

Elderberry

Introduction

Elderberry (*Sambucus nigra* subsp. *canadensis*) is a large shrub or small tree native to Kentucky. Small, red to bluish-black fruit with prominent seeds are produced in large clusters. While elderberries are not normally eaten fresh due to their tartness, wild and cultivated elderberries can be processed, either alone or with other fruit.

Marketing and Market Outlook

Most commercially grown elderberries are sold to processors for wines, juices, jellies, jams, syrups, and pies. Both the fruit and flowers are used in winemaking. Additionally, there is a growing demand for elderberries in the health tonic industry. Wholesale growers should arrange for a market contract prior to production.

Production Considerations

Site selection, planting, and maintenance

Virus-free, bare-rooted plants of horticultural varieties can be purchased commercially. Plants are also easy to propagate from seed, cuttings, or suckers. One-year-old nursery stock plants are transplanted to a well-tilled site in early spring. Plants are somewhat tolerant of wet or poor sites; however, they are not drought tolerant. Plants have a shallow, fibrous root system that can be damaged if the soil is cultivated too deeply.

Fruit is borne on the current year's growth, as well as on older wood; second year canes with several lateral branches are generally the most fruitful. Elderberry plants



are partially self-fruitful and will require more than one variety in a planting to ensure cross-pollination.

Elderberry should be pruned during dormancy to remove dead, damaged, and unproductive canes. Pruning is also beneficial for disease and insect management. Canes are removed at ground level, leaving equal numbers of one-, two- and three-year-old canes.

Pest management

Relatively few insects and diseases are problematic on elderberries. Potential insect pests include cercropia caterpillars, eriophyid mites, cane borers, sawfly larvae, aphids, and fall webworms. Diseases such as viruses, cankers, leaf spot, and powdery mildew may attack elderberry. Few pesticides are labeled for use on this crop, so growers will need to rely on good cultural practices for pest management. Birds can be a serious problem, especially in small plantings near woods. Selections in which the fruit clusters hang downward are somewhat less attractive to birds.



Harvest and storage

Elderberry comes into full production after 3 to 4 years. Fruit is hand-harvested in August and September by cutting the cluster (panicle) from the bush once all berries in a cluster have fully ripened. Because berries produced on different age canes will ripen at different times, fruit is generally harvested weekly over a period of approximately 3 weeks. Elderberries are separated from the panicle by freezing and then stripping or shaking off the fruit. The harvested fruit is either re-frozen for later processing or thawed for immediate processing. Freezing is important to reduce the green extract from the berries that tenaciously adheres to equipment. With good growing conditions, an average yield of 3 to 4 tons of fruit per acre can be expected.

Labor requirements

Elderberry production is labor-intensive since the berries must be removed from the panicle after field harvest. Labor needs per 1/5 acre are approximately 20 hours for production and 130 hours for harvest and freezing/processing.

Economic Considerations

Initial investments include land preparation and the purchase of planting material. An additional start-up cost could include the installation of an irrigation system since elderberry is drought-intolerant. Producers who do not already have an existing refrigeration system in place will also incur this cost for processing. Those producers who do have existing cooling systems may be able to reduce their fixed production cost by nearly \$1,000 per year. The potential for retail elderberry production in Kentucky is most likely for small-scale processing in a certified kitchen

or other food preparation facility. Elderberry wine production is also a possibility.

Production costs for an irrigated small-scale (1/5 acre) elderberry planting are estimated at \$635 per 1/5 acre, with harvest and marketing costs at \$1,925 per 1/5 acre. Total expenses per 1/5 acre, including both variable and fixed, would come to approximately \$2,800. Presuming gross returns of \$3,325 per 1/5 acre, returns to land, capital and management would be approximately \$525. These 2008 returns presume a realized price of \$3 per pound of elderberries. For every \$0.10 change in price, returns will change by approximately \$100 based on a 1/5-acre production system.

More Information

- Common Elderberry Plant Guide (USDA NRCS, 2005)
http://plants.usda.gov/plantguide/doc/cs_sanica4.doc
- Demand Increasing for Aronia and Elderberry in North America (Cornell University, 2004)
<http://www.fruit.cornell.edu/Berries/specialtyfru%20pdf/aroniaelderberry.pdf>
- Elderberry Culture in New York State (New York State Agricultural Experiment Station at Geneva, 1981)
<http://www.nysaes.cornell.edu/pubs/fls/OCRPDF/91.pdf>
- Elderberry Research and Production in Missouri (Missouri State University and Cornell University, 2005)
<http://www.fruit.cornell.edu/Berries/specialtyfru%20pdf/elderberrymissouri.pdf>
- Small Scale Fruit Production: Elderberries (Pennsylvania State University, 2007)
<http://ssfruit.cas.psu.edu/Elderberries.htm>