

G21

4A

8/23/71

D

Growing

Cantaloupes

in Oregon



Extension Circular 662

Revised July 1971

Cooperative Extension Service

Oregon State University • Corvallis

Cooperative Extension work in Agriculture and Home Economics, Lcc Kolmer, director. Oregon State University and the United States Department of Agriculture cooperating. Printed and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

Growing

Cantaloupes

in Oregon

N. S. Mansour, J. R. Baggett, and Garvin Crabtree, *Department of Horticulture*; Paul A. Koepsell, *Plant Pathology*; and Joseph Capizzi, *Entomology*; Oregon State University

Cantaloupes are widely grown in commercial acreages and home gardens. Commercial production is concentrated in Umatilla and Jackson Counties.

Recommended Varieties

The warmer locations of Oregon such as Hermiston, Roseburg, and Medford have a wide choice of varieties which will mature properly. Any of these listed below would be sufficiently early and adapted. Certain very late varieties such as Golden Beauty Casaba, Honey Dew, Persian, and Crenshaw might be grown successfully in the warmest areas.

For marginal areas, such as the Willamette Valley, only the earliest types are suitable. These are listed below. Also included is a group of high-quality F_1 hybrids. The relatively high cost of F_1 hybrid seeds discourages some growers from trying them. However, with careful and economical planting methods the cost of seed per acre need not be a major factor. The quality and performance of these F_1 hybrids in marginal situations, permitting development of local markets, often justifies the additional cost of seed.

The large-scale planting of any variety should be preceded by a smaller trial to determine adaptation to the grower's cultural method, climate, marketing methods, and quality requirements.

For cooler or marginal areas (Willamette Valley) as well as the warmer locations:

Delicious 51—mild flavor, round to oval, medium heavy net, not very firm. The cavity is large but it is a good dependable variety for home and local market. Fusarium wilt resistant.

Harper Hybrid (F₁ hybrid)—very small cavity, good medium musky flavor, round to oval, non-ribbed, medium

net. Not as firm as some but high quality. Fusarium wilt resistant.

Supermarket (F₁ hybrid)—oval, medium netted with a medium small cavity and medium musky flavor. Resistant to Fusarium wilt and downy mildew.

Saticoy Hybrid (F₁ hybrid)—somewhat later, but similar to Supermarket, heavy net. Good size. Resistant to Fusarium wilt.

Burpee Hybrid (F₁ hybrid)—good yield and quality, medium cavity, heavily netted and ribbed, near round, good quality and yield.

Iroquois—heavily ribbed and netted, nearly round, with a strong musky flavor. Good size. Fusarium wilt resistant.

Gold Star (F₁ hybrid)—very similar to Iroquois, slightly earlier. Fusarium resistant.

Spear—large, pointed at stem end, heavily netted, large size. Adapted to cool climates. For warmer areas:

Hales Best 45 (Imperial 45)—round, evenly netted, medium-size, good shipping quality, resistant to powdery mildew.

Hearts of Gold—nearly round, heavy net, medium to large cavity, fairly mild flavor, suitable for local markets.

Jumbo Hales Best—large fruited strain, popular for local market use. Small cavity, heavy net.

Hales Best 36—near round with uniform heavy net, fair shipping quality.

SR 91—resistant to sulfur used as a fungicide, medium-sized, oval, well netted, and with salmon-orange flesh.

Soil

Cantaloupes may be grown on a wide variety of soils, though heavy clays should be avoided. Land should be fairly fertile, well-drained and, if possible, well supplied with organic matter. Sandy loams are generally best suited for melons because these soils warm quickly and can be worked early in the spring. Soils heavily infested with nematodes should be fumigated before planting cantaloupes. For details of methods for controlling nematodes, see your County Extension Agent.

Fertilizer

The fertilizer required for any field will depend on the native soil fertility and the previous soil manage-

ment. It is helpful to have the soil tested before planting. Suggested fertilizer rates are:

Nitrogen (N):	50-80 lbs./A
Phosphate (P ₂ O ₅):	80-100 lbs./A
Potash (K ₂ O):	60-240 lbs./A (Southern Oregon and Willamette Valley)
Sulfur (S):	20-50 lbs./A
Boron (B):	1½-2 lbs./A

Use pulverized high magnesium limestone to adjust soil pH to 5.7—6.5. (pH not critical.)

Up to 500 pounds of fertilizer per acre (for the home garden: about 10 pounds to 1,000 sq. ft.) may be used at time of seeding provided the fertilizer is in bands 2 inches to the side and 1 inch below the level of the seed. If additional nitrogen is needed, sidedress up to 30 pounds of N per acre when the vines begin to run. Specially mixed fertilizer for cantaloupes should contain 6 to 8 pounds of boron per ton. If a special mix is not available, broadcast and work in 1½ to 2 pounds of boron per acre before planting.

Frequently, because of dry weather or for other reasons, the plants are unable to take up enough magnesium and boron from the soil. Since it is difficult to predict these conditions, nutrients may be applied separately or added to the insecticide and fungicide sprays and applied to the leaves.

In controlled tests in other states the application of nutrients to the foliage at the proper time has given as much as 25% increase in sugar content of fruit. This practice may be profitable in Oregon:

(1) **When the vines begin to run:** 4 pounds refined magnesium sulfate, 2 pounds refined borax, or similar soluble boron formulation, in 100 gallons of spray. Apply at the rate of 100 gallons per acre. (For the home garden: 1 tablespoon of Epsom salts and 1 teaspoon of borax in 1 gallon of water.)

When the vines begin to run, spray the leaves with a solution of magnesium sulfate and boron to help improve the quality of the melons. Repeat when the first fruits are 1 to 2 inches in diameter.



(2) **When the crown set fruit is about 1-2 inches in diameter:** 4 pounds refined magnesium sulfate and 2 pounds refined borax, or similar soluble boron formulation, in 100 gallons of spray. Apply at the rate of 125 to 150 gallons per acre. (For the home garden: 1 tablespoon of Epsom salts and 1 teaspoon of borax in 1 gallon of water.)

Seeding

Buy seed only from reliable sources. Prepare land thoroughly by plowing, discing, and leveling.

Drill 3-4 pounds of seed per acre in rows about 5 to 6 feet apart after all danger of frost is past and soil is warm. Seed should be covered to a depth of 1 inch. Early plantings can be shallower if the soil is heavy, if moisture is high, or if irrigation is used. A row of rye on the windward side of each cantaloupe row should be seeded and established before the cantaloupes are planted. This is important in the areas where spring winds may seriously damage cantaloupe seedlings.

Synthetic Mulches

Cantaloupes respond favorably to the use of synthetic mulches, particularly in the cooler areas. Synthetic mulches include paper, polyethylene, and most recently aluminum and steel foils.

Plastic mulches (black, 1-1½ mils thick) have been the most common and economical. The new light-reflecting foils have added a new dimension to the use of mulches in crop production, but their benefits have not been proven in cooler areas where the mulches reflect light energy needed to warm the soil.

Thinning

Plants should be thinned to stand 18-24 inches apart in the row. The first thinning is done with a hoe when the seedlings develop their first true leaves. Thin plants to stand 6 to 8 inches apart. When plants are 4 to 5 inches high make the final thinning to about 18-24 inches. Care should be used not to injure the roots of the seedlings left in the field.

Irrigation

Cantaloupes benefit from irrigation. Frequency of irrigation depends on the growth of the plants and weather conditions. In hot, dry weather sandy soils may need irrigation every week. Thorough irrigation becomes more important after fruits are set and vine growth becomes extensive. As the plant leaf surface increases and the weather becomes hot and dry, increasing amounts of water are lost from the leaves;

care must be taken that the plants and fruit do not suffer. Irrigation should continue during the harvest period. Pronounced wilting of the plants should be prevented. Diseases which damage cantaloupe leaves may be spread from one leaf to another by splashing water. It is absolutely necessary to follow a good disease control program.

Disease Control

Fusarium wilt, alternaria, and powdery mildew are usually the most serious diseases of cantaloupes. There is a continuous search for adapted varieties resistant to fusarium wilt and powdery mildew. Fungicides prevent infection and spread of leaf diseases. Fungicides do not cure leaves already infected. Fusarium Wilt, *Alternaria*, and Powdery Mildew are the most serious diseases of cantaloupes in Oregon. The use of resistant varieties is the best control for Powdery Mildew and Fusarium Wilt. Alternaria leaf blight can be controlled by the use of zineb (Dithane Z-78 or Parzate) at the rate of 2 pounds of 75% wettable powder per 100 gallons of water or 4 pounds of fixed copper per 100 gallons water. See annually revised Oregon State University Plant Disease Control Handbook for latest disease control measures. When using fungicides, follow the label directions carefully!

Insect Control

The most troublesome melon insects are the squash bugs and cucumber beetles. Thrips and aphids may also cause considerable damage.

<i>Insect</i>	<i>Amount of Actual Toxicant Per Acre</i>	<i>Interval Between Last Application and Harvest</i>
Aphids	Malathion $1\frac{3}{4}$ lb./A	1 day
	Diazinon $\frac{3}{4}$ lb./A	3 days
	Parathion $\frac{1}{2}$ lb./A	7 days
Cucumber beetle	Methoxychlor (dust) 1.75 lbs./A	1 day Apply when plants are dry

E. C. Formulations may be phytotoxic to mellons. See annually revised Oregon State University Insect Control Recommendations for the latest control measures.

Weed Control and Cultivation

The crop should be kept free of weeds until vine growth prevents further cultivation or hoeing. All cultivation should be as shallow as possible. Flat cultivation is better than hilling.

The primary purpose of cultivation is to control weeds. Shallow cultivation and hoeing when the weeds are very small is the best method of control. Chemicals have been developed which can be sprayed on the soil to help control weeds and reduce the number of cultivations necessary.

<i>Material</i>	<i>Amount of active ingredient/acre</i>	<i>Remarks</i>
Alanap-3	3 to 4 lbs.	Apply in 20 or more gallons of water immediately after seeding on moist soil and follow with 1 inch irrigation.
Bensulide	6 lbs.	Apply pre-plant and incorporate simultaneously or immediately after application.

See annually revised Oregon State University Weed Control Recommendations for the latest control measures.

Harvesting

Cantaloupes should be firm, well-netted and well-formed and picked at a full slip for best quality. "Full slip" is the stage of ripeness at which the melon comes away easily from the stem attachment. For distant shipment less mature cantaloupes are picked at "half slip." A good quality cantaloupe contains 10% or more soluble solids in the juice and has good size, net, and aroma.

Smooth melons of netted varieties, and those from dead vines are culls.

During the early part of the season harvest every other day. Later in the season daily picking is best.

Precooling

After melons have been picked they should be placed in the shade or in a cold room and handled carefully. They should be packed in attractive crates, pre-cooled to 40 to 45 degrees F. for shipping. Refrigeration equipment used for cooling the melons before shipment should have enough capacity to maintain the storage room at 40 to 45 degrees F. without the coils being cold enough to accumulate ice. It is important that the humidity remain high (85% to 90%) in cold storage to prevent drying and shrinking of the melons.

Storing

Commercial Storage Temperatures

Cantaloupe	full slip	40° to 45° F. 4 to 8 days
	half slip	45° to 50° F. 1 to 2 weeks
