



COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Sunflower for Seed

Introduction

Sunflower (*Helianthus annuus*) is a beautiful and versatile flowering annual that has been aptly named. Not only does the large flower's shape and yellow color bring to mind the sun, but flower heads face in the direction of the sun during their early development; mature heads typically face east. While sunflowers can be grown for ornamental uses, this profile will focus on production for seed.

Sunflower is classified as either an oil type or a confection (non-oil) type, each with its own distinct market. Seeds from oil types are processed into vegetable oil or as meal in livestock feed. Most confection type seed is sold, with or without the hull, as snack foods. While either type can be packaged for birdseed, the confectionery type is grown in Kentucky for this purpose. Sunflowers are not recommended for oil crop production here.

Marketing

Sunflower seed producers have two marketing options: 1) cash sales and 2) contracts. The former is primarily used for on the spot market sales or to elevators. The latter includes mainly forward cash contracts that have a number of requirements from the producers but also provide safety nets. In Kentucky, most sunflowers are sold to the birdseed market, either to local retailers or birdseed packagers.

Market Outlook

The primary demand for sunflower seed comes from three markets:



1) birdseed, 2) snack and baking products, and 3) oil and livestock meal. In the U.S., 25 percent of sunflower production is directed to birdseed, 10 to 20 percent to snack and baking products, and the remaining to oil and livestock meal products. Increased world competition in conjunction with the end of support programs has led to a decline in U.S. sunflower seed exports. However, exports of confectionary sunflower seed remain steady primarily due to the higher quality and desirable properties of U.S. produce. Moreover, the increased demand has led to higher prices. National price outlook is about 28 to 30 cents per pound.

Production Considerations

Type and cultivar selection

Confectionery type sunflower seed is usually white-striped with a thick hull, in contrast to oilseed types that are solid black with a thin hull. Hybrids vary in terms of yield potential, seed size, stalk height, standability, and disease resistance.

Site selection and planting

Sunflower grows well in a variety of soil types, as long as the site is well



drained. Seed is planted in Kentucky between April 1 and May 10 with any conventional corn planter. Planting in rows makes it possible to cultivate for weed control. Crop rotation is critical, and sunflower should not be planted in the same field more than once every three or four years. While commercial sunflowers are self-compatible and do not require insect pollination, research studies have indicated that bee pollinators can help increase yields.

Pest management

Insects that feed on the flowers, such as the larva of several moths, pose the most serious threat to sunflower. Scouting to monitor populations can help the grower determine when and how often insecticides should be applied. Potential disease problems include Sclerotinia white mold, downy mildew, rust, and Verticillium wilt. Growing resistant varieties and following a good crop rotation program can help reduce the likelihood of disease. Sunflower is a strong competitor with most weeds; however, early season weed control is important for good yields. Weeds can be controlled with herbicides, tillage, or a combination. Birds can become a serious problem once the seeds have developed, especially if sunflowers are planted near potential roosting sites or water.

Harvest and storage

Sunflower seed is mature when the back of the flower head is yellow; however, it is generally not harvested until the head turns brown on the back. Any conventional grain combine with a sunflower head attachment can be used for harvest. Some growers harvest when the moisture content is higher to avoid bird damage and seed shattering, thereby increasing yields. An approximate yield of 1,000 to 2,000 pounds per acre can be expected. Seed should be cleaned and dried properly before storing.

Labor requirements

Labor needs per acre are approximately 2 hours for production and 1 hour for harvest. Additional

labor would be needed for any specialty production and/or marketing.

Economic Considerations

Initial investments include land preparation and purchase of seed. Kentucky sunflowers will generally not have worthwhile returns above operating and ownership costs (returns to land and management). Currently, this crop will not generate positive returns to land, overhead labor, and management in Kentucky due to the distance of transporting sunflower to market. The nearest known markets are located in Ohio and Missouri. With closer birdseed markets, returns could approach \$50 to \$100 above operating and ownership costs and may generate positive returns to land and management.

Selected Resources

- Grain and Forage Crop Guide for Kentucky, AGR-18 (University of Kentucky, 2007) <http://www.ca.uky.edu/agc/pubs/agr/agr18/agr18.pdf>
- Alternative Field Crops Manual: Sunflower (University of Minnesota and University of Wisconsin, 1990) <http://www.hort.purdue.edu/newcrop/afcm/sunflower.html>
- High Plains Sunflower Production Handbook (Kansas State in cooperation with Colorado State, University of Nebraska, University of Wyoming, and USDA-ARS, 1999) 1.09 MB file http://www.agmrc.org/media/cms/Sunflowers_C84E1143C31B9.pdf
- National Sunflower Association <http://www.sunflowernsa.com/default.asp>
- Single Crop Sunflower Production (Ohio State, no year) <http://ohioline.osu.edu/agf-fact/0107.html>
- Sunflower Production (North Dakota State University, 2007) 5.3 MB <http://www.ag.ndsu.edu/extensionentomology/recent-publications-main/publications/A-1331-sunflower-production-field-guide>
- Double-Crop Sunflower Cost-Return Budget in Central and Eastern Kansas (Kansas State Research and Education, 2014) <http://www.ksre.ksu.edu/bookstore/pubs/MF2145.pdf>

- Agricultural Marketing Resource Center, Sunflower profile
http://www.agmrc.org/commodities__products/grains__oilseeds/sunflower-profile/

- Economic Research Service (ERS), United States Department of Agriculture
<http://www.ers.usda.gov/topics/crops/soybeans-oil-crops/sunflowerseed.aspx#trade>

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For additional information, contact your local [County Extension](#) agent

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