2

1981 RED PINE CONE COLLECTION RESULTS

	Bushels	Pounds of Seed
5 Professional Climbers with Bucket Truck (One Week)	29.5	13.4
17 Pickers from Ground (Two to Three Weeks)	165.5	75.3
TOTAL	195.0	88.7

195 Bushels of Cones Delivered

88.7 Pounds of Seed

60,000 Seeds per Pound

7.4 Ounces of Seed per Bushel

98% Germination

5.3 Million Seeds