

Blackberry Production

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Pick TN 2022



Caneberries

Blackberries

- Grow well with summer temperatures in mid 80's
- Thorned & thornless varieties
- Erect (thorned, primocane bearers)
- Semi-erect varieties (thornless)
- Most varieties are floricanne bearers

Raspberries

- Grow & fruit best with cool summers & moderate winters
- Red, black, purple & yellow-fruited varieties
- Some red & yellow varieties are primocane bearers



Primocane



Florican



Floricanne-fruiting Caneberry

- Primocane (1st) year
 - Cane grows
 - Fruit bud initiation begins
- Floricanne (2nd) year
 - Bud break
 - Short shoot growth from buds
 - Bloom
 - Fruiting
 - Cane death



Floricanefruiting Caneberries

Blackberry

- Kiowa (thorned)
- Natchez
- Ouachita
- Osage
- Triple Crown



Primocane-fruited Caneberry



- Primocane year
 - Cane grows
 - Fruit bud initiation
 - Fruiting in upper 1/3 of primocane
 - Fruiting area dies
- Floricane year
 - Bloom & fruiting in lower portion of cane
 - Rest of cane dies



Erect, thornless varieties may resemble trailing types the 1st year



1st year



2nd year



Blackberry Disease Susceptibility

Variety	Rosette	Orange Rust	Anthracnose
Chickasaw	S	?	S
Choctaw	S	R	R(?)
Kiowa	S	R(?)	S
Shawnee	VS	R	R
Natchez	R	?	R(?)
Apache	R(?)	R(?)	R(?)
Navaho	R	VS	R(?)
Ouachita	R	R(?)	S
Prime Ark-45	S*	R	S

* = Not an issue with primocane bearers grown for fall crop only
 R = resistant R(?) = none observed S = susceptible

VS = very susceptible

Functions of the Trellis

The trellis is a long-term investment. It should be built to last the life of the vineyard

- Support the vine and the crop
- Expose fruit and foliage to sunlight
- Open canopy to air movement and spray penetration
- Facilitate ease of vineyard operations
 - Pruning, thinning, pest control, harvest

Nitrogen Applications for Blackberries

- 1st year –
 - (~ ½ cup 10-10-10) per plant
 - 30 to 60 days after planting
- 2nd year –
 - ½ to 1 cup 10-10-10 applied @ bloom
or
 - Half at bloom PLUS half after floriculture harvest
- 3rd & subsequent years
 - 1 to 1 ½ cup 10-10-10, single or split application

Timing of Nitrogen Applications

- Establishment year
 - Delay application until canes have emerged
- Maintenance
 - Single prebloom spring application
 - OR
 - Split with 2nd application immediately after harvest

Postharvest Handling

- Perishable fruit
 - Optimum storage temperature: -0.5 to 0.0°C
 - % relative humidity: 90 to 95
 - Ventilation rate: Very Low (5 cfm in 20' container)
 - Storage time (days): 7 to 14
 - (source: Sydney Postharvest Laboratory & Food Science Australia
CSIRO 2001 www.publish.csiro.au)

Blackberries – Site Preparation

- Soil test 1 – 8 in. & 8 – 12 in. depths
 - Lime & fertilize as suggested
- Incorporate organic matter in fall previous to planting if organic matter content of soil is low
- Prepare a vegetation-free strip 4 to 6 ft. wide for rows
- Subsoil



Preplant Soil Preparation

- Begin in the year prior to planting
 - Adjust soil pH to 6.0 to 6.5
 - Avoid high levels of phosphorus
 - May increase problems with zinc deficiency
 - (poultry litter may be high in phosphates)
 - Avoid pre- or post-plant use of potassium chloride
 - Brambles are sensitive to chlorine salts

Caneberry Production

Planting

- Good quality plants, check crown and root system
- Spacing depends on variety & growth habit (24 – 36")
- Remove all grass sod at least 2ft. from plants
- Deep till (if needed)
- Dig a hole big enough for root system
- Apply complete fertilizer when finished
- Water in carefully

Field Layout

- North-south row orientation (if possible)
 - Less sunburn on fruit on south side
 - More uniform ripening
 - Increased yield?
- Planting across the slope
 - Easier to engineer irrigation system
 - More precision in spray applications
 - Contour plantings?

Field Layout

- Long rows – more efficient
- Breaks in rows (air drainage, access)
 - ~ every 300 ft. for hand harvest
 - Length of headlands & breaks – 16 to 20 ft.
 - ~ 1,000 ft. for machine harvest
 - Headlands – leave adequate turning room for harvester

Irrigation and Water Requirements

- Drip irrigation works well
 - Double line of T-Tape
 - Hard line with in-line emitters
- Know your drip tape capacity
 - How many gallons/min, gallons/hr etc.
- Rule of Thumb: 2500-3000 gallons of water/acre/day during hot, dry periods
 - Soil types will effect rate/acre



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Between row spacing: 6 to 12 ft.

- Slope of land
- Equipment
- Type of trellis (crossarm or v vs. upright)
- Space rows at least 2-3 ft. wider than widest piece of equipment
- Type of blackberry being planted
- Desired height of canes
 - Between row spacing = $1\frac{1}{2}$ times plant height on N-S rows
- Type of harvest – leave more room for PYO



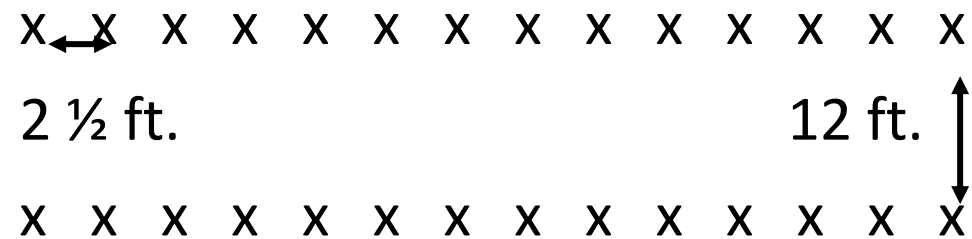
Inrow Spacing

- Varies depending on species, growth habit & training method
- Erect & semi-erect blackberries – 2 to 4 ft.
- Trailing varieties – 6 to 8 ft.

Plants / Acre?

$$\frac{43,560}{\text{inrow X between row spacing}} = \# \text{ plants / acre}$$

Example: 2 ½ ft. inrow, 12 ft. between row spacing



$$\frac{43,560}{2.5 \times 12} = \frac{43,560}{30} = 1,452 \text{ plants / acre}$$

Preplant Care of Stock

- Purchase from reputable nurseries
 - Tissue culture
 - Virus indexed
- Inspect upon receipt
- Keep roots moist, cool (do not allow to freeze)
- Store under refrigeration or heel-in



Planting

- Time: late winter to early spring
- Inrow spacing:
 - Erect types – 2 to 4 ft. (set root cuttings at 2')
 - Trailing & semitrailing – 6 to 8 ft.
 - Depends on variety
 - Trained to a hill system
- Planting depth – same as in nursery
 - Root cuttings – 4 to 5 in. deep on sandy soils, 2 to 3 in. deep on heavier soils

Planting Tissue Cultured Plants

- Plant tissue culture plants around June well after the last spring frost
- Take care to prevent plants from drying out or heating prior to planting
- Irrigate immediately after planting & everyday day thereafter for the next 2 weeks

Blackberry Fertilization

- P and K:
 - Apply based on soil test recommendations
- Ca and Mg:
 - Apply as dolomitic limestone if pH is low (<6.0)
- Soil test every other year
- Foliar analysis annually following harvest

Blackberry Fertilization - Nitrogen

New Plantings:

- 25 to 50 #/acre actual N
- 30 to 60 days after planting
- Placement
 - Around individual plants
 - Take care to avoid direct contact with plant

Floor Management

- **Eliminate perennial weeds prior to planting**
- **In-row weed control:**
 - **Mulch 1st year**
 - **Herbicide strip 3 – 5' wide in succeeding years**
 - **Supplement with hand weeding, hoeing**
- **Between rows:**
 - **Non-competitive sod cover controlled by mowing or chemical suppression**

Timing of Nitrogen Applications – mature plantings

- Maintenance
 - Single prebloom spring application
 - OR
 - Split with 2nd application immediately after harvest

Blackberries – When to Harvest?

- **Color is not a good indicator of harvest time**
- **Ease of separation of fruit from pedicel is best indication**

Blackberry Harvest

- **Pick every 2nd to 3rd day**
- **Do not pick when fruit is wet**
- **Protect harvested fruit from the sun**
 - **Fruit will turn red & taste bitter**
- **Cooling shortly after harvest extends shelf life**

Blackberries



- Yrs to 1st crop: 1 after planting year (floricane-bearing)
- Yrs to full crop: 2 – 3
- Yield @ maturity: ~ 20 lbs./10 ft. of row
- Expected productive lifespan: 7 – 9 yrs.
- Major pests: viruses, double blossom on thorned var., orange rust on thornless var., anthracnose, gray mold, Japanese beetles, birds

