

Raleigh, N. C., December 28, 1950.

SF-FM
Utilization
Tree Grades

MEMORANDUM TO ALL FIELD FORESTERS:

I am sending you herewith a revised copy of my Simplified Field Guide To Santee Tree Grades which has been checked by Mr. Thomas Lotti of the Southeastern Forest Experiment Station. In Lotti's communication of November 6, 1950, he states in part, "You are taking some chances when you apply our lumber grade recovery data as is, anywhere outside the locality of the Santee Experimental Forest. You should strive for a number of checks at local mills as soon as you can."

Therefore, I am sending this to you in the hope that you will study carefully both Technical Note No. 69 and the Simplified Field Guide. Then if any of you have an opportunity to use the system where you can obtain a check of grade recovery, please do so and let us know the result.

However, even though the grade recovery data may be risky, until adequate checks have been made I believe that the system has merit for use to indicate the quality of the timber to be sold. For this purpose, the grade recovery data would not be used, but the marked trees would be tree graded and the volumes computed by tree grades, then indicated on the Volume Summary Sheet which is sent out with the Invitations to Bid as so many trees with so much volume by diameter class and total net volume as illustrated below:

| <u>D.B.H.</u> | <u>High Quality ^{1/}</u> | | <u>Good Quality ^{1/}</u> | | <u>Fair Quality ^{1/}</u> | | <u>Low Quality ^{1/}</u> | |
|---------------|-----------------------------------|---------------|-----------------------------------|---------------|-----------------------------------|---------------|----------------------------------|---------------|
| | <u>Tree Grade 1-2</u> | | <u>Tree Grade 1-3</u> | | <u>Tree Grade 2</u> | | <u>Tree Grade 3</u> | |
| | <u>#Trees</u> | <u>Volume</u> | <u>#Trees</u> | <u>Volume</u> | <u>#Trees</u> | <u>Volume</u> | <u>#Trees</u> | <u>Volume</u> |
| 12 | | | | | | | | |
| 14 | | | | | | | | |
| 16 | | | | | | | | |
| 18 | | | | | | | | |
| 20 | | | | | | | | |
| 22 | | | | | | | | |
| 24 | | | | | | | | |
| 26 | | | | | | | | |
| Total | | | | | | | | |
| Net Total | | | | | | | | |

^{1/} As a rough approximation of the percent of green lumber recovery that is possible from the above quality classifications, the following are indicative: High Quality - 34% C & Btr., 66% Below; Good Quality - 26% C & Btr., 74% Below; Fair Quality - 17% C & Btr., 83% Below; and Low Quality - 7% C & Btr., 93% Below.

-----X-----

In using this system, it may prove desirable to indicate several samples of the various tree grades on a small portion of the marked area so that prospective purchasers can observe trees included in the various quality classes. This can be done by "writing" the tree grade on the bole with the paint gun.

We shall appreciate any comments you may have concerning the use of the Santee Tree Grade System as described above.

R. A. Morin
R. A. Morin
Management Forester

RAM:clw

SANTEE TREE GRADES ^{1/}

| Tree Grade | Minimum D.B.H. Class | Description |
|------------|----------------------|--|
| 1-2 | 14" | Butt log a grade #1 and second log a grade #2 or better. |
| 1-3 | 14" | Butt log a grade #1 and second log a grade #3. |
| 2 | 12" | Butt log a grade #2 |
| 3 | 12" | Butt log a grade #3 |

SIMPLIFIED FIELD GUIDE TO SANTEE TREE GRADES

| Tree Grade | D.B.H. Class | Butt Log | Second Log |
|------------|--|---|---|
| 1-2 | 14" 16" & 18" 20" & up | Surface Clear Surface Clear Three 2-4-in. Knots ^{2/} | Surface Clear Any # Small Knots ^{2/} Six 2-4-in. Knots |
| 1-3 | 14"-18" inc. 20" & up | Surface Clear Three 2-4-in. Knots | Merchantable ^{3/} Merchantable ^{3/} |
| 2 | 12"-16" inc. 18" & up | Any # Small Knots Six 2-4-in. Knots | |
| 3 | ^{3/} Any merchantable tree 12" D.B.H. & up (or log 8" D.I.B. & up) which will not qualify for a higher grade. | | |

^{2/} Small Knots are those less than 2.0 inches in diameter. Diameter of Knots is measured at right angles to the stem and immediately above the swell. Adventitious Knots or branches are disregarded.

Note 1: Each log in the tree is considered as having four faces but only three of them enter into the grading, for the face on the far side of a tree is not seen by the grader.

Note 2: For average timber from 13"-18" D.B.H., use Tree Grades 1-3, 2, and 3 only; then use lumber grade recovery percentages for Tree Grade 1-3, 2 and 3. (Table 1.)

^{1/} See: Tree Grades for Loblolly and Shortleaf Pine. Southeastern Forest Experiment Station Technical Note No. 69. 1948.

R. A. MORIN
Management Forester
1950 (Revised)

Table 1.— Lumber grade recovery by tree size and tree grade.

| D.B.H. | Tree Grade 1-2 | | | | | Tree Grade 1-3 | | | | |
|--------|-------------------------|----|-------------|-------------|-------------|-------------------------|----|-------------|-------------|-------------|
| | B & B | C | # 1 Com. | # 2 Com. | # 3 Com. | B & B | C | # 1 Com. | # 2 Com. | # 3 Com. |
| | Percent of Green Lumber | | | | | Percent of Green Lumber | | | | |
| 14 | 16 | 18 | 28 | 35 | 3 | 16 | 10 | 37 | 34 | 3 |
| 16 | 18 | 18 | 26 | 35 | 3 | 16 | 15 | 29 | 37 | 3 |
| 18 | 21 | 16 | 25 | 34 | 4 | 16 | 16 | 24 | 41 | 3 |
| 20 | 23 | 15 | 24 | 34 | 4 | 16 | 15 | 22 | 44 | 3 |
| 22 | 25 | 14 | 23 | 33 | 5 | 16 | 13 | 20 | 48 | 3 |
| 24 | 28 | 13 | 21 | 32 | 6 | 16 | 10 | 20 | 51 | 3 |
| 26 | 30 | 12 | 20 | 32 | 6 | — | — | — | — | — |

| D.B.H. | Tree Grade 2 | | | | | Tree Grade 3 | | | | |
|--------|-------------------------|---|-------------|-------------|-------------|-------------------------|---|-------------|-------------|-------------|
| | B & B | C | # 1 Com. | # 2 Com. | # 3 Com. | B & B | C | # 1 Com. | # 2 Com. | # 3 Com. |
| | Percent of Green Lumber | | | | | Percent of Green Lumber | | | | |
| 12 | 8 | 9 | 19 | 63 | 1 | 3 | 4 | 19 | 71 | 3 |
| 14 | 8 | 9 | 19 | 63 | 1 | 3 | 4 | 23 | 67 | 3 |
| 16 | 8 | 9 | 19 | 63 | 1 | 3 | 4 | 21 | 69 | 3 |
| 18 | 8 | 9 | 19 | 62 | 2 | 4 | 3 | 17 | 73 | 3 |
| 20 | 8 | 9 | 19 | 62 | 2 | 4 | 3 | 13 | 77 | 3 |
| 22 | 8 | 9 | 19 | 62 | 2 | 4 | 3 | 9 | 81 | 3 |
| 24 | 8 | 9 | 19 | 62 | 2 | 4 | 3 | 6 | 84 | 3 |