Impact of the Pulp and Paper Industry Upon Forestry in the Southern United States

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The pulp and paper industry in the 12 Southern States has developed from its beginning about 40 years ago into a giant industry, producing more than 60 percent of the total pulp production in the United States. The present annual consumption of pulpwood in the South is 25 million cords, with a market value of over $500 million. Approximately 100,000 employees, men and women, are directly engaged in the southern pulp and paper industry, and the annual value of pulp, paper, and board shipped from the 73 pulp and paper mills is over $2 billion. The capital investment is over $4 billion.

The industry is an ideal combination of natural resources together with people, progressive management, and technological and scientific know-how. The industry has brought about a better balance between agriculture and industry with a higher standard of living. The pulp and paper companies own only 12 percent of the total 200 million acres of commercial forest land located in the 12 Southern States, whereas 1 1/2 million private small landowners own about 74 percent, and the balance of 14 percent is owned by large landowners and the State and Federal government.

During the early years, before modern forestry management was practiced, the timber inventory was being reduced year by year to such an extent that the consensus of opinion was that timber eventually would have to be shipped in from other sections of the country. This trend has been changed entirely, and during the last 25 years a surplus of inventory has been built up, and at the same time the annual amount of pulpwood produced has been increased from year to year. This tremendous improvement in increase in productivity of the timberland has been brought about by a cooperative effort by the forest industries together with the U. S. Forest Service, the various State forestry departments, various forestry organizations such as the Forest Farmers Association, the Southern Pulpwood Conservation Association, the American Forestry Association, the American Forest Products Industries, Inc., and several others, together with research and educational facilities of the forestry schools and universities.

One of the most important and effective actions taken has been better fire protection, reducing the annual acreage losses by fire from 5 percent or higher to the present 1 percent or lower. These losses will undoubtedly be reduced still further in the years to come.

Other very important developments are: the employment of more than 1,600 graduate foresters by forest industries, the organization of school forests and pilot forests, the establishment of training camps for thousands of 4H clubs and FFA members. In general, a very effective public relations campaign for publicizing the tremendous importance of better forestry land management on the whole economy of the Southern States has been taking place over the years.

A much greater utilization of the whole tree has also been brought about by the introduction of modern log barkers in the sawmills, making it possible to convert slabs and edgings into chips shipped to the pulpmills. This has added about 15 percent of the total pulpwood required.

The usage of hardwood in pulp manufacture has been continuously increasing, to the extent that 20 percent of the total pulpwood used is now hardwood. This will, of course, increase still further in the years to come.

Other developments of improved forest management practices have been selective cutting with seed trees left for natural reseeding, a tremendous increase in plantings of seedlings amounting to about one million acres per year during the last few years, seeding by airplane, cultivation of land for planting or seeding, research on combating insects and tree diseases.

All such activities have been essential in order to bring about the great step-up and increase of the timberland productivity which has been experienced during the last 30 years or so. These efforts will continue to an even greater extent in the years to come.

I believe, however, that you scientists and foresters who have been and who are creating new strains of pedigreed trees will effect by far the greatest progress in the increase of financial return for the timberland owners as well as for the forest industries in the years to come.

The fundamental research which has been carried on during the last 40 to 50 years in the Scandinavian countries and Western Europe, as well as

during the last 30 years or so in this country, very clearly indicates the tremendous possibilities ahead of you. The application will work in two ways:

1. The development of new strains resistant to insects and tree diseases, as well as faster growth in volume and weight in pounds of fiber per acre will give the landowner a much greater financial return.

2. The development of new strains will also bring about a new specified type of fiber which will allow the pulp and paper industry to produce new, superior grades of paper products with new applications and usages. Encouraging results have already been achieved, and I believe we can predict that long before the end of this century we will produce, in planted seed orchards, all of the seed of known and specified parentage that will be required for all seeding of forestry land, and the requirements of the nurseries for growing of seedlings.

Progress in other phases of timberland management will also take place, and it is not impossible to think that most forests will eventually be planted like any other agricultural crop, and harvested in a mass-production way by very highly developed machinery in a manner similar to our present method of cutting the wheat fields with harvester combines.

The loading and hauling of pulpwood will be mechanized entirely, and roads will be built for regular tractor-trainloads. Pallet loading will be carried out by the small landowner, leaving pallet loads at the country roads to be picked up by hauling contractors in the same manner as milk cans are now being picked up and delivered to the creameries.

In some instances, barking and chipping will be carried out in the forests, and chips transported through movable light metal or plastic pipelines to the pulp mill.

It is quite possible that the average annual yield of pulpwood produced per acre can be increased to between 1 and 2 cords.

The preceding outline will, in a general way, forecast the possibilities of improved forest management which will bring about a very great effect upon the financial return to the landowner. It should also be of utmost importance from the national economy viewpoint as the increase in the demand for wood will be very great.

We are today using 25 million cords of pulpwood per year in the Southern States, and the forecast is that this will be increased to between 75 and 100 million cords per year by the end of this century. This is based upon increased usage per capita, increase in population, and a very great growth in export of pulp and paper products to the Free World.

The byproducts from the pulpmills, such as tall oil, turpentine, and others, are playing an important role today in the profitability of the industry. Such development will undoubtedly expand very greatly in the years to come.

There are enough indications and results from research carried out so far over the years that eventually a method of using the lignin in the wood as raw material for the production of various valuable organic chemicals will be discovered. As the lignin amounts to nearly half of the total dry weight of the wood, the quantities involved are very great.

Whenever this is accomplished, the total byproducts made in the pulp mills could become of greater value than the cellulose fiber made, and this certainly will increase still further the demand for additional wood, giving still greater value to the timberland.

There is indeed a very great need for greatly improved efficiency of forestry operation, harvesting, and transportation when we realize that the cost of pulpwood used as raw material in making chemical pulp makes up more than half of the total cost of the finished product.

The present low efficiency in growing, harvesting, and delivering pulpwood to the pulpmill, compared with the present highly developed method of conversion of pulpwood into finished product, chemical pulp in the plant, can be compared with the driving of a Model T Ford versus the driving of a Cadillac.

The opportunities to bring about a change in this relationship are enormous, and this should bring about a still brighter future for the paper industry in the Southern States. This would also mean a brighter future for the landowners, and greater accomplishments to be achieved by you forest managers, scientists, and forest geneticists.

The past is only a prologue to the accomplishments to come.