

New procurement approach increases pine utilization

Chipping headrig is the key to system under which lumber, plywood, pulp manufacturers benefit, as well as timberland, woodlot owners

By PETER KOCH

SEVERAL MANUFACTURERS of southern pine are trying a promising new system of wood procurement that is made possible by the chipping headrig. In the new approach, sawmillers handle all logging of small trees, regardless of the owner of the timberland. They sell chips to pulp mills and high-quality bolts to plywood plants.

The chipping headrig is the key to the system because it can profitably convert logs as small as six inches in diameter into lumber and chips. The new system appears to solve some of the most pressing problems of pulp companies, plywood manufacturers, sawmillers, and owners of trees nearing commercial size in small plantations and woodlots.

Despite large holdings of well-managed pine timber, southern pulp companies have wood procurement problems. A major cause of difficulty is that solid wood products are more valuable than chips. So the multi-product logger can afford to pay higher wages and bid more for stumpage than the pulpwood contractor.

High land prices and shortages of capital make rapid expansion of paper company forests an expensive solution. In fact, pulp companies are finding it increasingly difficult to find the labor to log their present holdings for pulpwood alone. The rising demand for kraft paper steadily enlarges these problems.

In the South, demand is also growing for eight-foot southern pine peeler bolts 12 inches and larger in diameter. At the age when many—if not most—pines in the region are harvested, the boles contain few satisfactory peeler bolts. Before a plywood plant bids for stumpage it must find a way to dispose of the majority of volume which cannot be made into plywood.

The chipping headrig has given sawmill operators a big advantage over pulpwood contractors and plywood plants in bidding for stumpage. It profitably converts small logs, which were formerly bought almost exclusively by pulp companies, into lumber and

chips. The investment in a chipping headrig and its supporting equipment is large, however, and a wood supply and lumber and chip markets must be assured.

Lumber markets, particularly for southern pine dimension, have been sufficiently large and stable to encourage investment in chipping headrigs. Prospects would be even brighter if a sawmiller knew he could gain access to the managed pine stands owned by a pulp company.

A set of agreements among a pulp company, a plywood plant and a sawmiller can help solve the problems of all three:

1. The pulp company agrees to sell large blocks of stumpage to the operator of a chipping headrig on two conditions. First, the sawmiller assumes all responsibility for logging. Second, he agrees to return to the pulp company—in the form of chips—twice the tonnage of wood originally purchased.

2. The plywood manufacturer agrees to buy from the sawmiller all 12-inch and larger peeler bolts that are produced. He pays a price high enough to return more to the sawmiller than conversion of the same bolts into lumber.

3. The chipping headrig operator agrees to buy all diameter classes of standing pine from owners of plantations and other pine stands in the area. He may choose to participate in thinning operations or he may decide to do final harvesting only. The stumpage price he offers is based primarily on sawlog values. In this manner, he contracts to buy three times the tonnage from other landowners that he buys from the pulp company.

Through these arrangements, the pulp company gets a high price for its timber, sheds some of its logging problems, and greatly increases its tonnage of incoming chips. Furthermore, the chips are purchased at residue prices.

The plywood plant enormously increases its inflow of peeler logs without acquiring land, logging, or reselling small-diameter logs.

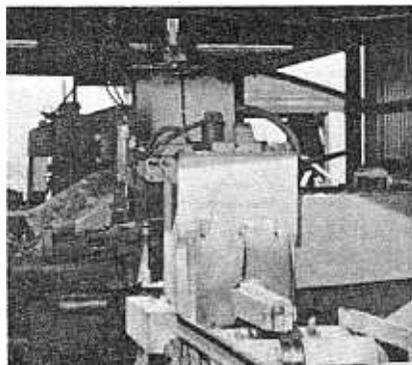
The sawmill operator gains access to pulp company lands, and he is assured an outlet for chips. Yet his logging operations are only a little larger than they would have to be to justify the purchase of the chipping headrig with no special agreements.

The sawmiller brings logs to the mill in tree lengths. Tops less than six inches in diameter are sheared off and sent directly to a roundwood chipper. Material between six and 12 inches in diameter is converted into lumber and chips, and suitable bolts 12 inches and larger are sawn from the butt end and sent to the cooperating plywood plant.

Approximately half the tonnage of tree-length logs purchased is converted into chips. Most of the rest is made into lumber and peeler bolts. Less than four per cent of total tonnage ends up as sawdust. These ratios, of course, will vary with the form and size of timber harvested.

Non-industrial owners of plantations in which trees are nearing commercial size would also benefit from this system. These owners control an important percentage of the 15 million acres that were planted to southern pine between 1947 and 1967. Each year the volume of stumpage they have to sell increases, and a major share of that volume is in logs six to 12 inches in diameter.

Formerly, bolts of this size were evaluated only as low-value pulpwood, but under the proposed system they would be considered sawlogs. An increase in the price paid for small trees would increase the profits of those who practice good forestry. This incentive could help solve the national problem of poor management on small woodlots. ■



Dr. Koch is the leader of the Forest Products Utilization Research Project at the Southern Forest Experiment Station, USDA Forest Service, Pineville, La. He has been closely associated with chipping headrig development and application as a means of increasing southern pine utilization.

Chipping headrigs, tree-length logging increase smallwood utilization.