Hickory – Problems or Opportunities

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Oak-Hickory Forest

- 114 million acres of oak-hickory timberland
- 112.4 billion cubic feet of oak
- 18.5 billion cubic feet of hickory

Growing Hickory

- There seems to be problems with artificial regeneration
- Natural regenerated seems to grow quite well
- There appears to be more growing stock than demand for it

Processing

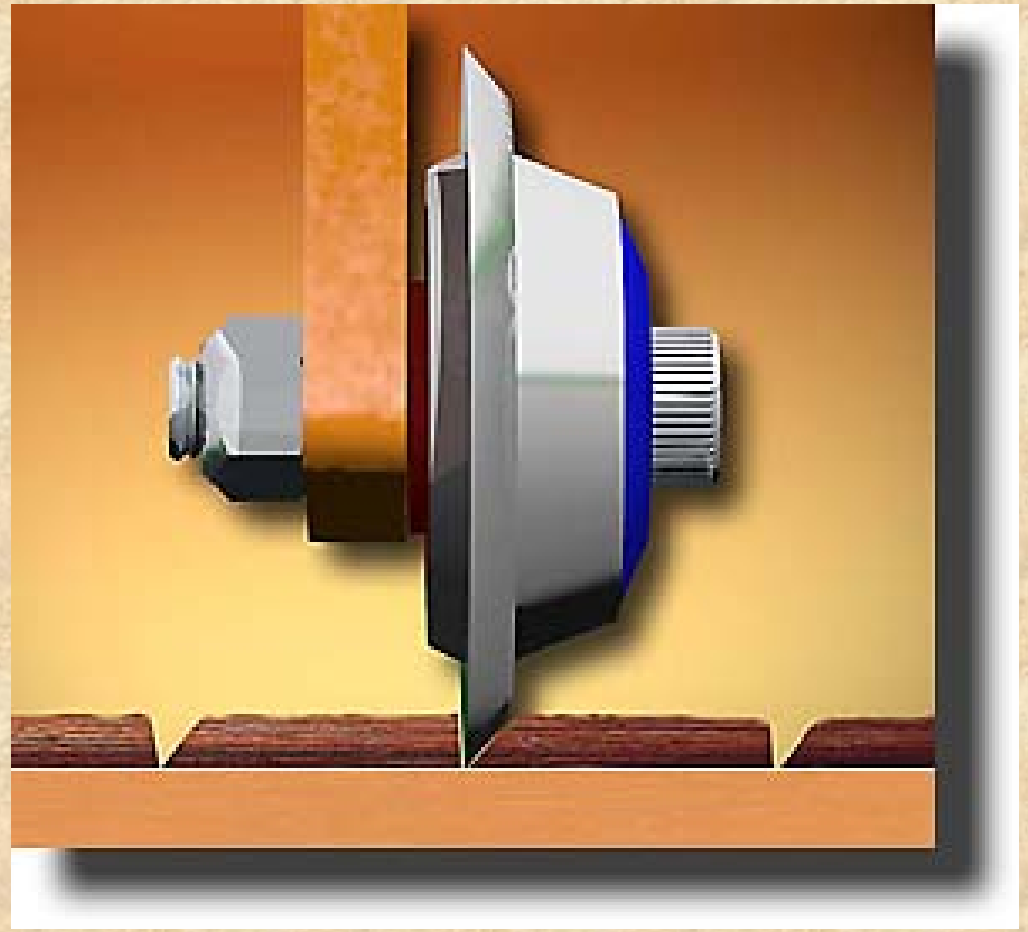
- Debarking
- Sawing
- Drying
- Machining
- Finishing
- Bending

Debarking

- Koch reported 3 classes of debarking
  - easy
  - intermediate
  - difficult
- The only species under difficult were hickory species

- In the summer time, hickory bark come off in 6-8 foot sheets.
- This clogs the conveying system and makes handling difficult
- Slitters in front of ring debarkers alleviate this problem

Slitter



Sawing

- Debark first to save saw blades.
- Wood is hard; therefore, sawing is hard.
- Wavy surface possible.
- High growth stresses.

Sawing Solutions

- Sharp teeth
- Use hook of 10 degrees or less preferably 4 degrees
- Slow feed rate, especially at knots
- Lots of lubricant (water)
- Highest MC possible
- Bi-metal blades
- Turn to new face after 1 to 2 cuts

Insects and Fungi

- Powder post beetles and others like to attack hickory in the open air.
- Sapwood tends to blue stain
- Dip treat with fungicide/insecticide solution
- Borates

Drying

- Hard to dry
- Sticker Stain
- High shrinkage – 5-7% R and 9-11% T
- Tends to warp especially twist
- End Checking
- Turn pink

Drying Solutions

- Sticker stain – use dry stickers – pine and cottonwood have been recommended. Also, flash dry surface if possible.
- Pinking can avoided by keeping temperature below 115^0F.
- Warping can be reduced somewhat with mild conditions and heavy top weight.
- End coat to reduce end checks

Machining, etc.

- Power tools – good sawing, planing, turning and boring but must keep tools sharp.

- Nails and screws – very good but must pre-drill to prevent splitting

- Gluing – difficult – needs close control
- Carving – not recommended
- Sanding – good but tend to get fuzzy or hairy and requires extra work to polish surface for finishing.

Finishing

- Rated good for finishing -- takes a full range of medium to dark finishes and bleaching treatments.

- Rated good as a painting surface.

Bending

After steaming, hickory has excellent bending properties.

Current Products

- Striking Tool Handles

Flooring

Second in hardness only to mesquite

Cabinets

Industrial Uses

- Boxes
- Crates
- Pallets
- Cross Ties

Conclusions

- Hickory is abundant and under utilized
- May be hard to work with
- Makes beautiful and valuable products

Questions