

TECHNICAL NOTES

FOREST PRODUCTS LABORATORY

U. S. FOREST SERVICE

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GRINDING OF WOOD FROM YOUNG AND OLD TREES

Green or freshly cut wood is known to yield a more desirable ground wood pulp than seasoned wood. It is not unnatural to assume, therefore, that a similar difference might occur in the grinding of wood from very large trees, which contain a large proportion of heartwood, and smaller trees of the same species. This assumption has been verified by the Forest Products Laboratory, at Madison, Wis., in a series of commercial grinding experiments on wood from large and small white fir (*Abies concolor*), grown in Plumas County, California. Paper was afterwards made from the pulp on the laboratory machine, and tested for strength and color.

The small or young wood was cut from trees 18 inches or less in diameter, and the large or old wood was split from a single tree 40 inches in diameter and 130 feet high. Under like grinding conditions, the actual solid volume of old wood ground was, in every instance, appreciably less than the volume of young wood ground in the same time.

In brief, the tests demonstrate that (1) there is a considerable difference in the quality of pulp produced from white fir, depending upon whether the wood is taken from old or from young trees, and (2) the advantages as regard production, power consumption, strength, and color are all in favor of young wood.

As the average groundwood pulp from white fir was found to be darker or duller than is desirable for many grades of paper, it is entirely possible that a provision for sorting the young wood and grinding it separate from that taken from large trees would result in improving the color and quality.