COMBINED EFFECTS OF DRYING, SURFACING, AND TRIMMING
ON GRADE AND VOLUME OF SOUTHERN PINE LUMBER

Abstract.—This paper shows how the grade and volume of 1-inch and
dimension lumber changed due to drying, surfacing, and remanufacturing
during a southern pine lumber yield study.

Southern pine lumber is normally graded in a surfaced and seasoned
condition. The standard grading rules of the Southern Pine Inspection
Bureau state moisture content limitations as integral parts of the various
grades.1 Unsurfaced lumber, however, can be graded under the rules.
This provision considers possible removal of imperfections when the
piece is dressed to standard thickness.

Yield tables that accompany the southern pine log and tree grade
rules developed by the U. S. Forest Service are based on “rough-green
grade.”2,3 How the grade and volume might change due to drying, surfacing,
and possible manufacturing becomes important. To measure this
change, over 7,700 boards, totaling more than 68,000 board feet, were
graded and scaled when green, and again after drying and surfacing. The
results of this comparison, for both 1-inch and dimension lumber, are
presented in tables 1 and 2.

Some of the lumber grade changes noted in the tables can be ex-
plained by remanufacturing: ripping or crosscutting to make two boards
from one, end trimming to raise the grade of the board, and surfacing to
remove minor defects. Also, a portion of the lumber grade change can
be related to the difficulty of grading rough-green lumber. This problem
is especially difficult for the inspector when he is grading marginal or
line boards.

Orleans, La., 162 pp. 1963.
Table 1. --Grade and volume change of 1-inch southern pine lumber from rough-green to dry-surfaced

<table>
<thead>
<tr>
<th>Lumber grade</th>
<th>Volume (B&amp;B)</th>
<th>C</th>
<th>D&amp;IC</th>
<th>2C</th>
<th>3C</th>
<th>4C</th>
<th>Volume lost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>B&amp;B</td>
<td>4,384</td>
<td>56</td>
<td>22</td>
<td>15</td>
<td>**</td>
<td>1</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>C</td>
<td>7,602</td>
<td>23</td>
<td>33</td>
<td>35</td>
<td>3</td>
<td>--</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>D&amp;IC</td>
<td>14,491</td>
<td>1</td>
<td>3</td>
<td>64</td>
<td>23</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>2C</td>
<td>19,297</td>
<td>--</td>
<td>1</td>
<td>5</td>
<td>73</td>
<td>15</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>3C</td>
<td>2,390</td>
<td>--</td>
<td>--</td>
<td>3</td>
<td>26</td>
<td>64</td>
<td>2</td>
<td>5</td>
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<tr>
<td>4C</td>
<td>267</td>
<td>--</td>
<td>--</td>
<td>0</td>
<td>21</td>
<td>29</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
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</table>

*Dried to approximately 15 percent moisture content.
*Cull and remanufacturing.

Table 2. --Grade and volume change of southern pine dimension lumber from rough-green to dry-surfaced

<table>
<thead>
<tr>
<th>Lumber grade</th>
<th>Volume (1D &amp; Special)</th>
<th>2D</th>
<th>3D</th>
<th>4D</th>
<th>1 Dense</th>
<th>2 Dense</th>
<th>3 Dense</th>
<th>Volume lost</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>1D</td>
<td>1,558</td>
<td>43</td>
<td>38</td>
<td>14</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>4</td>
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<tr>
<td>2D &amp; Special</td>
<td>2,091</td>
<td>6</td>
<td>57</td>
<td>20</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>-</td>
<td>1</td>
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<td>3D</td>
<td>354</td>
<td>2</td>
<td>--</td>
<td>76</td>
<td>17</td>
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<td>--</td>
<td>5</td>
<td>100</td>
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<tr>
<td>4D</td>
<td>48</td>
<td>--</td>
<td>--</td>
<td>100</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>100</td>
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<tr>
<td>1 Dense</td>
<td>13,866</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>71</td>
<td>24</td>
<td>2</td>
<td>3</td>
<td>100</td>
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<tr>
<td>2 Dense</td>
<td>2,052</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>8</td>
<td>67</td>
<td>22</td>
<td>3</td>
<td>100</td>
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<tr>
<td>3 Dense</td>
<td>313</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>13</td>
<td>25</td>
<td>56</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

*Dried to approximately 15 percent moisture content.
*Cull and remanufacturing.
When these tables are applied to yields of rough-green lumber, they will give an indication of how the grade and volume might change when the lumber is processed to a dry-surfaced condition.

This test was conducted at a single mill. Although it contained considerable volume, it reflects the practices of one mill. The amount of grade change and volume loss from drying and processing will vary from mill to mill.

This is one of a group of four publications by the Southeastern Forest Experiment Station pertaining to southern pine log and tree grade lumber recovery studies. The four publications are:


B. E. Carpenter, Jr., and J. G. Schroeder, Wood Scientists
Forestry Sciences Laboratory
Athens, Georgia