Report of the Forestry Conference held at the Camp, Markton, Wisconsin, August 15 - 17, 1930.

Representation:
The Forest Products Laboratory: Winslow, Sweet, Curran, and Carver.
The National Forest: Tinker and Schnoover
The U.S. Forest Experiment Station: Zon
The Consolidated: S. Mead, Williams, and Peltier.

The conference proper got under way Friday evening, with a frank and concise statement from Stanton Mead, regarding the future pulpwood supply of the Consolidated, together with an account of the past practices of the company in obtaining pulpwood. The discussion then centered around the following question: How can a private firm best maintain a future supply of pulpwood?

The first reaction of the representatives of the Forest Products Laboratory was that thru research both private and government other woods, such as aspens, conifers (species of pine and some hardwoods) could be used to a much greater extent than at the present time. It was pointed out that there are large areas of cut-over lands growing up to almost pure stands of aspen (21,000,000 million acres in the 3 Lake States). The fallacy of this position is that it still does not make any provision for reforestation. Granting that we do have a potential supply of aspens after these are used up, where is a supply coming from. some 50 to 100 years hence. On this point Dr. Zon and Mr. Tinker stated that there are areas of mature aspens rapidly deteriorating and that much young aspen was available, but little or no aspen of intermediate size was available.

Capt. Winslow was rather insistent that more monies be made available for research, Looking toward the utilization of available woods. He admitted later that he could see some justification in reforestation for pulpwood but he was not at all convinced that it would be successful from the standpoint of the lumberman. However, after looking over the Goodman tract on Saturday he was ready to agree that selective logging of virgin stands was wholly practical.

Mr. Sweet's reaction to reforestation was not so pessimistic. He was not at all insistent on the use of other woods in the pulpwood industry. He stated that spruce would always be the basic wood in paper making. He believed that the second growth spruce under proper management and fire protection was a sound policy for private concerns, altho he insisted that the planting of various kinds of spruce should go hand in hand with the second growth trees, particularly where any bare areas in a block of spruce land occurred.

Dr. Curran, as a pulp-wood chemist, thought that considerable progress would be made in the utilization of other woods, particularly aspens and jack pines and some hardwoods. At the present time to conserve spruce, as much of these other woods should be used in papermaking as is possible. He mentioned the fact that just recently a chemist (name not recorded) reported at a scientific gathering that he was able to make cellulose using the carbon dioxide of the air. No details of this research were presented and no idea of its practicability was forth coming from Dr. Curran. He seemed to think, however, that for some time to come wood would be the cheapest source of pure cellulose and spruce would always be the basic wood in the pulp wood industry. Even if synthetic cellulose became

a certainty spruce would always be in demand.

Mr. Garver's attitude toward reforestation was exceptionally good. He told of the successful plantings made by private concerns in the south and of the large increases in growth made by slash pine. He favored the idea of obtaining second growth spruce and supplementary plantings where they were needed. In fact his ideas on a reforestation policy were very much in agreement with those of Dr. Zon's.

Mr. Tinker as regional director of the National Forests was quite enthused over the successful and profitable aspects of reforestation. During the past few years he has been buying for the government large tracts of land in the 3 Lake States and incidently has cruised over millions of acres of virgin timber, second growth, cut-over and bare lands. It appears to be the policy of the forest service to buy all lands as cheaply as possible, no value whatever being placed on the second growth, for up to the present time it has no apparent value. It is also their policy to buy all the poorer, barren lands unfit for farming, as well as the sub-marginal lands abandoned by farmers. Thus, the forest service obtains all the poorer lands in an area that would not be used by any other person, with the idea that private concerns will eventually take over the better land in a reforestation program.

Dr. Zon criticised the forest service for adopting such a policy, in that the annual increment of the trees on such poor areas will not be sufficient to be at all profitable.

At first Mr. Tinker was quite enthusiastic of the annual growth of spruce in the national forests and stated that from his observations one could expect at least one cord per acre per year at the end of 30 years. However, Dr. Zon did not agree with this statement giving as his opinion that one half of a cord per acre per year on good spruce land was a very conservative estimate.

At this point the discussion turned on the returns that could reasonably be expected from planted spruce. It was finally brought out that the only data available was at the Laurentide holdings near Montreal, Canada. The plantings here while on good agricultural land ($12 - $18 per acre)are too young and small to form any reasonable estimate of what the various spruces would do on large areas under the varied conditions found in the field. After this discussion Mr. Tinker admitted that his estimates and opinions were based on spruces growing naturally in the National forests.

Mr. Tinker stated that there were about 160,000 acres, mostly of second growth black spruce in the Flambeau district, much of which was being taken over by the government. Oneida County also has a great deal of spruce land. The lands owned by Marquette University in Upper Michigan were also suggested as having good second growth spruce. Mr. Tinker has also cruised over most of the territory in Pigeon points and found that there had been very little fire loss and some of the second growth spruce would be ready to cut within the next 5 to 10 years. Pigeon Point adjoins the Superior National Forest and if lands are obtainable here it would be a good policy to tie these up, both from the standpoint of fire protection and also as spruce wood becomes available in the National forests a better bid could be made to the government if a company was operating nearby. He also suggested that this same policy could be followed in locating second growth spruce areas in Minnesota, Wisconsin, and Michigan. All in all Mr. Tinker furnished considerable practical information at the conference in spite of his enthusiasm on the future possibilities of reforestation.

Dr. Zon was of great help in that he formulated a sound and conservative policy for reforestation by private firms. He has just completed 30 years in the forest service and his ideas are based on facts and sound judgment and not on a mass of uncorrelative and superficial observations.

His comments during his 3 day stay at the camp can be divided into 3 groups:

1. Selective cutting of virgin stands.
2. Management of second growth spruce wood.
3. Supplementary plantings.

The present method of cutting spruce is known as clear cutting, namely the cutting of all trees suitable for pulpwood, when the spruce stands are mixed with hardwoods, then all the saw logs are sold, leaving in the wake of clear cutting a few large worthless trees, trees of odd sizes and a preponderence of slash, which continues to be a serious fire hazard for at least 5 years. Dr. Zon pointed out a very fine example of a devasted forest in the surroundings of the camp. In the past this type of cutting has reigned supreme.

To correct this type of logging Dr. Zon proposed two alternatives:

1. Partial cutting.
2. Strip or area cutting.

By partial cutting is meant, depending on the density of the stand, the removal of not more than 50 percent, or preferably less, of the spruce suited for pulpwood. Partial cutting is particularly a good practice, where the stands are dense and are made up of trees of different sizes. At the Marquette Station Dr. Zon pointed out in his experimental plats were only approximately 25 percent of the stand had been removed but 75 percent of the value.

Strip or area cuttings are very suitable where trees in a stand are more or less of the same size. Cutting clean in strips from 150 to 200 feet in width, leaving alternate strips of the same size untouched, is the usual procedure where strip cutting is not feasible. Areas of 5 acres are cut clean in alternate blocks. By cutting in strips or areas the timber is thrown to the center of the strips or areas and the tops left in windrows , while the sides are leftclear for skidding. The abundance of seed from trees on both sides of the strips or areas provides for the natural reproduction of the spruce. The alternate strips of forest left uncut are removed when the young growth on the cut-over areas reaches the seeding stage and is capable of reseeding the adjoining cut-over strips or areas.

In either the partial or strip and area method of cutting, slash may be left flat on the ground or piled up in windrows. Slash may be left to rot unburned, provided the entire stand of timber is protected by fire lines.

Improved growth in swamp forests can be obtained thru drainage or the removal of excess water. At Marquette Dr. Zon pointed out the increased growth of the trees when the land had been drained. The ditches in this area were made with the use of dynamite.

Dr. Zon is of the opinion that any company would be investing wisely if they obtained good stands of second growth spruce on good land. He seems to think that such stands could be bought for less money at the present time for two reasons: 1. Land values are lower than they will ever be in the future and, 2. Second gfowth has no value when land is bought. By reasonable management and possibly drainage, and fire protection, second growth spruce should produce at the rate of one-half cord per acre per year and would be ready to cut within 25 to 30 years hence.

Dr. Zon is not in favor of planting spruce on bare lands on a large scale. He takes the stand that planting should be more or less of a supplementary proposition, such as filling

in areas not covered by trees, the under planting of some aspen lands, the thickening up of their stands, etc. He believes that spruces, especially white spruce will grow well on white pine land. In fact he seems to think that white pine and good soil are correlated..

He does advise that the holdings be large enough to maintain a nursery. A nursery should be made to pay for itself.thru the sale of seedlings to the public.

In this connection he is willing to cooperate in using the 600 odd acres of cut-over land around the camp as an experimental forest. Here various species of spruces and some pines will be planted. Under a variety of conditions in order to determine not only the species of spruce which will grow the fastest, but under what conditions the best growth can be obtained.

The fact that Dr. Zon does not recommend the planting of large areas of bare land should act as a deterrent, especially since little or no data are available of the rate of growth of planted spruce.

The running comments noted above are in brief the meat of the discussion held at the camp. It appears that a reforestation policy such as advocated by the men in attendance is in the main a sound and conservative one and one which could be adopted with modifications by any private company who wishes to insure its future source of pulpwood.

Submitted by
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