Full Forest Utilization

A Bibliography

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INTRODUCTION

Wood is our principal renewable industrial material. Our forests account for about 96 percent by weight of this country's current production of renewable materials. Nearly one quarter of a billion tons of wood is used in the United States each year for shelter, food, chemicals, fiber and fuels (Bethel 1976).

Wood has been an important factor in the development of this country, and will become even more important as our non-renewable resources are used up. Yet time is running out as we seek opportunities to put unused materials in our forests to work through full forest utilization.

The objective of this bibliography is to present references of current interest on full forest utilization. Emphasis is placed on the use of presently unused or little used material and the overall forest biomass. This includes roots, bark, branches and plants other than merchantable trees. Because past emphasis has been on the utilization of the trunk of the tree, an abundance of information on this aspect of wood utilization already exists, and will not be included in this bibliography.

I hope that making this information readily available to workers in wood utilization and related disciplines will help make full forest utilization become a reality.

I do not say that we have failed to be innovative in the use of wood. Indeed, there have been major break-throughs in wood utilization in the last few years. Papers describing these break-throughs are included in this bibliography.

But, at present, we are only "scratching the surface of the tip of the iceberg" in full forest utilization. Much work cries out to be done, yet that cry now falls on deaf ears.

For example, we must address ourselves to a current major problem in full forest utilization in the West, the disposal of the enormous amounts of dead timber currently in our forests. In Idaho alone, the number of trees that die each year due to insects and disease exceeds that removed by logging. The species suffering the heaviest mortality are Douglas-fir, lodgepole pine, ponderosa pine, white pine, Englemann spruce and the true firs.

The United States Forest Service estimates that the standing dead timber on the Pacific Coast could offset the projected 17 percent timber supply decrease by the year 2000 (Gedney, Oswald and Fight 1975). But billions of board feet of dead timber stand silently in our forests waiting to be used for products that we continue to make from the non-renewable natural resources of the United States and other countries.

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Each year in Idaho forests, more trees die because of insects and disease than are removed by logging. Enormous amounts of dead timber continue to stand, waiting for technology to find a use for this wasted resource.

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