

Sweet Corn

Sweet corn (*Zea mays* subsp. *mays*) is one of the most popular fresh market vegetables produced in Kentucky. While field corn has thousands of years of history, sweet corn has only been available since the 1700s. Present day cultivars vary by kernel color (yellow, white, and bicolor) and sugar content.

Marketing

Fresh market options for Kentucky-grown sweet corn include wholesale markets, cooperatives, farmers markets, and roadside stands. Sweet corn can be included in a community supported agriculture (CSA) subscription mix. Selling to local supermarkets is also an option.

Market Outlook

Fresh sweet corn consumption has increased only slightly over the past 10 years. Because sweet corn is in high demand and easy to sell, it is often used to draw consumers to a retail outlet. Value-added and premium local marketing will be keys to maintaining future sweet corn profitability.

Production Considerations

Variety selection

Sweet corn cultivars are grouped according to the gene(s) controlling sugar content level: standard type, super sweet, sugar-enhanced, along with several other types. Any of these may have white, yellow, or bicolor kernels. Differences in maturation times (early, mid-season, and late) also occur. Cultivars can be strikingly different in terms of sweetness,



eating quality, and suitability for mechanical harvest and shipping. Consider carefully which types are best suited for your market situation, as well as your growing conditions. Cultivars with tolerance or resistance to leaf blights and viruses should be selected when planting in June, especially in river bottoms and humid areas of the state.

Different types also have different isolation requirements. It is important to isolate plantings of dissimilar cultivars from each other to avoid cross-pollination, which can result in reductions in sugar content and the production of all bicolor corn. All sweet corn varieties will need to be isolated from field corn and popcorn. Isolation can generally be accomplished by physical separation or by making sure there is a minimum of 14 days difference in the maturities of different types.

Site selection and planting

Sweet corn will do well in all areas of Kentucky, but well-drained soils are essential for good results. A field that has been in fescue sod is ideal for sweet corn

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production, but plowing should be done several weeks in advance of planting. In most parts of Kentucky the earliest plantings are made between April 20 and May 1. In areas of the state where consumers will pay a higher price for sweet corn, transplants set into black plastic mulch provide earlier harvests, which have been profitable.

Irrigation is usually required to ensure high quality ears. While solid set sprinkler systems and traveling guns are still in use, drip irrigation lines running down the rows on bare ground can make irrigation and fertigation relatively easy.

Pest management

Corn earworm is one of the most destructive insects attacking sweet corn. Other insect pests that can cause crop damage include corn borer, armyworm, Japanese beetles, and flea beetles. Using insect traps or scouting to monitor populations can help the grower determine when and how often insecticides should be applied.

Potential disease problems include Stewart's wilt, leaf blights, rust, and viruses. Crop rotation and the use of resistant varieties can help manage these diseases. Weed control is achieved by a good crop rotation program and the use of herbicides. Deer, groundhogs, raccoons, and birds may also cause crop losses.

Harvest and storage

Sweet corn is harvested once the silks have turned brown and the kernels are well-developed and milky. For the highest quality ears, it is critical that sweet corn be harvested in a timely manner at optimum maturity. To maintain top quality, ears must be properly cooled to prevent the sucrose from changing into starch.

Labor requirements

Labor needs for sweet corn production are approximately 20 hours per acre. Hand harvesting and packing requires 55 to 65 hours per acre, while machine harvesting and packing requires 20 to 30 hours per acre.

Economic Considerations

Initial investments include land preparation, purchase of seed, and installation of an irrigation system. The estimated total cost for overhead irrigated, fresh market sweet corn in 2009 was approximately \$2,270 per acre.

Since returns vary depending on actual yields and market prices, the following per acre returns to land and management estimates are based on three different scenarios. Conservative estimates represent the University of Kentucky's statewide average cost and return estimates for wholesale production in 2009.

<i>Pessimistic</i>	<i>Conservative</i>	<i>Optimistic</i>
\$(278)*	\$23	\$323

Sweet corn profits are extremely sensitive to price. Wholesale sweet corn profits tend to be especially risky due to lower prices and potential regional surpluses of fresh sweet corn during Kentucky's season. Direct marketing may help reduce this risk.

**Parentheses indicate a negative number, i.e. a net loss*

Selected Resources

- An IPM Scouting Guide for Common Problems of Sweet Corn in Kentucky, ID-184 (University of Kentucky, 2010)
<http://www.ca.uky.edu/agcomm/PUBS/id/id184/id184.pdf>
- Sweet Corn Insect Integrated Pest Management Scout Manual (University of Kentucky, 1994)
<http://www.uky.edu/Ag/IPM/manuals/ipm10swt.pdf>
- Vegetable and Melon Budgets (University of Kentucky, 2008)
<http://www.uky.edu/Ag/cdbrec/vegbudgets08.html>
- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky)
<http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm>

- Commercial Sweet Corn Handling (Alabama Cooperative Extension, 2001)
<http://www.aces.edu/pubs/docs/A/ANR-0584/>
- Enterprise Budget: Sweet Corn (Leopold Center, Iowa State University, 2010)
<http://www.extension.iastate.edu/bfc/pubs/enterprise/BFC20%20sweetcorn.pdf>
- Growing Sweet Corn in Missouri, G6390 (University of Missouri, 2006)
<http://extension.missouri.edu/publications/DisplayPub.aspx?P=G6390>
- Sweet Corn 101 (Ohio State University)
<http://www.ag.ohio-state.edu/~vegnet/library/scorn101/sc101.htm>
- Sweet Corn Profile (Agricultural Marketing Resource Center, 2010)
http://www.agmrc.org/commodities__products/grains__oilseeds/corn_grain/sweet_corn_profile.cfm
- Sweet Corn: Organic Production (ATTRA, 2008)
<http://attra.ncat.org/attra-pub/sweetcorn.html>
- Sweet Corn Pest Identification and Management (Great Lakes Working Group & North Central Integrated Pest Management Center, 2008) *3.4 MB file*
<http://www.ces.purdue.edu/extmedia/ID/ID-405.pdf>

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Photo courtesy of the National Garden Bureau

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For additional information, contact your local **County Extension** agent