Fruit in the Home Landscape

Common Berry Crops
the usual suspects

- Strawberries
- Brambles
- Blueberries
- Currants/Gooseberries
- Grapes

Specialty Berry Crops

- Elderberries
- Aronia
- Saskatoons
- Lingonberries
- Beach Plums

Horticultural Considerations

- Site & Soil Requirements
- Planting Systems
- Pruning Systems
- Insect & Disease Mgt
- Special Fruit
Landscape Value

- Edible home landscape
- Permaculture Design

Site & Soil Requirements

Most Berries:
- Soil
  - well drained sandy loam
  - pH = 5.5 - 6.5
  - SOM > 3%
- Site
  - full sun
    - (at least 6 hrs)

Strawberries

General Information
- Morphology – Herbaceous perennial
- Fleshy Crown
- Stolons w/ "daughters"
- Semi-hardy

Types of Strawberries
- June-bearing
- Everbearing/Dayneutral
- Alpine
Landscape Value

- **Ornamental Flowers** – pinks and whites
- **Edible Fruit** – for humans and wildlife
- **Common use** – Patch, foundation plantings, borders, islands, containers, pyramids, hanging baskets

Strawberry Planting Systems
Strawberry Planting Systems

Mulching
Renovation

This is a process that rejuvenates the plants after harvest is complete.

Step 1 – mow off the foliage being careful not to damage the crowns.
Step 2 – narrow the rows and till in the straw between rows
Step 3 – apply fertilizer
Step 4 – water regularly until foliage has fully regrown

Photo: ‘Grow Food Not Lawns’
Photo: North Carolina State Univ.
Photo: Purdue Univ.

Varieties

Good descriptions in:
Fruit Production for the Home Gardener – http://extension.psu.edu/gardening/fphg

See Nursery Source list at: click here
http://www.fruit.cornell.edu/berry/nurseries/strawberries.html
Varieties

Jewel

Photo credit: David Handley
Univ. of Maine

Allstar

Varieties

Seascape

Photo credit: David Handley
Univ. of Maine

Albion

Insect and Disease Mgt

Identification Guides

Management Guides

Tarnished Plant Bug

**Tarnished Plant Bug** *Lygus lineolaris*, is about 1/4 inch long and is brown with yellowish and black dashes and a brassy appearance.
Tarnished Plant Bug

- Adult and immature TPB cause catfacing injury to fruit
- Adults can be trapped using white sticky traps available in catalogs
- Azadaractin (neem) products show efficacy

Two-Spotted Spider Mites

Two-Spotted Spider Mites *Tetranichus urticae*
- Tiny pest that lives on underside of leaves
- Sucks out chlorophyll from leaves leading to yellowing
- Weaken plants over time
- Can be controlled using predators
- Horticultural summer oil effective

Strawberry Diseases

Gray Mold
*B. cinerea* - usually starts as a blossom blight, which eventually invades the developing fruits, causing them to rot.

Gray Mold
- Overwinters on leaf residue
- Primary infections take place during bloom
- Narrow rows
- Wide row spacing
- Sprays
Red Stele

- More common in wet soils (‘water mold’)
- Can persist in soil for many years
- Plant resistant varieties
- Use clean plant material
- Avoid saturated soil/Improve soil drainage
- Rotate location of strawberries

Brambles

General Information

Morphology – perennial roots and biennial shoots
- Hardy (with variation)
- Two types of canes
  - Primocanes (1st yr)
  - Floricanes (2nd yr)

Bramble Types

Summer-bearing (floricanes fruiting)
Red/Black/Purple/Yellow Raspberries & Blackberries

Fall-bearing (primocane fruiting)
Reds/Yellows & Blackberries
Fruit on 1st year canes
Need less pruning and trellising

Landscape Value

- Not very ornamental; except with trellis elements
- Edible Fruit
- Main use as a patch separate from other plantings
Trellising

Planting

Full mid-summer canopy
**Varieties**

Good descriptions in:
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**Pruning**

**Steps in Pruning Summer Bearing Varieties:**

1) Remove spent floricanes (fall - winter)

2) Thin remaining primocanes to 6 – 8” apart, weed out spindly or broken canes, keep healthy, robust canes (March)

3) Re-establish 12 – 18” row width (March or later)

**Steps in Pruning Blackberries**

1. Tip canes in summer to promote growth of laterals; leave at least 6” above top trellis wire (summer)

2. Remove spent floricanes (fall - winter)

3. Thin remaining canes to 5 – 6 canes per plant; remove spindly/damaged canes first (March)

4. Head back laterals to 6 – 8” (March)
Steps in Pruning Fall Bearing Red/Yellow Raspberries:

1. Mow all canes to 1 – 2" from the ground
Winter Damage to Blackberries

Trellis Support

Brambles -

Insect Pest Management

Tarnished Plant Bug
- Attracted by white flower petals
- Feed on developing fruit
- Worse in weedy areas
- White sticky traps reduce population
- Azadirachtin (neem) effective

Insect Pest Management

Cane Borers
- Occasional pest
- Scout for damage
- No insecticides labeled - cut out infested canes
Cane Borers

Raspberry Cane Borer

Red Necked Cane Borer

Raspberry Diseases

Botrytis Gray Mold
- Overwinters on leaf residue
- Primary infections take place during bloom
- Narrow rows
- Wide row spacing

Raspberry Diseases

Cane Diseases
- Cane blight, spur blight, botrytis, anthracnose
- Plant and prune for good drying conditions
- Dormant Lime Sulfur sprays
- Summer fungicide sprays

Spotted Wing Drosophila on Fruits

Male
Female
SWD Host Plants (partial list)

<table>
<thead>
<tr>
<th>Crop Host</th>
<th>Crop Host</th>
<th>Wild Host</th>
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<tr>
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<td>Grapes</td>
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<td>Italian Plums</td>
<td>Autumn Olive</td>
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<td>Strawberries</td>
<td>PorcInberry</td>
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<td></td>
<td>Tomatoes</td>
<td>Wild Rose</td>
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</tbody>
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SWD Identification – key characters

**Male**
- Black spot on wings

**Female**
- She inserts saw-like device (ovipositor) into fruits and lays eggs

Steps for SWD Management

1. Try to eliminate wild hosts near your crop
2. Monitor using ‘vinegar’ traps
3. Harvest frequently
4. Keep planting open and with good air-flow
5. Have spray materials on hand and be familiar with your spray equipment
6. Add 2# sugar/100gal spray volume to increase efficacy (0.1# sugar/5gal)
Exclusion Netting

Hummingbirds!

Blueberries

**General Information**
- Morphology - Woody perennial plant
- Hardy
- Very shallow root system
- Roots lack root hairs
  - Need soils w/ high OM
  - Mycorrhizae
**Blueberries**

**Soil**
- well drained sandy loam
- pH = 4.5 - 5.5
- SOM > 5%

**Site**
- full sun
- access to water

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**Types of blueberries**
- Highbush
  - *Vaccinium corymbosum*
- Lowbush/Wild
  - *Vaccinium angustifolium*
- Half-high
  - hybrid of highbush and lowbush

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**Landscape Value:**
- Ornamental flowers
- Edible fruit
- Fall foliage color
- Mixed plantings - soil requirements like azaleas, rhododendrons.
- Ground covers

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**Planting**

**Steps in Planting Blueberries**
1. Prepare soil (adjust pH, add organic matter) 1 yr ahead
2. Spacing:
   - 4-6 feet between bushes
   - 8-10 feet between rows
3. Use 2 yr old dormant bare root plants from nursery or potted plants from garden center
4. Water thoroughly for 2 weeks or more after planting
5. Spread mulch beneath plants to suppress weeds, conserve moisture and add organic matter
Mulching

Be sure mulch material is aged

Pruning

Steps in Pruning Established Bushes
1. Remove broken, weak or canes
2. Remove canes older than 5 – 8 years
3. Keep 6-10 canes of mixed ages
4. Keep only 2-3 best new canes each year
5. Open the interior the bush to let in sunlight and improve air circulation

Varieties

Good descriptions in:
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Pollination
- Plant 2 or more varieties for cross pollination
- Ensure adequate pollinating insects
  - nest & forage habitat

Blueberry Maggot
- Invade field as fruit begins to ripen
- Females lay single egg in fruit/mark
- Each female can lay 100 eggs
Blueberry Maggot

Oviposition Markings

Larvae in Fruit

Blueberry Maggot

Yellow Sticky Traps
- Bait
- Attracts male and female flies
- One per bush can trap out

Fruit Rots

Botrytis Blight

Mummyberry
Fruit Rots

Management:
- Good air circulation
- Sanitation
  - clean up inoculum from beneath plants (fruit/leaves)
- Fungicides

Stem Blights and Cankers

- Fusicoccum Canker
- Phomopsis Stem Blight

Stem Blights and Cankers

Management:
- Good air circulation
- Sanitation
  - clean up inoculum from beneath plants (prunings)
- Avoid late N-fertilization
- Fungicides

Lingonberries

(Vaccinium vitis-idea)

- Upland Cranberry
- Native to Northern Canada and Northern Europe
- Commercial cultivars available
  - ‘Koralle’
  - ‘Red Pearle’
  - ‘Suisse’
  - ‘Sanna’
Harvesting Lingonberries

Yield is about 3 lbs per square yard

Currants and Gooseberries

Types of Ribes -
- Gooseberries: Ribes uva-crispa
- Red/White Currants: R. rubrum, R. sativum
- Black Currants: R. nigrum
- Josta Berries: R. nidigrolaria

Site and Soil Requirements -
- Soil pH: 5.5 - 6.5
- Soil Type: sandy loam
- SOM: > 5%
- Sun: full sun preferred, can tolerate some shade

Landscape Value:
- Some varieties w/ showy flowers
- ‘Consort’ black currant has unique summer and fall foliage
- Fruit highly flavored, nutritional and can be showy
- Can be incorporated into mixed landscape plantings
- Can be planted as a separate patch

White Pine Blister Rust
- Introduced into US in 1890’s (12,000 acres of commercial currants)
- Federal Quarantine and Eradication Program - 1920’s and 1930’s
- Quarantine Lifted in 1960’s
Pruning

The objectives are:
1) to give the plant the shape of an open bush;
2) to achieve and maintain equal proportions of three-, two-, and one-year-old stems; and
3) to distribute the fruiting wood and the year’s shoots equally around the bush.

- Cut back all canes to 1 – 2 buds
- Remove all but 6 – 8 of most vigorous shoots
- Keep 4 each of 1-yr and 2-yr shoots: 8 shoots total
- Keep 3 each of 1, 2, and 3-yr shoots

Grafting
Thank You!

Any Questions?