Organic Blackberry Production

Jeremiah D. Lowe*, Kirk W. Pomper, and Sheri B. Crabtree
Department of Plant and Soil Science, Kentucky State University

John R. Clark
Department of Horticulture, University of Arkansas

John G. Strang
Department of Horticulture, University of Kentucky
Blackberry Terminology

- **Canes**: Stems of bramble plants
- **Canes last for two seasons, then die**
- **Primocane**: A bramble cane going through its first year of growth
- **Floricane**: A bramble cane going through its second year of growth
- **Most blackberries are floricane fruiting**
- **Some blackberries are primocane fruiting**
Blackberry Types & Cultivars

- **Erect Thorny**
  - Cherokee
  - Shawnee
  - Chickasaw*
  - Kiowa

- **Erect Thornless**
  - Apache*
  - Ouachita*
  - Natchez*

- **Semi-erect Thornless**
  - Hull Thornless
  - Triple Crown*
  - Chester

- **Trailing**
  - Boysen (not hardy)
  - Marion (not hardy)

- **Primocane Fruiting, Thorny**
  - Prime-Jan®*
  - Prime-Ark®45*
  - Prime-Jim®
Organic Blackberry Production

- After pawpaw, blackberries are the easiest fruit crop to grow organically in this area.

- The main problems:
  - Weed control
  - Nutrient management
  - Disease and pest control
Organic Blackberry Production

- Site selection:
  - Good air drainage (avoid frost pockets)
  - Deep, fertile, well-drained soil, pH 6.0-6.5 preferred.
  - Weed control before planting
    - Repeated tillage
    - Solarization
  - Irrigation needed
  - Record on farm activity (3 yrs to certify)
Organic Blackberry Production

- Site selection (cont.):
  - Sites previously established in fruit crops are poor choices with potential of crown gall infection.
  - Land recently planted with solanaceous crops (e.g., tomatoes), increase risk of verticillium wilt.

Crown gall on blackberry: Oregon State University Plant Clinic
http://www.science.oregonstate.edu/bpp/Plant_Clinic/images/crown%20gall.htm
# Planting Spacings

Table 1. Recommended plant spacing, plants per acre, and management systems for raspberries and blackberries.

<table>
<thead>
<tr>
<th>Bramble Type</th>
<th>Distance in Rows (ft.)</th>
<th>Distance between Rows (ft.)</th>
<th>Plants/Acre</th>
<th>Management System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red and yellow raspberry</td>
<td>2</td>
<td>8-12&lt;sup&gt;1&lt;/sup&gt;</td>
<td>2,722-1,815</td>
<td>Hedgerow—no trellis or low trellis</td>
</tr>
<tr>
<td>Black raspberry</td>
<td>3</td>
<td>8-10&lt;sup&gt;2&lt;/sup&gt;</td>
<td>1,815-1,452</td>
<td>No trellis or low trellis</td>
</tr>
<tr>
<td>Purple raspberry</td>
<td>3½</td>
<td>10-12</td>
<td>1,244-1,037</td>
<td>Low trellis</td>
</tr>
<tr>
<td>Semi-erect thorny blackberry</td>
<td>2</td>
<td>10-12&lt;sup&gt;3&lt;/sup&gt;</td>
<td>2,178-1,815</td>
<td>No trellis</td>
</tr>
<tr>
<td>Semi-erect thornless blackberry</td>
<td>3</td>
<td>10-12</td>
<td>1,452-1,210</td>
<td>No trellis or low trellis</td>
</tr>
<tr>
<td>Semi-trailing thornless blackberry</td>
<td>8</td>
<td>12-13</td>
<td>453-418</td>
<td>High trellis</td>
</tr>
</tbody>
</table>

1 Use the wider between-row spacing for fertile soils and/or large equipment. Adjust the row width to give ample room for the implements to be used in cultivation and harvesting. Closer between-row spacings are possible for backyard use. When using the hill system, red raspberries are usually set 5 or 6 feet apart.

2 Black and purple raspberries can also be set in 6-ft by 6-ft hills.

3 Growers with commercial experience consider a 12-ft row the minimum for semi-trailing blackberries.

---

Weed Control

- **Straw mulch**
  - Also holds in moisture

- **Flame cultivation**
  - Can be used around plants (be careful!)

- **Cultivation**
  - Hoe
  - Weed badger

- **Eliminate weeds before starting the planting!**
Irrigation

- T-tape
- Lack of water seriously reduces yields
- Require 1” water/wk during growing season
- Best to irrigate throughout entire season
Nutrient Management in Blackberry

- Even when cover crops and mulches are used, supplementary nitrogen is needed to sustain good yields.
  - Legume cover crops in alleyways may attract stink bugs.

- Nitrogen needed:
  - 50 lbs of N/acre during the first year.
  - 100 lbs of N/acre each year after.

- Manures, composts, animal by-products, and vegetable or seed meals to make up the difference.

- Feather, meat, and bone and blood meal (e.g. 10-2-8 from NatureSafe®) can be banded near plants.
Blackberry Pests

- Red neck Cane Borer
- Stink bug
- Japanese beetle
- June beetle
Blackberry Diseases

Problems:
- Anthracnose and cane blight
- Double blossom
- Orange rust
- Crown gall
- Virus
- Fruit rots

Weed control, good sanitation, good air flow, & removal of infected plants important in prevention
Primocane Fruiting Blackberries

- Advanced selections from U of Arkansas in trial at KSU
- Great for Farmers Markets in Kentucky (fruit from August until frost!)
- Floricane and Primocane fruiting
- Erect selections do not need a trellis
Primocane Fruiting Blackberries

- No trellis
- Can be pruned by mowing the canes down in the winter
- Mowing provides anthracnose, cane blight and red-necked cane borer control without pesticides
Summary

- Primocane fruiting blackberries are a niche-market crop for Kentucky growers (farmers markets) from Mid-summer until frost.
- Mowing instead of pruning, no trellis, and organic production are attractive to growers.
- PrimeArk®45 and PrimeJan® are the best primocane fruiting selections currently available.
- APF-40, 41, and 77 are under consideration for release by the University of Arkansas.
2009 Thornless Primocane Blackberry Trial at KSU
Questions?