Berry Crop Opportunities

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Introduction

- Potential berry crops
  - Blueberries
  - Brambles
  - Strawberries
  - Gooseberries and currants
  - Elderberries
  - Alternative fruit crops
  - Berries in high tunnels
Introduction

For each fruit crop we will discuss:

- Pluses of producing the crop on a small farm
- Minuses of producing the crop
- Adapted cultivars
Introduction

- Choosing a site for berry production
  - Full sun
  - Close to a source of water
  - Soil characteristics
    - Well drained
    - Slightly acid, moderately fertile
Introduction

- A typical berry farm in Missouri
  - Less than 10 acres in size; most are less than 2 acres in size
  - Berries are usually one component of a diversified farm
  - Most of the crop is harvested by hand and direct marketed
Introduction

- Marketing opportunities for berries
  - Direct market sales – PYO
  - Direct market sales – prepicked
  - Limited wholesale
  - Limited processing
  - Specialty markets
  - Organic opportunities
Blueberries

- Highbush blueberries
Blueberries

- Pluses
  - Hardy, long lived plants
  - Consistent production
  - Fruit is less perishable and may be stored for short periods of time
  - Reduced pest management
Blueberries

**Minuses**
- Specific soil requirements
- Bird management
- Fertility management
- Substantial initial investment
- Waiting period before production
- Equipment needs
- Labor needs
Blueberries

- Cultivars for Missouri
  - Early season – Duke
  - Mid season – Bluecrop, Berkeley, Bluejay, Blueray, Brigitta, Reka, Sierra, Summit
  - Late season – Chandler, Coville, Darrow, Elliot, Lateblue, Nelson
Blueberries

- Collins
- Duke
- Legacy
- Nelson
- Reka
- Nui
- Sierra
- Chandler
- Darrow
- Bluecrop
- Brigitta Blue
- Summit
Brambles

- Blackberries
  - Upright blackberries – thornless and thorny
  - Semi-erect thornless blackberries
  - Primocane blackberries
- Black raspberries
- Red raspberries
  - Primocane red raspberries
  - Floricane red raspberries
Brambles

- Pluses
  - Strong market demand for fruit
  - Short waiting period before production
  - Reduced pest management
  - Opportunities for protected culture
Brambles

- Minuses
  - Plants and crops are vulnerable to environmental problems
  - Plantings are short lived
  - Labor needs
  - Perishable fruit
Brambles

- Blackberry cultivars
  - Erect thornless: Ouachita, Natchez, Apache, Navaho
  - Erect thorny: Chickasaw, Shawnee, Kiowa
  - Semi-erect: Chester, Triple Crown
  - Primocane – PrimeArk 45, PrimeJim, PrimeJan
Brambles

PrimeArk 45

Natchez
Brambles

- Raspberry cultivars – field production
  - Primocane red and yellow: Heritage, Josephine, Anne, Kiwigold
  - Floricane red: Revielle, Southland, Latham, Lauren, Nova
  - Black: Jewel, Bristol
Strawberries

- Junebearing
  - matted row
  - annual plasticulture
- Day neutral strawberries
Strawberries

- Pluses
  - Strong market demand for fruit
  - Short waiting period before production
  - Reduced pest management
Strawberries

• Minuses
  • Plants and crops are vulnerable to environmental problems
  • Plantings are short lived
  • Pest and weed management
  • Labor needs
  • Perishable fruit
Strawberries

- **Cultivars**
  - Plasticulture – Chandler, Camarosa, Sweet Charlie
  - Day Neutral – Seascape Albion, San Andreas
  - Early season: Earliglow, Annapolis
  - Midseason: Honeoye, Allstar, Redchief, Guardian, Darselect
  - Late season: Lateglow, Winona
Gooseberries and Currants

- Gooseberries
- Currants
  - Red
  - White
  - Black
Gooseberries and Currants

- Pluses
  - Reduced pest management
  - Limited but consistent market demand
Gooseberries and Currants

- **Minuses**
  - Plants and crops are vulnerable to environmental problems
  - Pest and weed management
  - Labor needs
  - Perishable fruit
  - Lack of consumer awareness of these crops

Cornell University Department of Horticulture
Gooseberries and Currants

- **Cultivars**
  - Gooseberry – Pixwell, Poorman
  - Black currant – “Ben” series, Consort
  - Red currant – Red Lake, Wilder, Minn. selections
  - White currant – White Pearl
Elderberries

- Elderberry
  *(Sambucus canadensis)*
Elderberries

- Plusses
  - Adapted crop
  - Growing demand
  - Multiple markets
    - Fruit
    - Blossoms
    - Ornamental value
Elderberries

- Minuses
  - Markets?
  - Cultural methods?
Elderberries

- Cultivars
  - Missouri cultivars
    - Bob Gordon
    - Wyldewood
  - Other cultivars
    - Adams 1 and 2
    - York
    - Nova
    - Scotia
    - Kent
Alternative Berry Crops

- How am I going to market this crop?
- Wholesale or retail markets?
- Vertical integration – profit at each level?
- Chances for success?
- Business plan?
- Competition?
- Any advantages to growing the crop in your situation?
Unusual Small Fruits

- Hardy kiwi

Cultivars
- Issai
- Anna
- Dumbarton Oaks
- others
Unusual Small Fruits

- Bush stone fruits
  - Bush cherries
  - Choke cherries
  - Sand plums

Cultivars
- Few cultivars available

Photo by Hamish Tulloch, Native Fruit Development Program, Univ of Sask
Unusual Small Fruits

- Aronia or chokeberry (*Aronia melanocarpa*)

Cultivars
- Viking
- Nero
- Autumn Magic
Alternative Fruit Crops

- Autumn olive
- Goumi
Unusual Small Fruits

- Blue honeysuckle (*Lonicera caerulea*)
Alternative Fruit Crops

- Sea buckthorn
Unusual Small Fruits

- Highbush cranberry (*Viburnum trilobum*, also *Viburnum opulus var. americanum*)
Unusual Small Fruits

- Wolfberry or Goji (*Lycium barbarum*)
Alternative Fruit Crops

- Market is limited or nonexistent for many of these crops
- Experience with producing these crops is limited
- Many of these crops are processing crops – lower return
- Novelty interest among consumers
Introduction
Introduction

Advantages, compared to field production

Yield increases (up to 2x)
- Decreased stress and photosynthesis shutdown from wind
- Added 3-4 weeks of frost free growing on both ends
- Added winter protection
  - Reduced injury from wind
  - Reduced bud desiccation
Introduction

- Advantages, compared to field production – fruit issues
  - Improved fruit quality
  - Improved shelf life
  - More consistent berries
  - Reduced fruit rots
  - Fruit remains dry
Introduction

- Fruit issues – Primocane cultivars

Source: Eric Hansen, Michigan State University
Introduction

- Additional advantages
  - Extended harvest season, both earlier and later - extending berry harvest season from 6 weeks to 5 months
    - Earlier floricane harvest
    - Later primocane harvest
  - Reducing the risk of weather
  - Reducing the risk of insects and diseases
  - Opportunities for organic production
Introduction

- Potential problems
  - tunnel temperature management
  - increased frost risk
  - irrigating during the winter
  - markets being open
  - investment costs and return on the investment
Introduction
Primocane and Floricane Brambles

- Primocane brambles (everbearing or fall bearing)
  - Produce fruit on first year shoots (primocanes)
  - Produce a second crop on the same shoots in year 2 if desired

- Floricane brambles (summer bearing)
  - First year shoots do not produce fruit
  - Crop is produced on second year shoots (floricanes)
High Tunnel Raspberry Production Options

- Dedicated tunnel
  - In ground plantings
  - Plant in beds, often raised beds
    - 6-9 feet between beds (8 feet for blackberries)
    - In row spacing of 2 feet
High Tunnel Raspberry Production Options

- Dedicated tunnel, plastic at appropriate times
  - In ground plantings
  - Plastic in place from bloom through harvest

Source: jmcextman.blogspot.com
Source: missouribeginningfarming.blogspot.com
High Tunnel Raspberry Production Options

- **Movable tunnel**
  - In ground plantings as with dedicated tunnel
  - Tunnel used from bloom to harvest
    - Can grow floricane types outside for first year
    - Can use tunnel for other crops
High Tunnel Raspberry Production Options

- Containerized plants
  - Plants grown in containers (3-7 gal pots)
    - 1 plant per container
    - Use lightweight media
    - Space containers 2 foot apart, rows 6-9 feet apart
  - Tunnel used from bloom to harvest (move pots)
    - Can grow floricane types outside for first year
    - Can use tunnel for other crops

Source: Raspberry and Blackberry High Tunnel Production Guide, Cornell University
Resources

- University of Missouri Extension Guides
  - Guides on many aspects of fruit production
  - [http://extension.missouri.edu](http://extension.missouri.edu)
  - [http://extension.missouri.edu/explorepdf/agguides/agroforestry/af1017.pdf](http://extension.missouri.edu/explorepdf/agguides/agroforestry/af1017.pdf) (elderberry)

- State Fruit Experiment Station (MSU)
  - Guides on blueberries, raspberries, blackberries, grapes, general fruit
  - [http://mtngrv.missouristate.edu/Publications/index.htm#CommercialFruit](http://mtngrv.missouristate.edu/Publications/index.htm#CommercialFruit)
Resources

- **Raspberries in tunnels:**

- **North American Fruit Explorers (NAFEX)**
  - 1716 Apples Rd., Chapin, IL 62628 or call 217-245-7589; email [http://www.nafex.org/](http://www.nafex.org/)

- **Books**
Conclusion

- Any questions?

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