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MUSKMELONS, CANTALOUPEs, AND MISCELLANEOUS MELONS

by

A. G. B. Bouquet, Horticulturist
(Vegetable Crops)

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MUSKMELONS, CANTALoupES, AND MISCELLANEOUS MELONS

by

A. G. B. Bouquet, Horticulturist
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The trade name of cantaloupes is commonly applied to the smaller, nearly round or oblong, heavily netted types of muskmelons of both the green and salmon-fleshed varieties. While the term muskmelon includes these varieties of cantaloupes, yet from the standpoint of the trade it is more commonly applied to the larger types of melons such as the Spear, a widely grown variety in western Oregon.

Muskmelons and cantaloupes form important crops for marketing during the summer and fall months, while miscellaneous melons, such as Casabas and Honeydews are marketed during the fall months and are sometimes kept in storage for some time after the outdoor growing season is over.

The state of Oregon was credited with 840 acres of melons in 1940, a ten-year average for 1929-1938 being 690 acres.

Few, if any, carloads of cantaloupes and muskmelons are shipped out from Oregon, although there may be some truck shipments to points outside of the state where it is impossible to grow this crop.

Climate and Soil Conditions. Melons require a moderately long growing season with plenty of heat and sunshine, a dry atmosphere and ample soil moisture. For this reason they thrive to good advantage in the warmer, irrigated portions of the state, such as in various sections of eastern and southern Oregon where they are commercially grown. Bright sunshine with high temperature and dry atmospheric conditions during the ripening period are conducive to the production of fine quality in melons. Excellent melons can also be grown in western Oregon, especially of those varieties which mature early enough in the growing season and which have become acclimated to the cooler summer conditions of the western portion of the state.

In addition to moderately warm temperatures, the melon requires an abundance of soil moisture from the time the plants start until the beginning of the ripening period. Where water is supplied by irrigation such moisture conditions are under the grower's control.

Soils most widely used for growing cantaloupes are those of a warm, sand or silt loam type which are well drained, easily prepared and adaptable for irrigation. In some cases the heavier types of loam soils may be used and these oftentimes hold moisture sufficiently during the summer without irrigation. Melons for home use may be grown on any good garden soil provided it is well supplied with humus and the season is of sufficient length with suitable climatic

Varieties. The selection of varieties of melons depends very largely upon the district in which the melons are being grown. In the eastern and southern part of the state the varieties produced include various kinds of cantaloupes such as Hale's Best, Hearts of Gold, Burrell Gem, and Perfecto. In the western part of the state where the seasons are not so warm, the Spear muskmelon is quite widely grown. A selection from this melon is called the Oregon Delicious. A suitable melon for home use and one which is unusually early in maturing is Emerald Gem.

Manures and Fertilizers. Rotted manure with or without commercial fertilizer is useful in providing organic matter and plant food for melons. In some cases manure is applied to the hill, a forkful of well-rotted manure being used. In some cases a manure spreader is used to scatter the manure over a strip of land or over the area where the melons are going to be grown in rows. If the available quantity of manure is quite small, the best results may be obtained by applying it to the hills. If this is done the manure should be short and fine and should be well mixed in with the soil, preferably several days before seeding. A number of growers of melons depend upon a cover crop of alfalfa or clover turned under to supply the soil with the necessary amount of organic matter.

In addition to these manures, commercial fertilizers are oftentimes used, containing possibly 3 to 4 per cent nitrogen, 10 to 12 per cent phosphorus, and 6 to 8 per cent potash. Some follow the practice of applying a small handful of fertilizer where the hill is to be made, in which case it is worked into the soil previous or at the time of seeding. If two ounces or so of this fertilizer are mixed with the soil, there should be no danger of injuring the germination of the seed or the growing of the young plants. Another method is to apply a band of such fertilizer lengthwise of the row several days before seeding or to apply the band two inches or so away from the plants in the row after they can be seen. In such case about 100 to 150 pounds of fertilizer would be used per acre.

Planting. Most cantaloupe seed is planted directly in the field when danger of frost is past and since the cantaloupe is a warm weather plant it is essential that the weather be favorable before planting. There are two general methods of starting the crop, one by seeding directly in the field and the other by the transplanting of plants which have previously been grown in hotbeds or in the greenhouse.

This transplanting method is used to secure melons at an earlier date than would be possible under direct planting of seed in the field. The seed is planted in hotbeds or in the greenhouse usually about three to four weeks or so in advance of the time for field planting. The melon is a difficult plant to transplant and therefore planting is made in wooden hallocks or bands usually of a size of 3 x 4 x 4 inches. These hallocks are placed close together in a hotbed or greenhouse and filled with specially prepared soil. Several seeds are planted in each hallock at a depth of about one-half inch. It is desirable to have the soil in the hallocks sterilized before use because of the danger of damping-off of the young melon plants during periods of wet weather in the spring. If the soil has not been treated the seed may be treated with Semesan or red copper oxide.

When the plants have about four rough leaves, they are transplanted to the field with particular care not to disturb the root system. The bands are carefully removed from the plants and fine, moist soil is drawn up around the soil in which the plants were growing. Sometimes these plants are covered with hotcaps.

In hill planting, the seed is sown directly in the field with the aid of a hoe or a hand planter. In the hill system the field is check-rowed and the seed is planted at the intersection of the rows. In this way cultivation can be carried on in each direction. The usual distance of planting in this regard is six feet between the rows and the same distance between the hills. An ample supply of seed should be sown in the hill in order that there may be a good stand of plants and from which the stronger plants may be selected. The hill planting method will take about a pound of seed to the acre.

In the drill row method, the rows are about the same distance apart as in hill planting but the seeds are dropped continuously every few inches in the row and thus the seed may be drilled in with a hand drill or a tractor planter. The seed should be planted at uniform depth of not over 1 1/2 inches. Planting with a drill will usually take from 2 to 3 pounds of seed to the acre. The drill-row method is a faster method of planting and is one that will more nearly insure a stand without replanting, but cultivation can only be carried on in one direction.

Sometimes hotcaps are used over the hills where the direct planting of seed is made or, as mentioned, the cap may be used over transplanted plants. In any event, the hotcap is removed at about the time six true leaves have been formed on the plant. The hotcaps not only furnish protection from possible late frosts but also from early ravages of the plants by twelve-spotted beetles.

Thinning. Thinning is not done until the plants are well established and danger of injury by beetles is past. The first thinning takes out the smaller, crowded plants, leaving two or three of the strongest plants well separated in each hill. If the field has been drill planted, the cantaloupe plants are usually thinned to one plant every one to two feet. The most advanced plants are undisturbed, which results in an earlier maturing crop.

Cultivation and Irrigation. The soil should be kept free from weeds by means of cultivation, but the melon plant is a comparatively shallow-rooted one and the cultivation should be shallow. The first cultivation may be deeper in order to encourage deeper rooting of the plants. Later cultivations must be shallower and further from the plant as it develops.

A later practice is that of "laying out" vines so as to follow the row and enable cultivation to continue between the rows. This practice is also of advantage in irrigated sections in keeping the fruit out of the furrows where it would come in contact with the water. In training the vines, care should be taken not to turn them upside down over the row, for in that case the heat of the sun might be injurious to the newly set fruit.

Melon vines and fruit require a consistent amount of moisture, particularly during the drier period of the season. The needs of the plant in the early stages are not great, and light irrigations are usually sufficient, but as the plant increases in size and sets fruit the amount of irrigation water should be increased. Care should be taken to see that the soil is not flooded about the hills, otherwise there may be a danger of sun scalding of the plants following the watering.

Insect Pests. Two common beetles are often quite injurious to melon plants, the striped cucumber and the twelve-spotted cucumber beetle. As suggested in Extension Bulletin 551, "Vegetable Garden Insect Pest Control," these beetles can be repelled from the melon plants by using a mixture of calcium arsenate powder 1 pound, mixed with landplaster 20 pounds, as soon as the plants appear above ground, and the application should be repeated every few days during fair weather and after each rain. Later on, as the plants develop, there will be comparatively little damage done by the beetles. The important time to control these beetles is soon after the melon plants appear above the ground.

The melon aphid is sometimes injurious to plants but can be controlled by using a spray consisting of six ounces of nicotine sulfate, four pounds of soap and 50 gallons of water, or nicotine dust can be effectively used in warm weather.

Diseases. One of the earliest diseases affecting melon plants is damping-off, which affects young plants in the hotbed or greenhouses. It is seldom injurious to plants when direct seeding is made in the field. If plants are grown under glass for transplanting, it is advisable to sterilize the soil by treating it with the standard formaldehyde solution or if this has not been done, a solution of red copper oxide can be sprayed on the soil and plants as soon as there are indications of damping-off occurring in the beds. Seed treatment is useful in preventing pre-emergence damping-off.

Bacterial wilt causes a sudden wilting and death of cantaloupe plants. It may attack the plants at any stage, but is usually found to occur as the crop reaches maturity. The disease works very rapidly and is impossible to control once the plant is infected. Since the disease is carried by the striped cucumber beetle, this insect must be controlled to prevent wilt. When infected plants are found they should be burned or deeply buried to prevent the beetles feeding upon them.

Downy mildew sometimes attacks cantaloupe leaves and may be controlled by using a Bordeaux spray of 1-2-50.

Harvesting and Preparation for Market. The cantaloupe is eaten only when ripe and is exceptional in that it is possibly the only vegetable in which the fruit separates itself from the vine when fully mature. In this sense it is a simple procedure for the grower to harvest his ripe melons. Cantaloupes will reach the market in the best condition for consumption if picked on a "full slip." The "full slip" is distinguished by the stem separating itself completely from the melon, leaving a clean stem cavity. If melons are picked earlier than

this stage, the quality is not as high as is desirable. If picked later, the melon has become too ripe and has also started to deteriorate.

Considerable experimental work has been carried on in regard to determining the best stages of maturity of cantaloupes for shipment and local marketing. Also, much work has been done concerning methods of handling and precooling of fruits and these various studies are contained in detail in Technical Bulletin No. 730 of the United States Department of Agriculture, Washington, D. C., such publication being for sale by the Superintendent of Documents, Washington, D. C., for 15¢.

Oregon standards of cantaloupes have been set up by the Department of Agriculture of the state of Oregon, Division of Plant Industry. Copies of these standards are obtainable from the Department.

Containers for cantaloupes consist of standard crates, jumbo standard, standard flat and jumbo flat. In packing, it is important that uniform sizes be used in the particular crate and the melons should not be so crowded in the crate as to suffer bruises or other blemishes. Ordinarily, the melons are placed on their side in the crate with the length of the melon paralleling the length of the crate. The 45 standard crate consists of three layers of 15 melons while the 36 pack crate consists of 12 melons in which the three rows are staggered.

Miscellaneous Melons. The principal types of miscellaneous or sometimes called winter melons are the Casabas and the Honeydew melons. These have firm flesh and are good keepers, and are therefore sometimes called winter melons.

The most widely grown Casaba is the Golden Beauty, of which the fruits are medium-large, globe-shaped, weighing about six pounds, with a tough wrinkled skin which is golden yellow in color when ripe. The flesh is white and the seed cavity is small. The stem does not separate from the fruit on ripening and the main indication of maturity is the development of a deep yellow color in the skin and the softening of the fruit at the styler end.

Honeydew melons belong to the same group as the Casabas but the plant and fruit characters are more nearly like those of cantaloupes. The Honeydew is an American name for the French variety White Antibes, which has long been grown for shipment in southern France. Honeydews have smooth exterior skin, no netting, creamy white color which changes to a slightly golden tinge when ripe. The flesh is light emerald green, thick, juicy and tender and very sweet.

The general culture of Casaba and Honeydew melons is similar to that of cantaloupes.

Other publications relating to cantaloupes and melons include Technical Bulletin 425 of the United States Department of Agriculture on "Marketing Cantaloupes and Other Muskmelons," also Technical Bulletin No. 613 on "Market Storage Studies of Honeydew Melons and Cantaloupes." The first named publication costs 5¢ and the latter 10¢.
