UK COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Snap Beans

Marketing

Farm fresh snap bean sales at farmers markets account for most of Kentucky's commercial acreage. Other fresh market options include wholesale markets, produce auctions, U-pick, and roadside stands. Sales to locally owned retail markets may be an option.

Market Outlook

Fresh market snap bean sales in the U.S. have risen steadily over the last 14 years, with per capita fresh consumption more than doubling from 1991 to 2006. The increase in consumption is generally attributed to a greater emphasis on the health benefits of eating fresh produce, an interest in different types of cuisine and a greater ethnic diversity of the population. Kentucky producers indicate that beans are one of the vegetable crops undergoing expansion. Good market opportunities also exist for producers growing heirloom or specialty beans.

Production Considerations

Site selection and planting

Snap beans grow best in well-drained soils with good water-holding capacity. They are sensitive to cold and even a slight frost can cause damage. For this reason, the first planting of beans should not be made until after the danger of the last killing frost in spring. Successive plantings every 2 to 3 weeks are desirable.

Growers planning to mechanically harvest bush beans should plant varieties that produce a concentrated set of pods.

Seeding rates are partly determined by variety, with small-seeded varieties requiring fewer pounds per acre than large-seeded varieties. The average amount of seed to plant is about 80 pounds per acre. To reduce the possibility of seed-borne diseases, purchase western-produced seed. In addition, a seed treatment is highly recommended. Pole beans will require the construction of a wire trellis for support before the plants begin to produce runners.

Snap beans require a continuous supply of moisture, especially during pod set and pod development. Some growers have reported extremely high yields and a cleaner harvest growing bush beans in raised beds with black plastic and drip irrigation. This has also been the case with half-runners using trellises.

Pest management

Potential bean disease problems include seed rots, damping-off, bacterial blights, rust, anthracnose and viruses. Following good cultural practices, growing resistant varieties when available, and purchasing western-grown treated seed can help in disease prevention.

Fungicide/bactericide sprays may be needed in some years. Aphids, Mexican bean beetles, spider mites, and leafhoppers can cause losses if not controlled. Scouting to monitor populations can help the grower determine when and how often pesticides should be applied. Herbicides, cultivation and a good rotation system can help control weeds.

Harvest

Snap beans are harvested at the optimum edible maturity stage when the seeds are about one-third developed. Many bush beans are mechanically harvested (once over harvest). A pole bean crop is harvested an average of five times with each harvest three to five days apart. Green beans for the fresh wholesale market are packed in bushel baskets or cartons.

Labor requirements

Labor needs for bush bean production are approximately 15 to 20 hours per acre plus an additional 8 hours per acre if irrigated. Machine-harvested bush beans require from 3 to 20 hours per acre for harvesting, grading and packing operations. Labor requirements are dependent upon on the scale of operation and the size of the specialized harvesting and packing equipment used. Hand-harvested beans are labor-intensive and can require up to 300 hours per acre.

Economic Considerations

Initial investments include land preparation, purchase of seed, and installation of an irrigation system. Additional expenses can include black plastic mulch and trellises. Beans grown for long distance wholesale markets require an additional, significant investment into specialized harvest, grading, cooling, packing and cold storage equipment. Estimated 2006 production costs for irrigated, wholesale bush snap beans are as follows:

	Hand-harvested	Machine-harvested
Variable costs	$ 4,025	$ 1,213
Fixed costs	$ 104	$ 110
Total costs	$ 4,129	$ 1,323

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 for wholesale snap beans. Conservative estimates represent the University of Kentucky's statewide average cost and return estimates. Profits should be considerably higher for local farmers markets or roadside sales. In addition, specialty beans can command higher prices and result in returns well above these estimates.

Hand-harvested

Pessimistic	Conservative	Optimistic
$ (1,569) *	$ (969) *	$ (369) *

Machine-harvested

Pessimistic	Conservative	Optimistic
$ (263) *	$ 317	$ 917

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

A 2006 University of Kentucky Agricultural Economics feasibility study on large-scale (one thousand or more acres) mechanized snap bean production estimated that production costs amounted to 40 percent of the total breakeven costs. The other 60 percent of the costs were associated with the harvest and post-harvest handling that is needed to process and package the beans for fresh market sales. At wholesale prices, hand-harvesting beans is not economically feasible. However, at retail sales prices (e.g. farmers markets) hand-picked beans are profitable, providing labor costs are low.

Large-scale fresh market snap bean production is a specialized business with a few, mostly east coast, producers involved. Profits are dependant on short term price upswings that occur at irregular intervals. Strategies to stay in the market place as long as possible are important to profitability. Large-scale snap bean production may be profitable, but only for the few who can access volume produce customers and can make a significant investment in specialized equipment. In addition, "deep pockets" are needed in order to endure periods of low or breakeven prices.

More Information

- Fresh Snap Bean Marketing Fact Sheet (University of Kentucky, 2005) http://www.uky.edu/Ag/NewCrops/bean2005.pdf
- Marketing Options for Commercial Vegetable Growers, ID-134 (University of Kentucky, 1999) http://www.ca.uky.edu/agc/pubs/id/id134/id134.htm
- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky) http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm
- Commercial Bush Snapbean Production, PB-897 (University of Tennessee, 1995) http://www.utextension.utk.edu/publications/pbfiles/pb897.pdf
- Pole Bean Production, HIL-3A (North Carolina State University, 2005) http://www.ces.ncsu.edu/depts/hort/hil/pdf/hil-3-a.pdf
- Snap Beans Budget (North Carolina State University, 2002) http://legacy.ncsu.edu/classes/are201005/budgets/pdf02/bnmh942a.pdf
- Snap Beans Budget – fresh market, machine harvested, irrigated (Clemson, 2002) http://cherokee.agecon.clemson.edu/snapbn6.pdf
- Snap Beans: Commercial Vegetable Production, MF-2076 (Kansas State, 1995) http://www.oznet.ksu.edu/library/hort2/samplers/MF2076.asp