

# Kiln Management

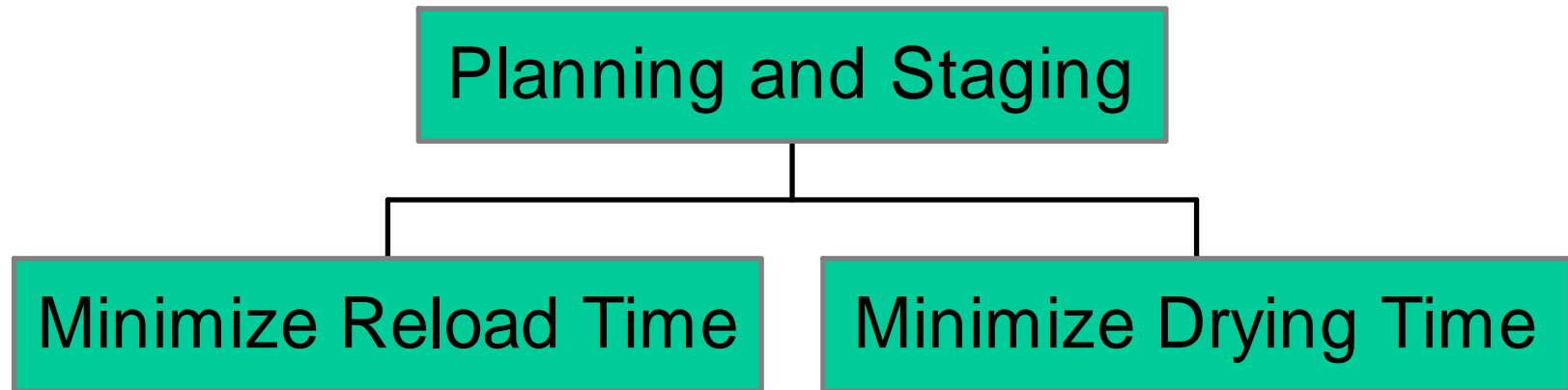
- Staging and Planning  
Kiln Charges
- Proper Sampling
- Correct MC  
Information
- Maximizing  
Performance
- Minimizing Reload  
Time



# Staging and Planning

- Pre-stage a charge to minimize reload downtime.
- Load lumber with similar characteristics.
- Load lumber with similar initial moisture contents.
- Monitor how well the kiln is loaded.

# Planning Pays Off



# Reducing Reload Time By Two Hours

- Increase yearly production by at least 130,000 ft. by gaining drying time.
- Increase revenue by nearly \$60,000 in added value alone
- Over 9 locations that equals an extra 1.17 million feet of lumber with an added value of over \$526,000

# Reduce Drying Time By 12 Hours

- Increase production by 780,000 ft. per year
- Increase revenue by \$351,000 in added value
- In 9 locations that equals added production of over 7 million ft. with an added value of nearly 3.2 million dollars.

# Total

- Over 8 million ft. of increased kiln production as a group
- Over 3.7 million dollars in added value

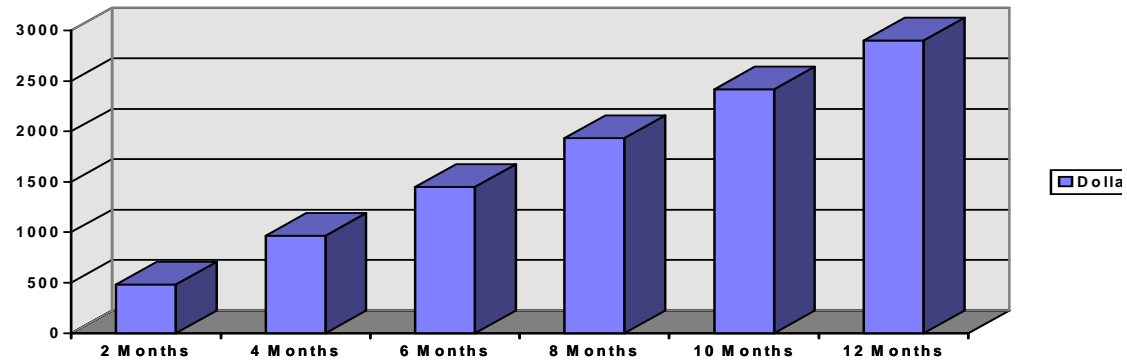
# Loss Prevention

# Loose Boards

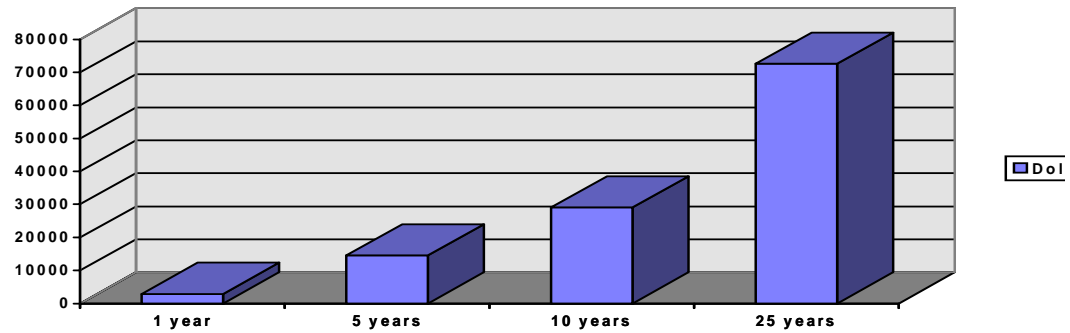
- Usually end up on the ground
- Usually ruined
- Add up quickly
- Easily avoided



# Loss Prevention



This is a one year projection of those 43 boards.  
\$2,902.50



This is a 25 year projection of those 43 boards.  
\$72,562.50

# Improper Stacking

- Sticks not straight
- Misaligned risers
- Boards not supported by sticks
- Sticks not supporting boards
- Sticks not close enough to the end



# Mud & Debris





# Proper Stacking











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# Safety

- Pay attention to detail
- Don't become overconfident
- Look out for others
- Report hazards



# Testing Procedures

# Average MC

- Moisture section is approximately 1" in length along the grain
- It is weighed "wet" and again after it is oven dried
- Ensure that scales are clean and calibrated



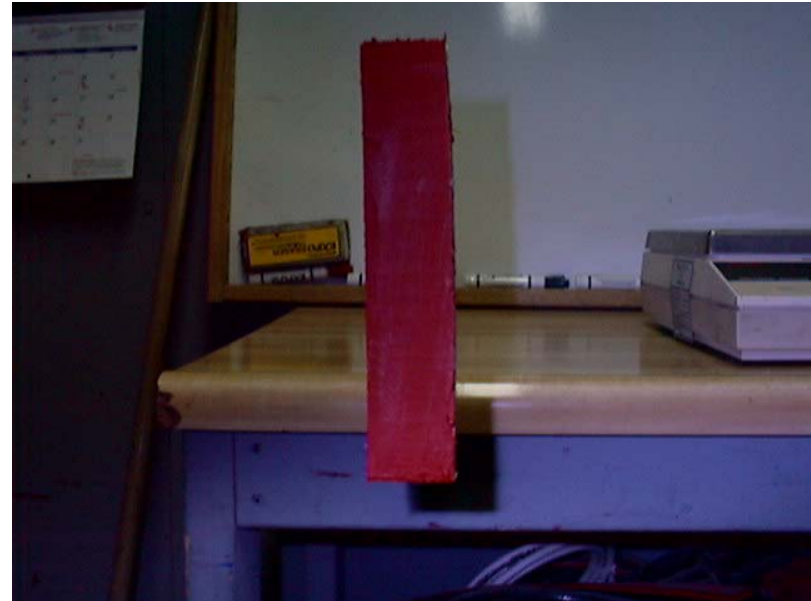
# Kiln Sample

- Be sure to follow proper sampling techniques when choosing samples
- Paint and weigh kiln samples immediately after cutting them



# Sample Coating

- Paint kiln samples with a coating that is made for kiln use.
- Coat ends thoroughly
- Do not use end wax to coat your kiln samples



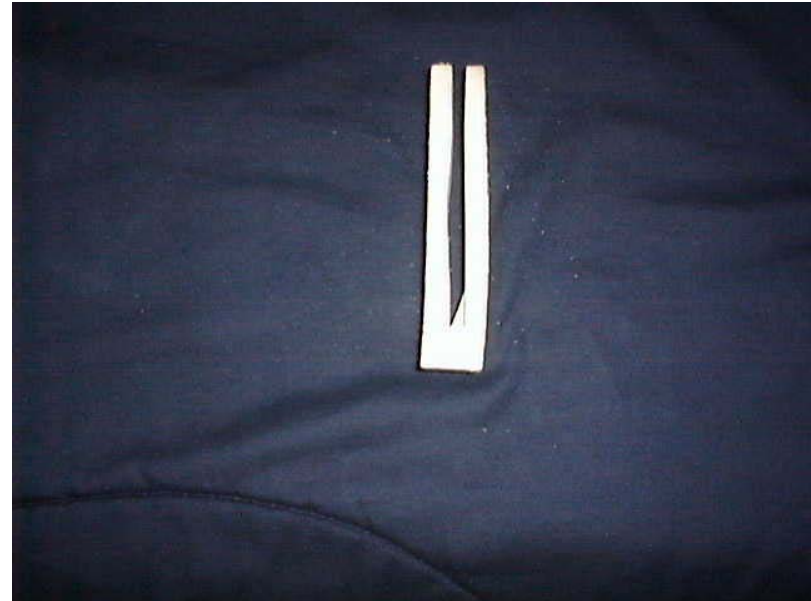
# Shell and Core Tests

- Use to measure moisture gradient
- Use to verify MC before raising kiln temperature
- Use to verify final MC



# Stress Tests

- Cut prong test after sections have cooled
- Prong thickness should be  $\frac{1}{3}$  the thickness of the lumber
- Photocopy stress tests for future reference



# Case Hardened

- Shell is in compression and core is in tension
- Continue conditioning process



# The Finished Product

