The Care and Feeding of White Woods

Tom Graber
Baillie Lumber
Smyrna, New York

The Care and Feeding of White Woods

Kinds of:

- Challenges:
  1) Rotation.
  2) Color Retention (interior and exterior)
  3) Stain (fungal, chemical, and…)
  4) Drying environment (Air Drying and kilns)
  5) Dimensional stability
  6) Kiln / boiler limitations
  7) Bruising
  8) Stick Shadow
  9) Mixed loading / MC variation
The Care and Feeding of White Woods

Kinds of:

• Solutions:
  1) Fast from tree to thee as fast as possible.
  2) Scheduling, winter cut, fast rotation
  3) Storage, scheduling...
  4) High airflow, low temp / RH schedule
  5) Cutting, sticking, stacking, rotation
  6) Airflow, heating / venting capacity
  7) Eliminate sawmilling process
  8) Breeze dry sticks / dry sticks
  9) LCD scheduling

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Rotation.
Rotation

Rotation
Color Retention

Color Retention
Color Retention

Stain
Drying environment

Drying environment
Drying environment
Drying environment

Dimensional stability - stacking
Dimensional stability - stacking

Dimensional stability - sticking
Dimensional stability - stacking

Dimensional stability - full courses
Kiln / boiler limitations

Bruising
Stick Shadow

Mixed loading / MC variation
Some SUNY ESF Laboratory Research

Interior Color
### @ 90°F

<table>
<thead>
<tr>
<th>Drying days</th>
<th>0.5</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>7</th>
<th>12</th>
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</table>

### @ 110°F

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<th>2.5</th>
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<th>7</th>
<th>12</th>
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<tbody>
<tr>
<td>@ 130°F</td>
<td>Drying days</td>
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<td></td>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td>0.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
<td>7</td>
<td>12</td>
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<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
<td><img src="image5.png" alt="Image" /></td>
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<td><img src="image7.png" alt="Image" /></td>
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<table>
<thead>
<tr>
<th>@ 150°F</th>
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## After 12 Days

<table>
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<th>110</th>
<th>130</th>
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<td></td>
<td>![Image]</td>
<td>![Image]</td>
<td>![Image]</td>
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</tr>
</tbody>
</table>

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### Schedule, Season, Log Age
### Drying Schedules

<table>
<thead>
<tr>
<th>Step</th>
<th>Moisture Content (%)</th>
<th>Relative Humidity (%)</th>
<th>Temperature in degrees F</th>
<th>Wet Bulb Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Above 40</td>
<td>70</td>
<td>110</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>40 to 35</td>
<td>60</td>
<td>110</td>
<td>96</td>
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<tr>
<td>3</td>
<td>35 to 30</td>
<td>47</td>
<td>110</td>
<td>90</td>
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<td>4</td>
<td>30 to 25</td>
<td>32</td>
<td>120</td>
<td>85</td>
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<tr>
<td>5</td>
<td>25 to 20</td>
<td>22</td>
<td>130</td>
<td>80</td>
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<tr>
<td>6</td>
<td>20 to 15</td>
<td>15</td>
<td>140</td>
<td>90</td>
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<tr>
<td>7</td>
<td>15 to final</td>
<td>22</td>
<td>160</td>
<td>110</td>
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</tbody>
</table>

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<th>Relative Humidity (%)</th>
<th>Temperature in degrees F</th>
<th>Wet Bulb Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Above 40</td>
<td>86</td>
<td>130</td>
<td>125</td>
</tr>
<tr>
<td>2</td>
<td>40 to 35</td>
<td>81</td>
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<td>123</td>
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<td>3</td>
<td>35 to 30</td>
<td>72</td>
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<td>119</td>
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<tr>
<td>4</td>
<td>30 to 25</td>
<td>57</td>
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<tr>
<td>5</td>
<td>25 to 20</td>
<td>35</td>
<td>150</td>
<td>115</td>
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<td>6</td>
<td>20 to 15</td>
<td>22</td>
<td>160</td>
<td>110</td>
</tr>
<tr>
<td>7</td>
<td>15 to final</td>
<td>26</td>
<td>180</td>
<td>130</td>
</tr>
</tbody>
</table>
Some of our competition...
In China
Thank you!
any Question, Comments?