Onions

Introduction

The onion (*Allium cepa*) is a cool-season biennial crop that is grown as an annual. Dry bulb onions are harvested after the leaves have died and the bulbs have fully matured. Green bunching onions are harvested while the leaves are still green and before the bulbs have fully developed. The terms 'scallion' and 'spring onion' are sometimes incorrectly used interchangeably for green onions. Scallions are onions that completely lack bulb formation, while spring onions have bulbs somewhat more developed than green onions.

Marketing

Fresh market options for Kentucky-grown onions include wholesale markets, farmers markets, restaurants, and roadside stands. Sales to local retail markets, such as supermarkets, are also an option. Green onions can be marketed in late spring to lengthen the onion season.

Market Outlook

The per capita consumption of fresh onions increased from nearly 15 pounds in 1989 to 18½ pounds in 1999. According to the USDA, fresh onion use peaked at about 22 pounds in 2004 and remains just over 20 pounds of fresh onions used per capita. While this upward trend has been due in part to the greater demand for sweet onions, the more pungent storage varieties continue to dominate the market.

Production Considerations

Site selection and planting

A well-drained soil is essential for good onion production. Most producers rely on either transplants or sets for commercial planting. Onion transplants are started from seed in a greenhouse approximately twelve weeks prior to planting in the field. An onion set is a small, dormant bulb that will produce a larger bulb once it is planted. Green bunching onions are grown from sets planted by mid-March while bulb onions are commonly started from transplants. Depending on plant spacing, 55,000 to 120,000 onions are planted per acre. Irrigation is required during the critical periods of transplant establishment and bulb expansion.

Pest management

Disease problems include bulb and neck rots, leaf blast, and purple leaf blotch. Growing resistant varieties, rotating crops and following good cultural practices can

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help prevent many of these diseases; however, fungicide sprays may be needed in most years. Onion maggot and thrips are the main insect pests of onions. Scouting to monitor populations can help determine when and how often insecticides should be applied.

Harvest and storage
Green onions are pulled and put into bunches when they are ⅓ to 1 inch in diameter.

Bulb onions are undercut, hand-pulled, and placed in wind-rows for field drying if weather permits. If rainy weather is a problem, onions are pulled after the tops have dried down, tops and roots are clipped off, and then bulbs are placed in shallow trays inside for drying. Onions are cured 3 to 4 weeks prior to storing in a well-ventilated area. Larger farming operations may place harvested bulbs in large bins to undergo forced-air curing for 1 to 3 days.

Labor requirements
Onions are planted and harvested by hand. Rutgers Cooperative Extension estimates labor needs of 184 hours per acre for planting, harvest and packing of *organically* grown yellow onions.

Economic Considerations

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

Production costs (2008) for onions (overhead irrigated) are estimated at $4,000 per acre, with harvest and marketing costs at $1,560 per acre. Total expenses per acre, including both variable and fixed, would come to approximately $5,560. Presuming yields of 50,000 pounds per acre and gross returns of $6,000 per acre ($12 per 100 pounds), returns to land, capital, and management would be approximately $440 per acre. Costs and returns can change drastically depending on the market.

Selected Resources

- 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
- Dry Bulb Onions, Circular 801 (University of Georgia, 2000) http://pubs.caes.uga.edu/caespubs/pubcd/c801-w.html
- Green Onion Estimated Costs and Returns (Clemson University, 2007) http://Cherokee.agecon.clemson.edu/onion6.pdf
- Green Onions, Circular 821 (University of Georgia, 1999) http://pubs.caes.uga.edu/caespubs/pubcd/C821.htm
- National Onion Association http://www.onions-usa.org/
- Onions: The Sweet Smell of Success (USDA, 1998) http://www.ers.usda.gov/publications/agoutlook/oct1998/ao255b.pdf
- Onion Production Guide, Bulletin 1198 (University of Georgia, 2001) http://pubs.caes.uga.edu/caespubs/pubs/pdf/B1198.pdf
- Organic Allium Production (ATTRA, 2006) http://www.attra.org/attra-pub/allium.html

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