Managing Black Walnut

Mel Baughman
Professor Emeritus
University of Minnesota

Lenny Farlee
Extension Forester
Purdue University
Why Grow Black Walnut?
Wood Products

Rich, brown color

Novelty items
Lumber products
Gunstocks
Veneer
Silvopasture
Nuts
People Food
Wildlife Food
Beauty
Chambered pith
Leafs out late, drops leaves early

Yellow fall foliage
Soil & Water Protection

Plant small bottomland fields & slopes
Biodiversity?
Where to Grow Walnut

Natural Range
Growing Season

- 140 to 280 days
- Prefers > 170 days
- Prefers 55°F average annual temperature
Precipitation
25 to 70 inches
Prefers > 35 inches
Soil:
• Deep, fertile, moist, but well-drained
  o Needs > 30 inches of well-drained soil.
  o Prefers > 40 inches of well-drained soil.
• Texture: sandy loam, loam, silt loam, silty clay loam
• pH: Nearly neutral
Landscape Position
Prefers:
• coves
• stream bottoms (alluvial soils)
• lower portion of north- or east-facing slopes
Airflow

- Good airflow, but not windy sites.
- Exposed uplands okay if walnut is interplanted with another species for wind protection.
Avoid

Sandy or dry ridges and slopes

Wet bottom land
Avoid Frost Pockets

Where airflow is minimal and cold air could settle undisturbed.

- Narrow valleys with steep adjacent side slopes
- Bottomland sites lower than surrounding landscape
Shade Intolerant

Plant only in forest openings or open fields.

- INTOLERANT
  - Aspen
  - Black walnut
  - Paper birch

- INTERMEDIATE
  - N. red oak
  - White oak

- TOLERANT
  - Ash
  - Basswood
  - Elm
  - Hickory
  - Maple
Walnut grows well with...

Kentucky coffeetree
Yellow-poplar
White ash
Red oak
Basswood
Sugar maple
Slippery elm
Juglone

Found in:
- Leaves
- Bark
- Nut husks
- Roots

Toxic to:
- Tomatoes
- Paper birch
- Red pine
- White pine
- Scotch pine
- Apple
- Others…
Questions?
Planting Black Walnut

Site Selection Considerations

- Soils must be suitable for long-term growth
- Soils information – NRCS offices and NRCS Web Soil Survey
- Walnut Suitability Index
- Consult Local Forestry Experts
- Get soils tested for pH and nutrients
Why are you planting walnut?

**Timber Production**
- Spacing – 10’ X 10’ or closer
- Nurse trees
- Mixed species
- Genetically selected stock
- Locally adapted stock
- www.htirc.org
Why are you planting walnut?

- **Nut crop**
- Selected tree lines for nut quality/quantity
- High quality walnut soils
- Wide spacing – 25 to 30 feet at planting
- University of Missouri Center for Agroforestry, Growing Black Walnut for Nut Production
Why are you planting walnut?

- Walnut Agroforestry
- Spacing and design depends on desired cropping plan
- Silvopasture
- Alley cropping
- Windbreaks/shelterbelts
- Forest farming
- University of Missouri Center for Agroforestry
Preparing your site to plant

- Start the summer before if spring planting
- Control competing plants
Disk or deep rip to break up compacted soil
Planting

- Typically spring planting for bare-root stock
- Plant early in spring to take advantage of spring rains and a full growing season
- Keep seedlings cool and moist until planted
Mechanical Tree Planting
Planting Nuts

- Collect in the fall
- Easier to handle when de-husked
- Fall or spring planting
- Float seed to test
- Stratification
- Seed predators
• Check seed quality
• Protect seed from predators
Sprouted seed plantings

- Stratified
- Spring planting
- Protect from seed predators
Questions?
• Thinning helps us retain the best trees and grow them at a desired rate.
• “A few fat carrots or lots of skinny ones”
Thinning Walnut Stands

**Natural stands**
- Spend some time with your forester
- Identify crop trees
- Kill grapevines in or near crop trees
- Create growing space
Thinning Walnut Stands

Plantations

- Early competition to encourage straight stems and small side limbs
- Thinning to maintain even, vigorous growth
- Select and thin around crop trees
Crown Touching Release

BEFORE TREATMENT

View from above

View from side

AFTER TREATMENT

View from above

View from side
- Kill cull trees
- Diseased trees
- Poor form
- Damage/defects
- Slow growers
When should I thin?

Potential Crown Width (feet) = 1.993 X d.b.h. (inches) + 4.873.

An easy field guide:
PCW (feet) = 2 X d.b.h. (inches) + 5

Divide Actual Crown Width by PCW to get a Crown Width Ratio (CWR)

CWR = 1 = 100% potential growth
CWR = 0.8 = 75% potential growth
CWR = 0.7 = 53% potential growth
Questions?
Pruning Walnut
It Doesn’t Always Work
Prune Dead & Dying Limbs
Infected Pruning Cut
Oh No!
Uh Oh!
Questions?
Pests and Environmental Problems

- Wind damage
- Frost damage
- Thousand Cankers Disease
- www.thousandcankers.com
Defoliators:

- Walnut Caterpillar
- Yellownecked Caterpillar
- Fall Webworm
Walnut Anthracnose

- Fungal disease that can cause premature defoliation
- Reduced growth and increased susceptibility to other diseases
Nut pests

Walnut Curculio

Walnut Husk Maggots
Walnut tip moth
Animal Damage
7.5 foot deer exclusion fence. Planted to black walnut, black cherry, red and white oak in 2008

Same species and planting date without deer protection
Questions?
Marketing Black Walnut Timber

- Professional forester assistance
- Stumpage or logs?
- Advertise to local and regional markets
- Use a competitive process – sealed bid
- Ask for certifications, training, insurance, references
Selection of the Trees to Market

- Get assistance from a forester who knows the local/regional markets

- Selecting the right trees to market now and the right trees to retain can improve future income potential
<table>
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<th>Log Dia.</th>
<th>Black Walnut Prime Veneer</th>
<th>Log Dia.</th>
<th>Black Walnut Sawtimber</th>
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Average delivered log prices from 56 Indiana mills, 2011

2011 Forest Products Price Report and Trend Analysis - Dr. Bill Hoover and Greg Preston
Make sure everybody is on the same page – and the page is signed

- Have a timber sale contract
- Indicate what is being sold
- Spell out payment schedule
- Outline requirements for operating on the property - BMPs
Can I sell individual or small numbers of walnut trees?

- It depends…
- Very high value trees
- Combine sales with neighbors to increase total value/volume
- Work with a specialist in small timber volume – portable mills, specialty products
Resources for Managing Black Walnut

- The Walnut Council
- USDA Forest Service Walnut Notes
- Your forester
- Extension publications from your land grant university
- Hardwood Tree Improvement and Regeneration Center