



# Muskmelon (Cantaloupe)

Cheryl Kaiser<sup>1</sup> and Matt Ernst<sup>2</sup>

## Introduction

Muskmelon (*Cucumis melo*, Reticulatus Group) is a vining plant in the Cucurbit family. This warm-season crop is sensitive to cold temperatures and requires a fairly long growing season from seed to marketable fruit. While often referred to as cantaloupes, melons with the characteristic netted rind are actually muskmelons. Cantaloupes (*Cucumis melo*, Cantalupensis Group) with their hard, very rough, warty rinds are not grown commercially in the U.S. Although “muskmelon” and “cantaloupe” are both used to describe the melons grown in the U.S., cantaloupe is the more commonly used term, and will be used in this crop profile.

## Marketing

Kentucky fresh market cantaloupes are sold at farmers markets throughout the Commonwealth. Other retail outlets include community supported agriculture (CSA) subscriptions, roadside stands and farm markets. Local groceries and restaurants are also potential melon markets. Larger-scale wholesale markets are also accessible for cantaloupes, and some Kentucky growers have made wholesale alliances with national melon shippers.

Kentucky’s produce auctions, especially Fairview Produce Auction in Western Kentucky and Lincoln County Produce Auction, sell many cantaloupes. Producers that bring melons to auction early (in June), as well as after peak season (August) and again in very late season (September), often see price premiums. Large melons also sold at higher prices at these two auctions from 2017-2019 than did smaller melons. There have been small



wholesale demands for specialty melons through produce auctions as well as some southern Ohio marketing channels. More information about marketing specialty melons is in the Center for Crop Diversification [profile on specialty melons](#).

## Market Outlook

Cantaloupe consumption and utilization, calculated by the USDA as per capita disappearance of the total U.S. crop, was 11.1 pounds in 2000. Annual per capita use declined to about 7 pounds per capita during 2015-17. Some pricing increases offset some of the lower consumption, according to USDA; however, imported cantaloupes now have greater market share as consumers grow more accustomed to year-round melon availability. Producers should understand that summer cantaloupe prices can be highly variable, with fluctuations dependent on weather in the western and southeastern U.S., import volume, and changing consumer preferences. Combining different market channels and managing production costs can help reduce risk.



<sup>1</sup>Cheryl Kaiser is a former Extension Associate with the Center for Crop Diversification.

<sup>2</sup>Matt Ernst is an independent contractor with the Center for Crop Diversification.

## Production Considerations

### *Cultivar selection*

There are two general types of cantaloupes. The Eastern type, which is primarily grown in Kentucky, is large, coarsely netted, deeply sutured, and has relatively soft flesh. The western shipping melon is small, finely netted, lightly sutured, and has firm flesh. Cantaloupe cultivars differ in such horticultural traits as rind texture (fine or heavy netting), flesh color (orange or salmon), fruit size, fruit shape (round or oblong), flavor, and earliness. Disease resistance/tolerance to Fusarium wilt, downy mildew, and/or powdery mildew is available in some cultivars. Growers should select only adapted varieties that have the qualities in demand for the intended market.

### *Site selection and planting*

Cantaloupes do best when grown on sandy or sandy loam soils that are well-drained. Medium-textured soils can also be productive when good management practices are followed. Planting between strips of annual rye can provide windbreak protection, if needed. Melons should not follow melons, other cucurbits, or solanaceous crops (e.g. tomatoes, peppers, eggplant, and tobacco) in the rotation for at least three years because of potential disease problems.

Cantaloupes are usually grown as transplants in a greenhouse and then transplanted to the field. They can also be direct-seeded to the field; however, using transplants reduces risks and helps to produce an earlier maturing crop that will often bring much higher prices. Plant only certified disease-free seed.

Raised beds covered with black plastic mulch with drip irrigation are used to obtain higher yields and to encourage faster growth and earlier maturity. Transplants can be planted through the plastic by making holes with a bulb setter; however, plants are usually set using a mechanical transplanter or water wheel transplanter that will transplant through plastic. Cantaloupes have high magnesium requirements, and soil tests before planting will determine if supplemental magnesium is required through fertigation.

Training plants to grow in the rows during the early stages of development will enable an easier harvest. Growers with large acreages should provide one to two strong hives of bees for each acre of plants to ensure good pollination.

### *Pest management*

Bacterial wilt is the most serious disease threat to cantaloupe production in Kentucky. The bacterium is transmitted by both striped and spotted cucumber beetles; controlling this vector is essential to disease management. Insecticide applications are used to protect plants from cucumber beetle feeding beginning with the day of seedling emergence or transplanting. Other diseases of cantaloupe include *Alternaria* blight, anthracnose, downy mildew, Fusarium wilt, gummy stem blight/black rot, and powdery mildew.

Site selection, crop rotation, and pre-plant weed management are important aspects of controlling weeds in cantaloupe plantings. Managing weeds during the growing season will be especially important during the first five weeks of plant growth.

### *Harvest and storage*

Cantaloupes are hand-harvested at the 'full-slip' stage if they are to be sold locally; or at '1/4 slip' or 'half-slip' if they are to be held for some time before marketing or shipping. Harvesting every other day will be necessary during periods of high temperatures. Melons benefit greatly when field heat is removed either by hydrocooling or forced-air cooling as soon after harvest as possible. Short-term storage of melons requires temperatures of 36°F to 41°F and a relative humidity of 95%.

### *Labor requirements*

Labor needs per acre are approximately 15 hours for production (transplants), 72 hours for harvest, 30 hours for grading, and 10 hours for black plastic removal (post-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 and drip tape.

Total pre-harvest variable costs for trickle irrigated cantaloupe are estimated at \$2,293 per acre, with an additional harvesting and marketing cost of \$3,700 per acre, including a 10% marketing commission. Total expenses, including fixed costs, are approximately \$6,500 per acre.

Since returns vary depending on actual yields and

market prices, the following per acre returns to land and management are based on three different economic scenarios. Conservative estimates represent average statewide costs and returns based on UK estimates for 2019.

Pessimistic	Conservative	Optimistic
\$(551)*	\$1,186	\$1,895

\*Parentheses indicate a negative number, i.e. a net loss

### Selected Resources

- IPM Scouting Guide for Common Problems of Cucurbit Crops in Kentucky (University of Kentucky, 2009) 1.8 MB file  
<http://www.ca.uky.edu/agc/pubs/id/id91/id91.pdf>
- Specialty Melons (University of Kentucky, 2017)  
<https://www.uky.edu/ccd/sites/www.uky.edu/ccd/files/specialtymelons.pdf>
- Vegetable and Melon Budgets (University of Kentucky, 2017)  
<https://www.uky.edu/ccd/tools/budgets>

- Vegetable Production Guide for Commercial Growers, ID-36 (University of Kentucky)  
<http://www2.ca.uky.edu/agcomm/pubs/id/id36/id36.pdf>
- Cantaloupe and Specialty Melons (University of Georgia, 2017)  
[https://extension.uga.edu/publications/detail.html?number=B1179&title=Cantaloupe and Specialty Melons](https://extension.uga.edu/publications/detail.html?number=B1179&title=Cantaloupe%20and%20Specialty%20Melons)
- Producing Cantaloupes in Tennessee (University of Tennessee, 1999)  
[https://trace.tennessee.edu/cgi/viewcontent.cgi?article=1008&context=utk\\_agexcomhort](https://trace.tennessee.edu/cgi/viewcontent.cgi?article=1008&context=utk_agexcomhort)

### Suggested Citation:

Kaiser, C. and M. Ernst. (2020). *Muskmelon (Cantaloupe)*. CCD-CP-105. Lexington, KY: Center for Crop Diversification, University of Kentucky College of Agriculture, Food and Environment. Available: <http://www.uky.edu/ccd/sites/www.uky.edu/ccd/files/cantaloupe.pdf>

---

Reviewed by John Strang, UK Extension Specialist, and Shawn Wright, UK Horticulture Specialist

Photo courtesy of [Pixabay.com](https://www.pixabay.com)

October 2020

---

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

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability.