University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Center for Crop Diversification Crop Profile
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Gourds

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Introduction

Gourds, which are related to pumpkins and squash, are generally grown for their hard outer rind. The fruit is dried for fall decorations, handicrafts and functional items. The various types of gourds include hard-shell gourds (*Lagenaria* spp.; used for dippers, containers and birdhouses), soft-shell gourds (*Cucurbita pepo*; decorative and ornamental uses), and luffa gourds (their soft interior fiber is used like a sponge).

Marketing

Gourds can be marketed both wholesale and direct to the customer, and creative marketing can make many market channels possible for gourd growers. Common options are farmers markets, roadside and on-farm stands, festivals, craft fairs and specialty retail shops. Internet or mail order sales can expand a customer base beyond the local area, and some producers have used online auctions to sell gourds to crafters. Local health stores and specialty shops may be open to purchasing volumes of luffa sponges, sold as cosmetic and bath items.

Ornamental gourds are frequently marketed during fall and winter months and can extend a farm's marketing window. Some producers add value to gourd production by combining soft-shell gourds with pumpkins and ornamental corn for fall home and yard displays. Other producers decorate or craft hard-shell gourds during the winter and sell them throughout the following year at farmers markets, agritourism events, and other market outlets. Hard-shell gourds may also be sold to artisans and crafters year-round; although cleaning is labor intensive, properly cleaned hard-shell gourds can last indefinitely and be available for year-round sales.

Market Outlook

Fall decorating ranks just behind Christmas in dollars spent on decorations per household. The market for fall décor continues to increase annually. Kentucky producers able to offer gourds as part of a "market basket" of fall decorative products may be able to capture some of that consumer spending.

Luffa gourd products have gained popularity in recent years, but producers may have difficulty gaining a market advantage in this niche as luffa products become more mainstream. Other possible growth areas for marketing gourds include edible specialty gourd varieties and gourds for specialty health products. Such markets are often thinly traded and tricky for producers to gain consistent market access. Producers should also investigate applicable regulations if marketing products for health or medicinal purposes.

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Production Considerations

Site selection and planting

Select a sunny site with good air movement and well-drained, fertile soil. Sandy loam or clay loam soils high in organ-

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ic matter are very desirable. Land should be selected that has not been planted in gourds, other cucurbits, peppers, tomatoes or tobacco for at least three years since these crops are susceptible to some of the same disease pathogens.

The seedbed should be well-prepared by plowing deeply. Since seeds and plants are extremely sensitive to cold weather and wet soils, seeding should be delayed until after the frost-free date when the seedbed is warm and well drained. Because ornamental gourds are grown primarily for fall sales, the planting date should be based upon the days to maturity and desired harvest date. Ornamental gourds planted too early may rot or lose their color before fall sale time. Some of the larger hard shell gourds (e.g. bushel or kettle) have a very long growing season and should be started as transplants three to four weeks before the frost-free date. Individual plants will require 27 square feet of growing space depending on the cultivar grown. For some gourds, production on a sturdy trellis, while more labor intensive, saves space and produces cleaner fruit. One strong hive of bees is recommended for every 1 to 2 acres.

A supplemental water source is beneficial for increasing yields during most years in Kentucky. Water should be withheld toward the end of the season in order to ripen the gourds before frost.

Some growers find it beneficial to grow gourds on raised beds with black plastic and drip irrigation. Plasticulture seems to offer the greatest economic advantage with the large long-season gourds, resulting in increased size, improved shape, and increased numbers of mature fruit at harvest. Black plastic can also result in a cleaner crop. Producing brightly colored gourds on plastic, however, may accelerate maturity before an optimal marketing date.

Pest management

Gourds are subject to the same diseases and insect pests that attack other cucurbits. The most common and damaging diseases encountered in Kentucky in recent years have been damping-off, gummy stem blight (or black rot of the fruit), powdery mildew, downy mildew, anthracnose, bacterial wilt, and viruses. The most serious insect pests include squash bug and squash vine borer. Aphids and cucumber beetles can also be a problem. Scouting to monitor populations help the grower determine when and how often pesticides should be applied. Weeds are controlled by using labeled herbicides, mulches, or shallow cultivation. Hand-pulling weeds may be necessary when the vines are large.

Harvest and yields

Gourds are harvested using hand pruners, sharp shears, or a knife when the fruit is fully mature and dry. Fruit that is picked green may rot and the decorative gourds will not color-up. However, those left on the vine will continue to color-up over a period of three to four weeks, as long as diseases and insects are held in check. Harvest for the bright-colored decorative gourds generally begins in mid-September and should end before frost to reduce possible spoilage. Hard-shell gourds are usually left on the vines (if alive) until after the first killing frost. Mature hard-shell gourds will not be injured by frost. Gourd seed viability, however, is reduced when fruit are exposed to freezing temperatures before drying.

Gourds are thoroughly washed or wiped clean prior to curing. Curing times can vary from seven days to six months, depending on the type and size of gourd, as well as the thickness of the rind. Curing requires a warm, dry, dark, well-ventilated area. Do not let gourds touch during the curing process. Screen racks can be used for the small gourds; larger gourds can be hung. Luffa gourds are soaked in water until the shells can be peeled back and the sponges easily removed.

Average yields for the large decorative types can be expected to be about 2,000 to 5,000 gourds per acre. Yields for small miniature or ornamental gourds weighing 3 to 4 ounces each may average 20,000 to 30,000 per acre.

Labor requirements

Labor needs per acre are approximately five hours for production and 300 hours for harvest and handling. Additional time may be needed to remove plastic mulch following harvest.

Economic Considerations

Initial investments include land preparation and the purchase of seed or transplants. Additional start-up costs can include the installation of an irrigation system and black plastic mulch.

Preharvest production costs for 2019 are estimated at $1,225 to $1,375 per acre, with harvesting and handling costs (including hired labor) approximately $1,825 for large ornamental gourds and $1,765 for smaller gourds.

Gourd returns can vary widely depending on the marketing channel. Direct marketing larger gourds, like African kettle gourds, could return more than $2,000 per acre to land, labor and management. Lower returns are likely for wholesale miniature gourd production in Kentucky, with a higher probability for negative returns to land, labor and management. Conservative estimated returns to land and management for wholesale miniature gourd production based on a price of $12.50 per ½-bushel box fall in the $150 per acre range.

Selected Resources

- IPM Scouting Guide for Common Problems of Cucurbit Crops in Kentucky, ID-91 (University of Kentucky, 2009) 1.8 MB file http://www.ca.uky.edu/agc/pubs/id/id91/id91.pdf
- Ornamental Gourd Production in Kentucky, ID-119 (University of Kentucky, 2007) http://www.ca.uky.edu/agc/pubs/id/id119/id119.pdf
- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky) http://www2.ca.uky.edu/agcomm/pubs/ID/ID36/ID36.pdf
- Commercial Luffa Sponge Gourd Production, HIL-120 (North Carolina State University, 2018) https://content.ces.ncsu.edu/commercial-luffa-sponge-gourd-production
- Specialty Crop Profiles: Ornamental Gourds (Virginia Cooperative Extension, 2009) http://pubs.ext.vt.edu/438/438-101/438-101.html

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