

Sweet Cherries

Introduction

Sweet cherries (*Prunus avium*) are mainly consumed fresh; however, they may also be frozen, canned, or processed for wine. Frequent losses due to such factors as fluctuating winter temperatures, spring frosts, rain-induced fruit cracking, and bird losses make commercial sweet cherry production a challenge in Kentucky.

Marketing and Market Outlook

U.S. per capita fresh cherry consumption increased 150% (from 0.6 to 1.5 pounds) from 2000 to 2009. Despite the increased demand, most sweet cherries continue to be produced in Washington, California, Michigan, and Oregon. The drier, cooler growing conditions in the western states are much more conducive to cherry production than Kentucky's warmer, wetter climate.

Potential fresh market outlets in Kentucky include farmers markets and roadside stands. The strong demand for fresh fruit at these markets would make sweet cherries a popular product. Since sweet cherries are not a common crop in Kentucky, competition for sales would be non-existent in most areas. Unfortunately, success in commercial sweet cherry production will require overcoming a number of significant production obstacles.

Production Considerations

Cultivar selection

Consumers look for fresh market sweet cherries to have a deep red, glossy appearance. Fruit



should be firm, sweet, and juicy. Cultivars vary in their susceptibility to cracking, a physiological problem that can occur following rainfall as the fruit nears maturity. Because cracking reduces marketability and increases susceptibility to fruit decay organisms, select cultivars that are less susceptible to this problem. Other desirable traits include bacterial canker resistance, winter hardiness, and late blooming (to avoid spring frost damage).

Site selection and planting

Sweet cherries require a well-drained soil. Planting trees on a 1- to 1½-foot high raised ridge is highly recommended. Trees generally do not survive on heavy, poorly drained soils. Select a site that is considerably higher than surrounding areas, with good slopes and lower areas for air drainage. Avoid protected areas, such as near wood lots, since these

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obstruct air flow and allow frost pockets to form. Sweet cherries bloom early in the spring and are prone to spring frost losses; however, some recently developed self-pollinating cultivars do bloom later.

One-year-old nursery stock should be planted in the spring. The availability of Gisela dwarfing rootstocks (Gisela 6) has recently made planting dwarf cherries possible. Most sweet cherry cultivars are self-incompatible and require another cultivar to serve as a source of pollen. Pollinizers are dispersed throughout the orchard, generally one tree for every eight to nine trees. One to two honey bee hives per acre will also be needed.

Trees are pruned lightly until after they come into production the third season. Sweet cherries are trained to a central leader or modified central leader system. Annual pruning during dormancy is used to develop and maintain tree size and shape. Pruning also opens the canopy for more effective pesticide coverage.

Pest management

A number of diseases, insects, animal pests, and environmental conditions can cause heavy sweet cherry losses in Kentucky. Brown rot, cherry leaf spot, and bacterial canker are the most serious disease problems. Common insect pests include cherry aphids, plum curculio, cherry fruit fly, and peach tree borers.

A regular preventative spray schedule must be followed to control insect and disease problems, and to ensure high quality fruit. Rains occurring just before harvest can result in fruit cracking, making the fruit unmarketable. Even minor cracking can open the fruit to further damage from the brown rot fungus.

Birds feeding on ripening fruit will cause substantial yield reductions if trees are not netted. Deer feeding on shoots and bark may destroy young cherry trees; mice and rabbits can also

injure trees. Cherry growers use sod middles, cultivation, and herbicides in their orchard weed management program.

Harvest and storage

Fresh market sweet cherries are hand-harvested leaving the pedicels intact. Fruit maturity can be determined by color and the use of a refractometer that measures the level of soluble solids (sugar).



Cherries should have field heat removed immediately after harvest. Because the fruit has a very short

shelf life, cherries need to be moved to market as quickly as possible. Sweet cherries can be stored for no more than 10 to 14 days at 32° F.

Labor requirements

Labor needs per acre are significant, mainly due to the amount of labor required to hand-harvest the fruit. Washington State University estimates it takes 30 people to pick one acre of cherries in one day.

Economic Considerations

Initial investments include land preparation, purchase of trees, tree establishment, and installation of an irrigation system. A good sprayer for insect and disease control will also be needed. Additional costs include the purchase of bird netting, post-harvest grading, and cooling equipment.

Production costs for irrigated sweet cherries are estimated at \$1,500 to \$2,300 per acre, with harvest and marketing costs at \$4,800 to \$7,500 per acre. Total expenses per acre, including both variable and fixed, are approximately \$6,300 to \$9,800. Presuming gross returns of \$4,000 to \$14,000 per acre, returns to land, capital and management would be approximately negative \$2,300 (a net loss) to \$6,200 (a net gain) per

acre. Establishment costs for an acre of sweet cherries could easily total between \$11,000 and \$15,000 before fruit may be marketed. The high establishment costs and significant growing challenges make sweet cherry production in Kentucky a risky enterprise.

Selected Resources

- Midwest Tree Fruit Spray Guide, ID-92 (University of Kentucky, et al., 2011) *5 MB file*
<http://www.extension.iastate.edu/Publications/pm1282.pdf>
- Midwest Tree Fruit Pest Management Handbook, ID-93 (University of Kentucky, et al, 1993)
<http://www.ca.uky.edu/agc/pubs/id/id93/id93.htm>
- Cherries (Agricultural Marketing Resource Center, 2010)
http://www.agmrc.org/commodities__products/fruits/cherries.cfm

- Cherry Profile (Agricultural Marketing Resource Center, 2010)
http://www.agmrc.org/commodities__products/fruits/cherry_profile.cfm
- Crop Profile for Sweet Cherries in Washington (Washington State University, 2003)
<http://www.ipmcenters.org/cropprofiles/docs/WAcherries-sweet.html>
- Fresh Market Sweet Cherry Varieties for Eastern North America (Northwest Michigan Horticultural Research Station, 2003)
<http://agbioresearch.msu.edu/nwmihort/freshvarieties.htm>
- Growing Cherries in Indiana (Purdue University, 2001)
www.hort.purdue.edu/ext/HO-9.pdf
- Tree Fruit Production Budgets (Pennsylvania State University, 2011)
<http://agsci.psu.edu/tfpg/part9/AGRS045-09-01.pdf/view>

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*Photos by Mark Longstroth, Michigan State University Extension (pg. 1)
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For additional information, contact your local [County Extension](#) agent