

Tomatoes

Marketing

Tomatoes (*Lycopersicon esculentum*) are grown in Kentucky primarily for fresh market sales. There is little in-state market potential for processed tomatoes due to the loss of local processing plants with the movement of those industries to California.

Fresh market options include roadside stands, local wholesalers and retailers, national wholesale markets, cooperatives, produce auctions and farmers markets. Planting for very early or for late fall markets often brings the most profit since prices tend to be higher. New producers should consider the low-volume retail sales opportunities at farmers markets or roadside stands. Large-scale production usually requires knowledge of wholesale marketing channels that can handle larger volumes of produce.

Market Outlook

The U.S. per capita consumption of fresh tomatoes has increased 15 percent over the past ten years. Immigration trends, along with changes in consumer tastes and trends, have contributed to this increase. According to University of Kentucky research, all marketing channels in the state are currently underutilized.

Production Considerations

Site selection and planting

Choose a site with well-drained soil that warms up quickly in the spring. Avoid low-lying fields that are subject to late frosts and high humidity. Tomato fields should be located



where plants will not be damaged by herbicide carryover or drift. In addition, fields should be rotated out of tomatoes and related crops (tobacco, pepper, potatoes) for a period of three years. Tomatoes do well when transplanted to a field where fescue sod was plowed under the previous fall.

Stocky, container-grown transplants are most desirable for transplanting as they will result in higher early yields than bare-root plants. Early tomatoes generally command higher prices, which usually more than offsets the higher cost of good quality container-grown plants. Transplanting is done during the latter part of April or early May for a spring crop and in mid-July for a fall crop. Most growers use approximately 4,200 to 5,000 plants per acre.

Tomato plants are pruned, staked, and trellised to obtain higher and earlier yields. UK on-farm demonstrations have shown that highest profits can be obtained with raised beds covered with black plastic and using drip irrigation and fertigation. The moisture levels under the plastic must be carefully monitored when using this plasticulture system.



Pest management

Control of foliar and stem diseases will require regular sprays of both bactericides and fungicides for most of the season. Timing of sprays and good coverage are critical to disease control. Scouting to monitor populations can help the grower determine when and how often insecticides should be applied. Herbicides, plastic mulch and a good rotation system can help control weeds.

Harvest

Tomato fruit is easily damaged and should be handled as carefully as possible in all picking, grading, packing and hauling operations. Fruit is harvested at the maturity stage preferred by your particular market. Vine-ripe tomatoes must be harvested as often as twice a week, whereas mature-green tomatoes are only harvested three or four times during the season. Pack tomatoes in the type and size container your market requires.

Labor requirements

Labor needs per acre are approximately 60 hours for production, 600 hours for harvest and 100 hours for grading and packing. Plasticulture will add 10 to 18 hours more per acre, mostly for the removal and disposal of the plastic.

Economic Considerations

Initial investments include land preparation and the purchase of seed or transplants. Additional start-up costs can include the installation of an irrigation system and black plastic mulch.

Production costs for staked, trickle irrigated tomatoes are estimated at \$1,475 per acre, with harvest and marketing costs at \$6,750 per acre. Total expenses are approximately \$8,650 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 average cost and return estimates in 2005.

<i>Pessimistic</i>	<i>Conservative</i>	<i>Optimistic</i>
\$(1,570) *	\$2,047	\$4,892

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

Selected Resources

- An IPM Scouting Guide for Common Pests of Solanaceous Crops in Kentucky, ID-172 (University of Kentucky, 2008)
<http://www.ca.uky.edu/agc/pubs/id/id172/id172.pdf>
- Fresh Market Tomato Fact Sheet (University of Kentucky, 2005)
<http://www.uky.edu/Ag/NewCrops/tomato2005.pdf>
- Vegetable and Melon Budgets (University of Kentucky, 2008)
<http://www.uky.edu/Ag/NewCrops/vegbudgets08.html>
- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky)
<http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm>
- Organic Tomato Production (ATTRA, 1999)
<http://www.attra.ncat.org/attra-pub/tomato.html>
- Commercial Tomato Production Handbook Bulletin 1312 (University of Georgia, 2006)
<http://pubs.caes.uga.edu/caespubs/pubcd/B1312.htm>
- Fresh Tomatoes Profile (Agricultural Marketing Resource Center, 2009)
http://www.agmrc.org/commodities__products/vegetables/fresh_tomatoes_profile.cfm
- Tomato Web Links (ATTRA, 2009)
<http://attra.ncat.org/attra-pub/tomatoweb.html>