

INCREMENT STUDY /
OF
RED PINE THINNING PLOTS
ON THE /
CHIPPEWA NATIONAL FOREST /



SCHOOL OF FORESTRY
OREGON STATE COLLEGE
CORVALLIS, OREGON

WILLARD D. WRIGHT /

Not a thesis

INCREMENT STUDY OF RED PINE THINNING PLOTS
ON THE CHIPPEWA NATIONAL FOREST

Will thinnings in young red pine bring the trees to merchantable size earlier than trees in unthinned stands and as a result appreciably lessen the length of time the owner must wait before financial returns can be realized? This is one question that is trying to be worked out on samples plots by the Lake States Forest Experiment Stations and the United States Forest Service. In the early days the Lake States had very fine stands of white pine, red pine, jack pine, spruce, and a variety of hardwoods. The ruthless cutting with no respect for forest management has left the country with very little conifer stands to fall back on for their timber needs. On areas that were not reburned too often some very good stands of reproduction came in. Even in areas which had been burned rather extensively you now find stands of jack pine. Once the merchantable timber had been exhausted the interest in the timber land was practically forgotten. Areas that seeded in naturally came up in very dense stands. Competition from hardwoods was a problem that the conifers had to battle with. It seems that in the real dense conifer reproduction the hardwoods were crowded out. It appears that the land owners could only see the present value return of their timber and timber land with no future foresight as to production of

another timber crop.

The state foresters and federal government men recognized the opportunity to secure large areas of timber lands that were lying idle. With these large areas of land under their jurisdiction studies and experiments were started to determine the best methods to secure merchantable timber in as short a rotation as possible. With this problem in mind the Lake States Forest Experiment Stations went to work. Sample plots were established in the different state and federal forests.

As I have worked in the Chippewa National Forest, I have secured data concerning four sample plots established on that forest by the experiment station.

In 1927, four sample plots thinned to spacings of 6x6, 8x8, 10x10 feet and a unthinned plot were established. The growth in diameter and volume during the ten year period since thinning is shown in the table below.

Spacing	Number of trees per acre			Average diameter			Volume per acre		
	1927	1932	1937	1927	1932	1937	1927	1932	1937
				Inches			Cubic feet		
Unthinned	3.620	3.060	2.740	2.5	2.8	3.0	1.008	1.623	1.975
6x6	1.229	1.222	1.208	2.2	3.0	3.6	276	652	1.041
8x8	700	700	700	2.7	3.7	4.4	258	569	969
10x10	441	427	422	2.9	4.2	5.1	195	446	770

The table shows that the stocking of the unthinned plot in 1927 was nearly three times that of the 6x6 plot. In the ten year period close to nine hundred stems were killed, showing that it was too densely stocked. In diameter

growth the thinned plots produced an average larger diameter growth than the unthinned ones, ranging from nine tenths of an inch to one inch and seven tenths more over the ten year period. The unthinned plot, having the larger number of trees, has also the greater volume, but much of this is in small trees destined to die out before the stand reaches merchantable size. Both the 6x6 and 8x8 thinned plots produced more volume during the past five years than the control. The trees on thinned plots have grown from 72 to 106 percent more in diameter during the past ten years than the corresponding numbers of most rapidly growing trees on the unthinned plots.

Though the final answer to the question cannot be had for another ten years, should the present trend in growth continue, the thinned stands will be merchantable at least ten years ahead of the natural stand. The most promising spacing is 8x8 feet because it allows rapid growth yet contains enough stems to yield frequent commercial cuts in the future.

It seems to me that if through the efforts of thinning, the final crop could be realized ten years sooner if the private owners would take interest and work their stands in their spare time. In that territory, winter work is very slack, due to severe weather conditions. This gives the owner a good chance to utilize his time and also to receive something for his efforts. The thinnings would not be wasted as conifer wood shortage is getting to be a problem. Fence posts

and poles can also be salvaged from the thinnings.

All of the white pine and red pine stands in the Chippewa National Forest have been thinned since the E. C. W. program started. The jack pine is only thinned on the number one sites. The salvage from the thinnings has been used in camp construction, fuel, and a great deal of it has been sold to private individuals who are ready to buy it whenever available.

In the future we will see more interest taken in the privately owned lands of the Lake States. They can plainly see by now that parts of that country, in fact the biggest part around the Chippewa National Forest is only suited for timber production. By taking steps now to improve their stands, they will help to return the land to a productive status and further help to reduce unemployment in the region.

Data for this report was secured from the Lake States Forest Experiment Station, St. Paul, Minnesota and was compiled February 1938. No doubt in another ten years the question will be further studied and the results released to the public. It will be through the continued efforts of the experiment stations and persons interested in forestry that the advancement and better knowledge of forestry and forest practices will be had in the future.