

# UK COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

## Garlic & Elephant Garlic

### Introduction

Garlic is commonly used as a flavoring for food, as a condiment and for medicinal purposes. Both hardneck and softneck types can be grown in Kentucky. The milder-flavored elephant garlic is actually a leek which produces large cloves.

### Marketing

Fresh market options for Kentucky-grown garlic include wholesale markets, farmers' markets and roadside stands. Sales to local retail markets, such as supermarkets and specialty produce stores, are also an option. In addition to whole bulbs, garlic can be sold in a number of other forms. Immature plants may be sold as scallions, and tops may also be sold as greens. There is no market for commercially processed garlic due to the lack of local garlic dehydration facilities.

Value-added techniques include braiding tops, pickling and home-processing for garlic spreads. Flower stalks (scapes) harvested from hardneck types can be sold as a specialty item.

### Market Outlook

The per capita consumption of garlic soared during the 1990s, dropping slightly in 2000. The increased use of garlic has been attributed to a rise in the popularity of international foods and a greater awareness of garlic's reported health benefits. Consumers have been receptive to both organic and conventionally grown garlic in Kentucky. Locally grown garlic has been successfully marketed at upscale retailers in the Lexington area. In 2006,

Kentucky restaurants featuring local foods ranked garlic as one of the top produce crops that they are interested in sourcing from local growers.

### Production Considerations

#### *Site selection and planting*

Garlic does best in well-drained soil high in organic matter. Heavy soils, which hamper bulb enlargement and stain the garlic, should be avoided. Garlic is planted by hand in the fall and harvested the following summer. Planting in raised beds promotes good soil drainage, reduces soil compaction and increases the ease of harvest. Drip or trickle irrigation is recommended during the growing season, especially during bulb formation. Irrigation should be discontinued approximately two weeks prior to harvest. Mulching immediately after planting is beneficial.

#### *Pest management*

Disease problems include downy mildew, bulb and neck rots, leaf blast and purple leaf blotch. Purchasing disease-free bulbs, rotating crops and following good cultural practices can help prevent many of these diseases; however, fungicide sprays may be needed in some years.

The most common insect pests of garlic include onion thrips and onion maggot. Scouting to monitor populations can help determine when and how often



insecticides should be applied. Weed control is essential since garlic is a poor competitor. Mechanical cultivation, hand hoeing, mulch, crop rotations, and herbicide applications are typical weed management strategies.

#### *Harvest and storage*

Garlic is ready for harvest when the leaf tops begin to dry and bend toward the ground. The presence of three to five wrapper leaves is another indication of maturity. Before harvesting, random bulbs should be pulled to be sure they have reached the desirable size. Mature elephant garlic bulbs are about twice the size of regular garlic. Rain during harvest causes serious problems. Wet soil, which is difficult to remove, also stains the bulbs and leads to decay.

Garlic and elephant garlic bulbs are hand-harvested. Soil is loosened prior to pulling using a garden fork, bed lifter, or potato digger. Properly cured or dried garlic can be stored for up to three months in a standard warehouse or up to six months in cold storage.

#### *Labor requirements*

Garlic production is labor intensive because the crop is planted and harvested by hand. Labor needs per acre are approximately 24 hours for production, 32 hours for harvesting, and 16 hours for curing bulbs and packaging.

### **Economic Considerations**

The cost of seed cloves plus the hand labor for planting and harvest makes the initial investment for garlic production high in comparison to some other vegetable crops. Additional costs include land preparation and the installation of an irrigation system. Garlic returns are

very dependent on how the crop is marketed. Wholesale marketing of well-managed garlic at prices from \$1.50 to \$2.50 per pound could easily return from \$1,400 to \$3,200 to land, operator and management for Kentucky producers. An acre of well-managed conventional or organic garlic that is directly marketed at prime locations by the producer (perhaps in braids and other forms) could return in excess of \$5,000 per acre. Management and markets will determine the profitability of garlic for the producer.

### **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>
- Selected Internet Resources for Herb Marketing (University of Kentucky, 2004) <http://www.uky.edu/Ag/NewCrops/herbmarketing.pdf>
- Elephant Garlic Budget (Virginia State University, 2000) <http://www.ext.vt.edu/pubs/vegetables/438-898/elephantgarlic.pdf>
- Garlic: Flavor for the Ages (USDA, 2000) <http://www.ers.usda.gov/Publications/AgOutlook/jun2000/ao272e.pdf>
- Garlic Production (Ontario Ministry of Agriculture and Food, 1998) <http://www.omafra.gov.on.ca/english/crops/facts/97-007.htm>
- Organic Garlic Production (ATTRA, 2001) <http://attra.ncat.org/attra-pub/garlic.html>
- Production and Management of Garlic, Elephant Garlic and Leek, C-852 (University of Georgia, 2000) <http://pubs.caes.uga.edu/caespubs/pubs/pdf/C852.pdf>