UK COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Potatoes

Marketing and Market Outlook

Potatoes are grown in Kentucky as an early crop for fresh market consumption and for sales to potato chip companies for chipping. Opportunities also exist for the production of small "new" potatoes[1], russets, heirlooms and other specialty or "gourmet" types for local markets, sales to restaurants, or sales to local/area wholesalers. Sales of very small "mini" or "creamer" potatoes (1 to 1½ inches in diameter) are also possible and command premium prices in some markets. There is a potential for increased production to supply these market outlets in Kentucky. Fresh market options include farmers' markets, produce auctions, cooperatives, and roadside stands. A reduction in potato supply, caused by the removal of potato acreage in major producing states, helped fresh potato prices strengthen in 2004 and 2005.

Production Considerations

Site selection and planting

Loam soils are most desirable for good potato yields; however, potatoes can be grown on a wide range of well-drained soil types. Sod ground should be treated for grub and wireworm control prior to planting. Potatoes should not follow potatoes or other solanaceous crops (e.g. tomatoes, tobacco, or peppers) on the same ground year after year. A three- or four-year rotation program should be followed.

Only certified seed stock should be purchased. Fifteen to eighteen 100-pound bags of seed potatoes are usually needed to plant an acre. Early potatoes are planted from March 15 to April 10 while a late crop is planted from June 15 to July 15. Cultivation for weed control and to keep soil hilled up around plants is necessary.

Potatoes can be grown on raised beds with black plastic and drip irrigation. Growers have obtained higher and earlier yields of better quality potatoes with plasticulture. In addition, tubers are easier to dig at harvest when grown on plastic mulch. Planting holes can be made in the plastic mulch using a water wheel setter. Seed pieces are dropped into the holes and covered with soil by hand. Potatoes have also been grown under high tunnels for even earlier harvests.

Pest management

Potential disease problems include blackleg, early blight, nematodes, Rhizoctonia stem canker, scurf, scab and viruses. Multiple control strategies are needed to prevent or reduce disease losses. Colorado potato beetle and flea beetles are the key insect pests of potato. Scouting to monitor populations can help growers determine when and how often

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insecticides should be applied. Herbicides, mechanical cultivation and a good rotation system can help control weeds.

Harvest and storage
The best time to dig potatoes will depend on the price and the market. For "new" potatoes or smaller-sized "gourmet" varieties that will be sold locally early in the season, it may be necessary to dig before the vines die back. On the other hand, the vines of potatoes dug for storage should be dead prior to digging. Using chemicals to kill the plant tops will aid in earlier harvest and promote a firmer skin set.

Washing potatoes for fresh market is desirable. Potatoes may be stored for long periods at the proper temperature and relative humidity. Sprouting in storage can be reduced by spraying potato plants with a growth regulator while still in the field. Potatoes are marketed in a variety of containers depending on the size/type of potato and the market.

Labor requirements
Labor needs for potato production are approximately 25 hours per acre. Harvesting fresh market potatoes requires approximately 50 hours per acre with an additional 25 hours per acre for washing, grading, bagging and packing. Harvest labor requirements will be higher for hand-dug "new" or mini potatoes. Potatoes for chipping require approximately 20 hours per acre for harvest and marketing.

Economic Considerations

Initial investments include land preparation and purchase of seed potatoes. Additional start-up costs can include the installation of an irrigation system and plastic mulch. Production costs (2006) for fresh market potatoes (overhead irrigated) are estimated at $675 per acre, with harvest and marketing costs at $805 per acre. Total expenses per acre are approximately $1,880. Presuming gross returns of $2,125 per acre, returns to land, capital and management come to approximately $43 per acre.

Production, harvest and marketing costs for potatoes for chipping (overhead irrigated) are somewhat less, as are returns. Total expenses per acre are approximately $1,110 with gross returns estimated at $1,175 per acre. Returns to land, capital and management are estimated at negative $190 per acre (i.e. a net loss) to about $15 per acre.

These projections presume prices of $5.50 per cwt for processing potatoes and $8.50 per cwt for fresh market potatoes. Producers acquiring greater prices will stand to make substantially greater profits from potato production.

[1]"New" potatoes are often red, but they can be any variety that is harvested early in the season when tubers are 1½ to 2¼ inches in diameter.

More Information

- Marketing Options for Commercial Vegetable Growers, ID-134 (University of Kentucky, 1999) http://www.ca.uky.edu/agc/pubs/id/id134/id134.htm
- Potato Marketing Fact Sheet (University of Kentucky, 2005) http://www.uky.edu/Ag/NewCrops/potato2005.pdf
- Vegetable and Melon Enterprise Budgets (University of Kentucky, 2004) *interactive spreadsheets* http://www.uky.edu/Ag/AGEcon/pubs/software/budgets_veg_melon.html
- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky) http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm
- Drip Irrigation for Vegetables, MF-1090 (Kansas State University, 1993) http://www.oznet.ksu.edu/library/hort2/samplers/MF1090.asp
- Gourmet Potato Production (Manitoba Agriculture, Food and Rural Initiatives, 2004) http://www.gov.mb.ca/agriculture/crops/potatoes/bda04s10.html
- Growing Irrigated Potatoes, AE-1040 (North Dakota State University, 1999) http://www.ext.nodak.edu/extpubs/plantsci/rowcrops/ae1040w.htm

- Guidelines for Seed Potato Selection, Handling and Planting, PP-877 (North Dakota State University, 1997) http://www.ext.nodak.edu/extpubs/plantsci/rowcrops/pp877w.htm
- Irish Potatoes, MF-488 (Kansas State University, 1992) http://www.oznet.ksu.edu/library/hort2/samplers/MF488.asp
- Plastic Mulches for Vegetables, MF-1091 (Kansas State University, 1993) http://www.oznet.ksu.edu/library/hort2/samplers/MF1091.asp
- Specialty Potatoes (University of California-Davis Small Farm Center, 1992) http://www.sfc.ucdavis.edu/pubs/brochures/Specialtypotatoes.html