UK COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Asparagus

Asparagus (*Asparagus officinalis*) is a high-value, early producing perennial vegetable crop that is well suited for both conventional and organic production in Kentucky. A well-maintained asparagus planting can continue to produce for 15 years or more.

Marketing

This crop is grown primarily in Kentucky for fresh market, especially near large population centers. Asparagus has great potential for farmers markets, for direct sales to local supermarkets, and for sales to local and regional wholesalers. Direct sales to local restaurants may also be possible. Kentucky's market window for asparagus is from late May through the month of June.

Market Outlook

Asparagus has excellent potential for increased production in Kentucky. Per capita use of asparagus in the U.S. has increased by 40 percent since 1998, from 1 pound to 1.4 pounds per capita. This increase is solely due to a doubling of fresh asparagus consumed per capita since the early 1990s.

According to the USDA, fresh asparagus is a good source of vitamins A and C, iron, calcium, and folic acid. U.S. fresh asparagus is primarily produced in California, Washington, and Michigan. Top sources for imported asparagus out-of-season are Mexico and Peru. Due to the increased importing of asparagus out of the Michigan and west coast seasons, American consumers have gained an increased appetite for asparagus. Because many consumers are able to detect a difference in the quality of fresh asparagus, local producers may have a considerable advantage for sales during their marketing window.

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Production Considerations

Site selection

Choose a relatively level, rock-free site with light to medium-textured loam soil where asparagus has never been grown. Soils should be deep and without a hardpan. Asparagus will survive short periods of flooding, but not prolonged waterlogged soils. Adjusting the fertility level before planting is essential since an asparagus planting may last 15 to 20 years and cannot be plowed or tilled once the crowns are set.

Establishing a new planting

An asparagus bed may be established from greenhouse-grown 10- to 12-week-old transplants or from 1-year-old crowns. Crowns can be purchased from a reputable plant producer or you can grow your own in a plant bed. Direct-seeding to the field is another

method of establishing a new planting; however, weeds can be a serious problem. Nine thousand to 11,000 plants are needed per acre. Crowns should be planted in March or early April, while seeding or transplanting should be done in late April or early May.

Pest management
Asparagus can be grown using either a no-till or minimum tillage system of weed control. Fusarium crown rot is the major cause of asparagus decline. Rust disease can also result in reduced yields. Insect pests include asparagus beetle, Japanese beetle, aphids, and cutworms. Asparagus has potential for organic production.

Harvest and storage
Studies show that harvesting one year after planting does not reduce future yields and does give growers some income one year early. As a rule of thumb, you can harvest for 2 weeks the first year, 4 weeks the second year and 6 to 8 weeks after that.

Asparagus to be shipped and sold wholesale is usually hydro-cooled after harvest to retain high quality. Asparagus can then be stored for up to 3 weeks. Spears are cut to uniform length, tied in 2 to 2½ pound bunches, and packed in pyramid crates for wholesale market sales.

Labor requirements
Labor needs for the year of establishment are estimated at 50 to 60 hours per acre. For the years that follow, asparagus requires approximately 15 to 20 hours per acre for production and 40 to 50 hours per acre for harvest and packing.

Economic Considerations

Initial investments include land preparation; purchase of seed, transplants, or crowns; and installation of an irrigation system. The cost of establishing a new asparagus field may be as high as $2,840 per acre, including one year of soil buildup; however, this is recouped in the fourth year of production. The major establishment costs are crowns and fertilizer. Once established, asparagus is one of the least expensive vegetable crops to maintain. Per acre costs for subsequent years are estimated as follows: $555 for the second year and $1,100 for the third year. Total costs until asparagus reaches full production in the second year after planting will fall in the $3,000 per acre range.

Since returns vary depending on actual yields and market prices, the following per acre returns to land and management for the fourth year are based on three different scenarios. Conservative estimates represent the University of Kentucky's statewide return estimates to land, labor, and management (2009).

Pessimistic	Conservative	Optimistic
$395	$1,600	$2,540

The average yield for asparagus is about 1,800 pounds per acre, while 2,500 pounds per acre is considered a good yield.

Selected Resources

- Commercial Asparagus Production, HO-66 (University of Kentucky, 2008) http://www.ca.uky.edu/agc/pubs/ho/ho66/ho66.pdf
- Marketing Options for Commercial Vegetable Growers, ID-134 (University of Kentucky, 1999) http://www.ca.uky.edu/agc/pubs/id/id134/id134.htm
- Sample Asparagus Production Budget for Kentucky (University of Kentucky, 2005) http://www.uky.edu/Ag/NewCrops/asparagusbudget05.pdf
- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky) http://www.ca.uky.edu/agc/pubs/id/id36/id36.htm
- Organic Asparagus Production (ATTRA, 2001) http://attra.ncat.org/attra-pub/asparagus.html

Photo courtesy of Kansas State Research and Extension *Issued 2002; Updated May 2009*