Blueberry Field Day

July 12, 2010
3 Major Types of Commercial Blueberries

- Lowbush – eastern provinces of Canada & northeastern U. S.
- Rabbiteye – southeastern U. S.
- Highbush – major cultivated species in North America
  - Northern highbush
  - Southern highbush
Blueberry Production

- Time to 1\textsuperscript{st} crop ~ 3 years
- Time to full production ~ 8 years
- Yield @ full production ~ 12 gallons/plant
- Expected productive life ~ 25+ years
- Harvest period -
  - Highbush – early June to early July
  - Rabbiteye – early July to mid August
- Major production problem – soil pH maintenance
- Major pest - birds
Blueberry Production Timeline

-1 year
Preplant Site Preparation

+1 year
Defruit

+2 years

+3 years
1st crop – rabbiteye

Planting
Components of a Desirable Site

• Full sun
• Elevation (frost & disease protection)
• Soils:
  – pH 4.8 to 5.2
  – High organic matter content
  – Well-drained (internal & surface)
  – Min. of 30 – 36” rooting depth
  – Moderate fertility
• Available water supply
Preplant Site Preparation

• Begin at least 1 year before planting
  – Soil test (pH, P, K, Ca, Mg)
    • Amend & retest 6 mos. later
  – Control noxious weeds
  – Remove barriers to good air flow
  – If soil drainage is marginal:
    • Find a new site
    • Tile drainage
    • Raised beds (4 ft. wide X 9 – 12 inches high)
Planting Design

• If possible, run rows north to south
  – (slope of field may dictate otherwise)
• Plan for cross-pollination
  – Bloom times overlap
    • Essential for rabbiteye, desirable for highbush
  – Within row (about every 5\textsuperscript{th} plant, stagger)
  – Separate rows (every 3\textsuperscript{rd} row)
Plan for cross-pollination

Bloom times overlap

- Essential for rabbiteye, desirable for highbush
- So not rely on highbush to cross pollinate rabbiteye

Within row (about every 6th plant, stagger)
Separate rows (every 3rd row)
Mature, Dormant Blueberry Bush

- Flower bud
- Vegetative bud
Floor Management

• Permanent sod between rows
  – Serves as a deceleration and diffusion strip for runoff water
  – Support for equipment

• Mulching down the row
  – Suppresses weeds
  – Moderates moisture & temperature
Mulches:

- Increased survival
- Increased growth
  - Especially with Black Fabric & Organic/Black
- Maintained more uniform moisture levels in the root zone
- Reduced temperature fluctuations in the root zone
- Increased yields
Effect of Mulches on Soil Temperature

Degrees Celsius

Midnight 6:00 AM Noon 6:00 PM 11:00 PM

Time, Aug. 1, 2004

- Bare
- Organic
- Black
- Black + Org
- White
Determining Nutritional Needs: Postplant

- Soil testing
- Tissue analysis
- Growth & fruiting
- Past experience
Blueberry Nitrogen Fertilization

• Multiple applications
  – Young plants: every 4 – 6 weeks (bud break to early Aug.)

• Mature plants:
  – 2 to 3 applications of N (30 # N/A/ application*)
    • 1st at bud break
    • Last after harvest

* For 12 ft. between row spacing
Pruning Nonbearing Blueberry Plants

• At planting:
  – Remove weak shoots
  – Cut shoots back to ½ of original length
    • Remove fruit buds

• 1st Dormant Pruning:
  – Remove fruit buds
  – Remove weaker, shorter shoots at the base of plants
Why Prune?

- Remove dead, diseased wood
- Control plant size
- Remove older, less productive wood
- Encourage development of new wood for future crops
- Increase sunlight penetration throughout plant canopy
  - Fruit bud formation
  - Fruit color, sugar development
Pruning Mature Blueberry Plants

- Remove weak, shaded, lower shoots
- Prune plants to 4 – 5 ft. in height and width

Highbush varieties > 5 yrs. old:
  remove 20% of canes/yr

Rabbiteye varieties > 6 yrs. old:
  remove 10 – 15% of the canes/yr.

During growing season – top vigorous canes at 4-5 ft.
Why Control Wildlife in Fruit Crops?

• Economic losses
  – Fruit destroyed or consumed by wildlife
  – Increased disease & insect pressure with damaged fruit
  – Damage to plants and cropping system
    • Feeding on succulent shoots
    • Girdling or rubbing on plants
    • Puncturing plastic

• Food Safety
Wildlife Damage Prevention Categories

• Habitat modification
  – Remove roosting, nesting sites near planting
• Scare devices (visual & auditory)
• Repellents (taste & smell)
• Removal
• Shooting
• Exclusion (netting)
Wildlife Damage Prevention Categories

• Habitat modification
• Exclusion
  – Fencing
  – Netting
• Scare devices (visual & auditory)
• Repellents (taste & smell)
• Removal
  – trapping
  – shooting
Blueberry Fruit Losses to Birds

• Bluecrop – 100% crop loss with unnetted plants
  – 5 pints / bush yield X $1.99/pint = $9.95 loss / plant X 726 plants / acre = $7,223.70 lost / acre

• Tifblue - 60% crop loss with unnetted bushes
  – 10 pints/plant yield total
  – Loss of 6 pints / plant to birds X $1.99 / pint = $11.94 lost / plant
  – 726 plants / acre X $11.94 lost / plant = $8,668 lost to birds/acre