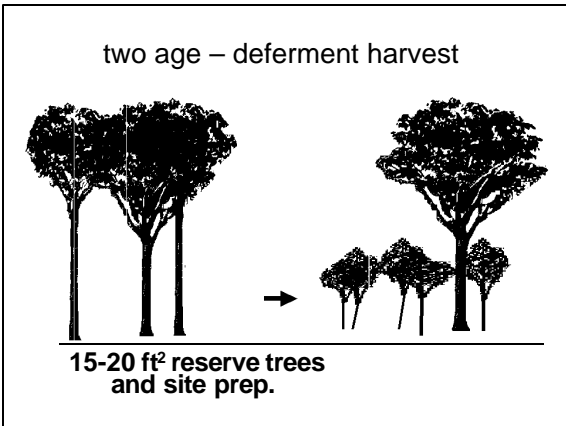
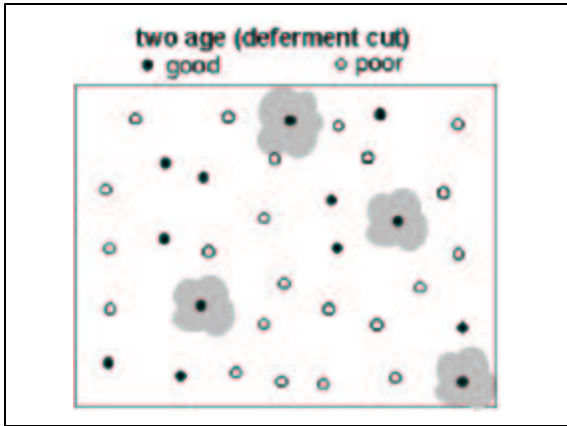


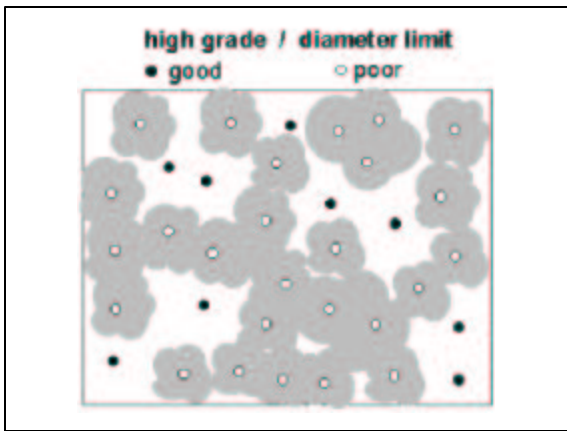


video

shelterwood







	light	density
high grade	shade	low
group selection	sun	high
clearcut	sun	high
shelterwood	intermediate	high
two age	sun	high
individual tree	shade	moderate



Layout of Silvicultural Prescriptions



Planting Hardwoods

Why Plant?

- Supplement natural regeneration --- enrichment plantings
- Reforesting fields --- lack of seed source
- Fiber rotations
- Introducing genetically-improved stock
- Increasing species diversity

Guidelines for Planting

- Match the species to the site
- Plant large seedlings for best success
- Prepare the site
- Control competing vegetation
- Protect seedlings from animal predation

Planting Summary

- Artificial regeneration is a process, not an event
- A general prescription for success is that *large, healthy seedlings* should be *properly planted on appropriate sites* where competing woody and herbaceous *vegetation is controlled* for at least 2 to 3 years

Planting Recommendations

- *Augment* species composition
- Lack of seed source ---- field & pastures
- Control competition --- woody & herbaceous
- Planting success --- best and appropriate sites with adequate moisture throughout the growing season
- Use large planting stock

Mixed Species Plantings

- Information is sparse
- Different species
- Different growth rates and habits
- Variable site requirements
- Spacing??? More Research Needed

Bottomland Forests

- Bottomland forests are some of the most productive and diverse ecosystems in the United States
- Myriad of different species with different site requirements and growth habits makes management extremely complex and variable

Bottomland Hardwoods

- The silviculture is similar to upland forests except for:
- **Flooding** that is largely, unpredictable and uncontrollable, and
- **Site/Species** relationships

Bottomland Hardwoods

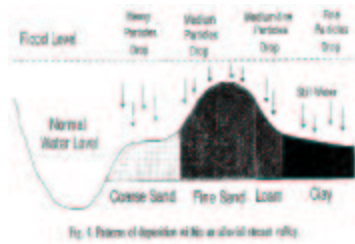
- Water
 - Depth
 - Frequency
 - Duration
 - Seasonal Timing

Bottomland Hardwoods

- Site/Species Relationships

- Landform
- Soil Drainage
- Soil Texture
- Deposition

Patterns of Deposition



Bottomland Landforms Classification

- Gulf Coastal and Mississippi Alluvial Plains
- Atlantic Coastal Plain
- Major Bottoms
- Minor Bottoms
- Red River Bottoms
- Black River Bottoms

Mississippi Alluvial and Gulf Coastal Plains

- **Minor Bottoms** have soils of local origin
- **Major Bottoms** have soils that were transported for hundreds of miles that vary in mineralogy.

Atlantic Coastal Plain

- **Red River Bottoms** originate from sediments from the mountains and upper Piedmont
- **Black River Bottoms** originate in the lower Piedmont or the coastal plain
- **Muck Swamps** are highly organic areas where there is standing water for 10-12 months a year.

Species Composition in the Atlantic Coastal Plain

Red River Bottoms

Black River Bottoms

Sycamore
Cottonwood
Sweetgum
Oaks
Ash

Red Maple
Ash
Swamp Black Gum
Water/Willow Oaks
Elms/Hackberry

Major and Minor Bottoms
Landform and Species
Schematics

Major Bottoms

- **Bars and Fronts** --- willow, elm, cottonwood, sycamore
- **Flats** --- Nuttall oak, green ash, sugarberry, elm, red maple
- **Slough** --- overcup oak, water hickory
- **Swamp** --- water tupelo, bald cypress
- **Ridge** --- sweetgum, green ash, hickory, water/willow oaks

Minor Bottoms

- **Bar** --- river birch
- **Levee** --- beech, sycamore, sweetgum, sycamore, yellow-poplar, oaks
- **Flat** --- sweetgum, oaks, hickories, blackgum
- **Slough** --- bald cypress, swamp tupelo
- **Terrace** --- white oaks, red oaks, hickory, yellow-poplar, sweetgum, loblolly pine

Bottomland Hardwoods Summary

- Know your sites
- Know the hydrology
- Know the ecological requirements of the species
- INTEGRATE ---- Match the species to the site conditions

Bottomland Systems are Dynamic!

Rapid change is part of the system.
Sites and soils are in a constant state
of change because of deposition and
erosion. This in turn is reflected in the
vegetational composition
