Center for Crop Diversification
Martin-Gatton College of Agriculture, Food and Environment

Center for Crop Diversification Fact Sheet
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Blackberries

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Introduction

Blackberries (*Rubus* spp.) are included in the group of small fruits generally referred to as 'brambles' or 'caneberries.' They have perennial crowns and roots. Most blackberry types produce canes the first season (primocanes) that do not bear fruit. The following year these are called floricanes, and bear fruit and then die naturally after harvest. Primocane-fruiting blackberries are an exception. They produce fruit on the primocanes in late summer and fall and again on these same canes (floricanes) the following July and early August before dying. With favorable growing conditions, brambles may produce for 12 or more years. Blackberries are grouped according to their growth habit: erect, semi-erect or trailing. Erect (thorny and thornless) and semi-erect (thornless) blackberries grow and yield well in most parts of the state. The trailing types are not recommended for commercial production in Kentucky due to their lack of winter hardiness. Primocane-fruiting thorny and thornless blackberries also do well in Kentucky; however, hot summers substantially reduce the primocane crop because a week of temperatures above 85 degrees F causes flowers to abort.



Blackberry plant

Marketing

Blackberries in Kentucky have traditionally been sold at farmers markets, roadside stands and from the farm, including as U-Pick. Blackberry wholesaling can also be profitable through local grocers, restaurants and produce auctions. Berries are an attractive addition to a community supported agriculture (CSA) share. There are also some small in-state companies that may purchase blackberries for processing into preserves. Wineries are another potential market for Kentucky blackberries.



Harvested blackberries

Market Outlook

Berries have prominently supported growth in the fresh fruit category, aided by year-round fresh berry availability from production in the southern U.S., Mexico and South America. Consumers remain interested in high quality, locally produced fruit, offering promise for producers willing to invest the time and capital into further developing Kentucky's blackberry market. Growers located near population centers may have an added marketing edge.



Harvested blackberries

A 2011 study indicated Kentucky and Ohio consumers are willing to pay more for a product designated as locally produced, produced in their state or produced in a well-defined multi-state region. Producers may also investigate supplying fruit to jam producers or manufacturing their own value-added items (such as jams or syrups) as part of their total marketing plan. Blackberry fruits do not store or ship well. This limits their market radius but increases the demand for local, high quality fruit.

Production Considerations

Site selection and planting

Choose a production site a year before planting to allow time for adequate preparation. A well-drained, deep fertile soil, high in humus and free from hard pans is best for blackberries. When possible, plant brambles on a northern slope or where there is afternoon shade. Blackberries should not follow solanaceous vegetables (such as tomatoes and peppers), strawberries or other bramble crops for three to four years. Irrigation is essential for commercial production, and beehives are needed to ensure adequate pollination.

Certified virus-free stock, particularly tissue-cultured plants, are highly recommended. The distance between plants and rows varies depending on the type of blackberry, training method, and the size of farm equipment. Blackberries are a high maintenance crop, requiring spring pruning and training, as well as the removal of dead fruiting canes from the previous season. Semi-erect cultivars must be supported on trellises, while erect cultivars may not require trellising, depending on soil fertility. The trellis should be constructed either before planting or during the first season.

Pest Management

Common disease problems include anthracnose, crown gall, orange rust, rosette, fruit rots and several viruses. Mites, cane and crown borers, aphids, green June beetles and Japanese beetles also damage blackberries. Spotted wing drosophila fruitflies, which lay eggs into ripening fruit, became established in the state in 2013. This pest substantially increased the insecticide spray requirements for blackberries. Good weed control is very important and can be accomplished with cultivation, mulching and/or herbicides.

Harvest and storage

Ripe berries should be hand-picked at least twice per week. More frequent harvests will be necessary during the peak of the season and under hot, rainy conditions. Berries are

placed directly into the marketing container as they are picked, to minimize bruising. Cooling within a half hour of harvest is recommended to enhance shelf life.

Labor requirements

Production and harvest labor hours vary with planting age and blackberry type. Six to 10 pickers are needed per acre for harvest, although additional pickers are often required at the height of the season. U-Pick operations will generally need approximately 300 customers to harvest an acre of erect blackberries, and about 450 customers for semi-erect.

Economic Considerations

There is a significant startup cost, crop management costs, and a time lapse of more than two years after establishment before a full blackberry crop can be sold. Initial investments include land preparation, purchase of plants, plant establishment and installation of an irrigation system. The cost of a cooler, which is essential to berry quality, should also be included. In addition, semi-erect and erect thornless blackberries will require a trellis system to obtain the superior yields that contribute to their high profitability estimates.

2017 Kentucky Blackberry Cost and Return Estimates (see link below) estimate the total cost of establishing each blackberry type during a three-year establishment period, including preplanting field preparation costs (see Table 1). Revenues in Year 3, the first fruiting year, help offset some Year 3 expenses. The five-year return to management per acre, as well as the annual return to management during a full fruiting year, is also reported in the table.

Blackberry Type	3-Yr. Establishment Costs (less revenue from first fruiting year)	Return to Management (fourth fruiting year)	Cumulative 5-Year Return (through fourth fruiting year)*
Thorny	$8,831	$6,681	$4,981
Thornless Erect	$11,310	$10,498	$11,384
Thornless Semi-Erect	$7,766	$20,801	$38,961

Table 1

Although thornless semi-erect varieties showed superior economic returns in the 2017 estimates, producers must account for other factors when deciding which varieties to produce. These estimates assume all varieties are marketed at the same price; however, thorny and thornless-erect varieties could command higher prices than thornless semi-erect varieties because of consumer preference, increasing the annual

returns from those two varieties. Thorny varieties are the earliest-season producers, and consumers generally prefer the sweeter berries and smaller seeds in the thorny and thornless erect varieties. In addition, thornless semi-erect varieties ripen the latest, creating risk potential for higher spotted wing drosophila control costs. For such reasons, producers may find that returns can be maximized by combining different blackberry varieties within the same planting.

Marketing can also increase the return per quart of blackberries produced. The above estimates assume grower-harvested blackberries. U-Pick operations can reduce handling and harvesting costs by $0.60 or more per quart. This savings can substantially increase returns to land, labor and management for all blackberry varieties.

References/Resources:

Online

- Growing Blackberries and Raspberries in Kentucky, HO-15 (University of Kentucky, 2005)

http://www.ca.uky.edu/agc/pubs/ho/ho15/ho15.pdf

- Kentucky Blackberry Cost and Return Estimates ID-149 (University of Kentucky, 2017)

http://www.ca.uky.edu/agc/pubs/id/id149/id149.pdf

- Cost of Producing, Harvesting and Marketing Primocane-Fruiting Raspberries in North Carolina (2009)
http://www.smallfruits.org/assets/documents/crops/caneberries/marketing-nc-budget-caneberries-7-6-09.pdf

- Blackberry and Raspberry Budgets & Pricing (North Carolina State University, 2011)

http://rubus.ces.ncsu.edu/rubus-blackberry-and-raspberry-budgets-pricing/

- Consumer Evaluation of Thornless Erect and Thorny Blackberries Based on Flavor, Color, Texture and Overall Taste (University of Kentucky, 2012, Page 23)

http://www2.ca.uky.edu/agc/pubs/pr/pr656/pr656.pdf

- Consumer preferences for local production and other value-added label claims for a processed food product (European Review of Agricultural Economics, Volume 39, Issue 3, 1 July 2012, Pages 489–510)
https://www.researchgate.net/publication/239809398_Consumer_preferences_for_local_production_and_other_value-added_label_claims_for_a_processed_food_product

- Blackberry and Raspberry Growers Information Portal (North Carolina State University)

https://rubus.ces.ncsu.edu/

- High Tunnel Raspberries and Blackberries (Cornell University, 2017)
http://www.hort.cornell.edu/fruit/pdfs/high-tunnel-brambles.pdf

- Midwest Fruit Pest Management Guide (Midwest Fruit Workers Group, 2018)
https://ag.purdue.edu/hla/Hort/Pages/sfg_sprayguide.aspx

- North American Raspberry and Blackberry Association (formerly North American Bramble Growers Association)

http://www.raspberryblackberry.com/

In print

- Raspberry and Blackberry Production Guide for the Northeast, Midwest, and Eastern Canada. Lori Bushway, Marvin Pritts, and David Handley, editors. 2008. Natural Resource, Agriculture, and Engineering Service. NRAES-35 157 pp. Ordering information:
http://palspublishing.cals.cornell.edu/nra_order.taf?_function=detail&pr_id=171

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