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LUMBER GRADE RECOVERY FROM YOUNG PONDEROSA PINE

by

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Young ponderosa pine produces a good grade of common lumber, and close-grown trees produce better grades than those which were open-grown. This was shown by a study[1/] at the Pringle Falls Experimental Forest near Lapine in central Oregon.

A commercial thinning was made in the fall of 1949. Trees were cut from a 105-year-old stand of even-aged ponderosa pine, growing on a low site III.[2/] Cutting removed 11 to 19 percent from original stand volumes of 25,000 to 30,000 board feet per acre, Scribner scale. Logs were selected from dense and open portions of the stand and milled separately by Brooks-Scanlon, Inc., at Bend, Oregon. Lumber was graded by a Brooks-Scanlon, Western Pine Association, grader on the green chain.

All lumber produced from this young ponderosa pine stand was of the common grades. Close-grown trees produced 18 percent more volume per acre, 13.2 percent more number 2 common lumber, and 7.6 percent less number 4 and 5 common lumber than open-grown trees of the same age. However, the open-grown trees averaged five inches larger in diameter and contained more than twice the board-foot volume per tree (Table 1).

1/ This study was conducted in cooperation with Brooks-Scanlon, Inc., the Bureau of Land Management, and the Deschutes National Forest.

2/ Site according to Meyer, U.S.D.A. Tech. Bul. 630.

At present it is difficult to ascribe an economic advantage to either the close-grown or open-grown stands. The increased value of the higher volumes per acre and better grades of lumber produced from the close-grown stand may be largely balanced by the increased cost of logging and milling the smaller trees. Future studies will determine the relative value of close-grown and open-grown stands.

Observations, both here and elsewhere in ponderosa pine areas, show quite clearly two things: (1) a higher percentage of the better grades of common lumber can be produced from fully stocked stands than from the more open stands, and (2) even in fully stocked stands it is impossible to produce clear lumber, during any practical rotation period, unless the trees are pruned of their lower limbs at a relative early age.

Table 1.--Stand data, sample logs, and lumber grade recovery from a commercial thinning in a 105-year-old ponderosa pine stand at Pringle Falls Experimental Forest

Item	: Close-grown	: Open grown
STAND BEFORE LOGGING		
Trees per acre over 11 inches d.b.h.	122 trees	49 trees
Volume per acre, Scribner	30,410 bd. ft.	25,700 bd. ft.
Average volume per tree	249 bd. ft.	524 bd. ft.
Average d.b.h.	18 inches	23 inches
SAMPLE LOGS		
Milldeck log scale, Scribner	9,110 bd. ft.	25,810 bd. ft.
Number of logs	135 logs	225 logs
Average volume per log	67 bd. ft.	115 bd. ft.
LUMBER GRADE RECOVERY ON THE GREEN CHAIN		
No. 2 common	52.5 percent	39.3 percent
No. 3 common	34.7 percent	40.3 percent
No. 4 common	11.7 percent	18.9 percent
No. 5 common	1.1 percent	1.5 percent