Small Fruits

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Recommended for Arkansas

- Blackberries
- Blueberries
- Grapes
- Muscadines
- Raspberries
- Strawberries
Small Fruit Crops

- Grow a little or a lot
- Edible landscaping or production gardening
- Consider spacing for full production
Potential Problems

• Insects
• Diseases
• Birds
• Weather extremes
Bigger is Not Always Better

- A small, well-tended planting is better and will produce more fruit of higher quality than a large, neglected planting.
Cultural Requirements

• Pay attention to:
  Soil fertility
  Variety selection
  Pruning
  Irrigation
  Pest control
Benefits of Small Fruits:

• Aesthetic value
• Produce within 1-2 years of planning
• Most do not require cross-pollination
Variety Selection

- Select varieties that are well adapted to your soil, and climatic conditions
- Select varieties with insect and disease resistance
Planting

- Minimum 6 hours of sun
- Avoid frost pockets, low wet spots, or areas exposed to prevailing winds
Drainage is critical

- Well drained soil
- Good organic matter
- Proper pH
  - Soil test
Quality Control

- Purchase quality plants, from a nursery with a guarantee
- After receiving plants, carefully inspect them
- Store plants correctly, if they are not going to be planted immediately
Maintaining the Planting

• Fertilization
• Keep weed competition at a minimum
• Insect and disease control
• Pruning
Strawberries
Variety Selection

- Everbearing varieties
- June Bearing
- Commercial growers use Chandler, Camarosa, and Sweet Charlie
Variety Selection: Earliglow

- Earliest in Arkansas
- Superior quality berries
- Superior disease resistance
- Medium-small berries
- Vigorous & productive
- Disadvantage: small fruit size on non-primary berries
Variety Selection: Cardinal

- Vigorous & productive
- Large, deep-red berries
- Outstanding flavor
- High “cap” makes it easily removed
- Ripens early, but has an extended ripening period
- Good disease resistance
Variety Selection:

- Noreaster
- Delmarvel
- Lateglow
- Latestar
Establishment: Site and Soil

- Choose elevated site
- Well-drained soil
- Soil pH 5.7 – 6.5
- Avoid steep slopes
- Grow on raised beds
- Planting area should be thoroughly prepared
Establishment: Planting

- Set in early spring – 3-4 weeks before the average last frost date
- Spacing
- Plant
- Irrigate
Maintenance:

- Weed control
- Mulch 2-4” deep with any organic material free of weed seed
Fertilization

• If needed, 1 pound per 100 feet of complete fertilizer should be cultivated in before planting,

• Fertilize after harvest

• Do not leave fertilizer on foliage
Maintenance: Renovation/ Thinning

- Thin to 6-8” apart, taking oldest plants out
- Fertilize
- Irrigate
- Renew mulch
Pests

• Birds
• Insects
• Disease
• Weeds
Frost Damage
Growing Techniques

- Strawberry pyramid
- Strawberry jar
Harvesting

- Color
- Flavor
- Sugar content
- Every day to every other day
Blueberries
Blueberry Varieties

• Northern Highbush (Central & Northern Arkansas)
  – Duke
  – Collins
  – Blueray
  – Bluecrop
  – Elliott
More Blues........

- Southern Highbush (Central and Southern Arkansas)
  - Legacy
  - Summit
  - Ozarkblue
Rabbiteye

- Central and Southern Arkansas
  - Climax
  - Premier
  - Brightwell
  - Tifblue
Self Fruitful Blueberries

Pink Champagne

Bountiful Blue
Establishment:
Site and Soil

• Weed free
• Well-drained soil, in raised bed
• Soil pH 5.0 – 5.2
• Irrigation
• Medium to low fertility
• Avoid frost pockets
Establishment: Planting

- Soil samples
- Amend soil, sulfur and peat moss
- 2 year old plants
- Store plants correctly
- Root/shoot prune
- Plant, firm and water
- Remove flower buds
Blueberry Chlorosis

Annual use of acidic fertilizer, such as ammonium sulfate. Check pH frequently.
Irrigation

- Frequent light irrigation
- Drip irrigation
- Raised beds
- Very sensitive to stress
  – Reduce yield
  – Reduced plant growth
- Very sensitive to excess
  – Root rot
Maintenance:
Fertilization

- No fertilization at planting
- 10-10-10 at 2 tbsp per plant
- 1 tbsp ammonium sulfate in 12” radius
- Soil tests
Maintenance: Fertilization

- Excessive phosphate harmful
- Nitrogen fertilizer every 6 weeks
- Ammonium sulfate if pH greater than 5.2
- Ammonium nitrate or urea if pH is 5.0-5.2
Pollination of Blueberry
Mulching

- 5-6” deep
- Sawdust, chips, pine needles, bark
- Add annually
Pruning

- Remove portion of canes and twigs
- Remove weak or low-growing branches
- Thin centers
Maintenance: Pruning

- Fruit on previous years growth
- After 5th year start thinning
- Ratio of canes for each year should be equal
Maintenance: Pest Control

- Birds
- Insects
- Disease
- Mice
- Weeds
Harvesting

- Highbush harvested in June and July
- Rabbiteye harvested in July and August
Blackberries
Blackberries – Life Cycle

• Above ground is biennial, root system perennial
• New canes (primocanes) are vegetative for 1 yr
• Primocanes go dormant, overwinter, then flower and fruit 2\textsuperscript{nd} yr (Floricanes)
• After Floricanes fruit they will die
Variety Selection

- Recommended varieties are erect growing and require no trellis
- Grown in hedgerow-type system
- First crop can be harvested the year after planting
Blackberry Varieties

• Adapted Statewide

• Thorny
  – Choctaw
  – Shawnee
  – Chickasaw
  – Kiowa
Thornless Blackberry

- Arapaho
- Navaho
- Apache
- Ouachita
- Osage
Osage— The Newest Arkansas Blackberry

- Ripens average June 10 beginning harvest
- Yields good,
- Berry size is medium,
- Flavor is a key attribute
- Great postharvest handling potential
Blackberry Planting Considerations

• Order of ripening
  – Natchez: June 5
  – Osage: June 10
  – Ouachita: June 12
  – Navaho: June 20
  – Apache: June 25
Maintenance

- Prepare soil
- Remove weeds/sod
- Beds 6-10” high if needed, 2-3’ wide
- Avoid invasive grasses
- Water
- Fertilize
Pruning

- Little pruning 1st yr
- Remove old canes after harvest
- Top new canes to 36-48”
- Remove suckers
- Prune side branches to increase fruit size
Harvesting

- Harvest as soon as ripe
- Handle carefully
- May have to harvest daily
Raspberries in Arkansas

- Cool season crop
- Extreme temperatures in AR
- Susceptible to root rots
- Drip irrigate
- Separate red and black raspberries

Raspberry Shortcake
Variety Selection

• **Red** (upright canes)
  – Heritage
  – Josephine
  – Dormanred

• **Black** (arched canes, mostly processing fruit)
  – Cumberland
Raspberry Life Cycle

• Stalk is biennial, root system is perennial
  First year “primocane”, second year “floricane”

• Fall bearing types fruit on primocanes in late summer thru fall
Bramble Flower
Establishment: Planting

• Prepare planting bed
• Row Spacing
  – Red 5-10’
  – Black 8-10’
• Plant spacing
  – Red 2-3’
  – Black 4-5’
Maintenance:

- Organic mulch
- Fertilize 13-13-13 at $\frac{1}{2}$ lb per 100 square feet
- Soil test
- Water
Maintenance: Pruning

- Do not top during growing season
- Thin canes to strongest 3 or 4
- Shorten side branches
- Cut back weak or fruited out tips (not more that ¼ of height)
Grapes and Muscadines

Grapes

Muscadines
Variety Selection

- U of A has released seedless varieties that will grow in AR
- The classic European grapes and the famous California can only be grown in very select areas of AR
Arkansas Varieties of Table Grapes

- Venus
- Jupiter
- Mars
- Reliance
- Saturn

Reliance
Wine Grapes
(V.vinifera or hybrids)

- Niagara
- Seyval Blanc
- Chancellor
- Cynthiana
Arkansas Varieties of Grape Muscadines

• Black Varieties
  – Sugargate
  – Supreme
  – Black Beauty
  – Cowart
  – Nesbitt
  – Noble
Arkansas Varieties of Grape Muscadines

• Bronze Varieties
  – Sweet Jenny
  – Summit
  – Fry
  – Granny Val
  – Carlos
Muscadine Grape

- Vigorous growth
- High yields
- Disease resistance
- Used for jams, jellies, juice, and homemade wine
Muscadine Grape

• Do not develop as large clusters
• Each ripen individually
• Requires multiple harvests
• Winter tender at 0° F
Grape Flower
Establishment: Site and Soil

- Need sun for most of the day
- Deep rooted, so they can grow with little or no irrigation
- Favor fertile, sandy loam soil high in organic matter
- Prefer a pH of 6.0 to 7.0
Establishment: Planting

• Plant vigorous 1 yr. plants

• Prune
  – roots to 6’
  shoots to 1 cane, head back to 2 buds

• Allow plenty of room
  – 8’ for hybrids and American grapes
  – 20’ for muscadines
Fertilization

- A mixed fertilizer such as 10-10-10 may be applied if necessary
- Base application to mature vines on growth and vigor of the plants
Pruning

• There are many different training systems.
Maintenance: Pest Control

- Birds
- Deer
- Insects
- Weeds
- Insects: grape berry moth
- Disease: Cultivar specific
Frost Injury to Grape