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**service in
ACTION****Cucumbers, pumpkins,
squash, muskmelons and
watermelons for the home
garden**Charles W. Basham and James E. Ells¹**Quick Facts**

Muskmelons, pumpkins, winter squash and watermelons require a long, warm growing season and are most productive at elevations below 5,000 feet.

Cucumbers and summer squash, while they need warm weather, produce in a relatively short season.

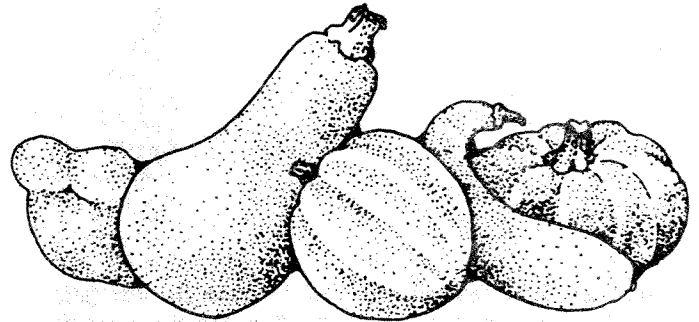
Winter squash and pumpkins can be conveniently stored for use through the winter.

Cucumbers, pumpkins, squash, muskmelons and watermelons are warm weather plants. Their growth, yield and quality is greatest when days are warm and sunny and the season is long. Cucumbers and summer squash usually require 50 to 65 days for first production, watermelon and muskmelon, 80 to 95 days.

The gardener should delay planting until a week after the average last spring frost date for the area (if the weather is chilly, delay longer). Ideally, the temperature of the soil at a 2-inch depth should be 60 degrees F.

In Colorado, temperature and length of growing season are closely related to elevation. At elevations below 5,000 feet, all these vegetables generally are productive. Above 5,000 feet, cucumbers and summer squash are most satisfactory since they mature in a relatively short time.

It is possible to lengthen the growing season by starting seedlings indoors and transplanting to the garden when the weather warms. None of these



plants tolerate disturbance of their root system. The only feasible method for transplanting is to start seedlings in pots and move them without damage to the roots. Pots of compressed peat moss, which the roots penetrate readily, are best. The pot and all may be planted.

Planting

In the garden, these vegetables usually are planted in "hills" or mounds, to allow drainage of excess water away from the seedlings. Five or six seeds are planted together, with the hills 4 to 6 feet apart. The seeds are covered with about 1 inch of soil. After emergence, each hill should be thinned to the two or three strongest seedlings. Cucumbers

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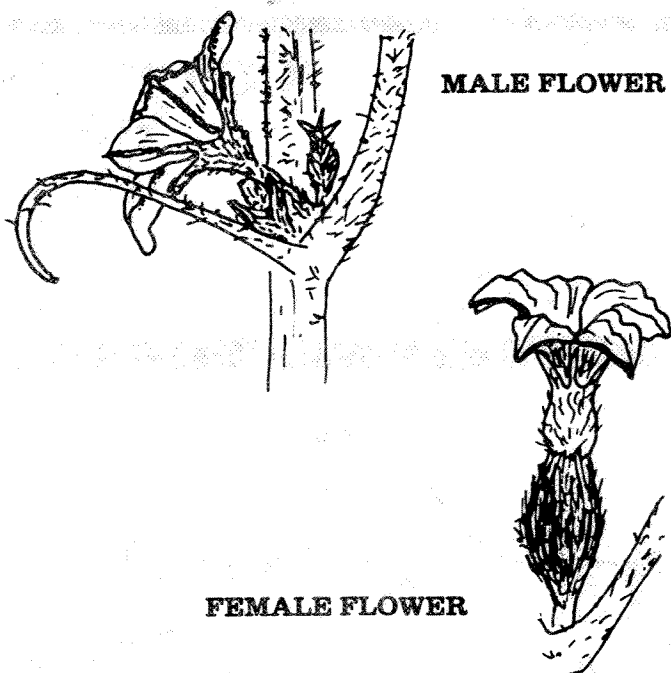


Figure 1: Male flower (A) and female flower (B). Note the enlarged base of the female flower that will develop into a fruit.

can be planted next to fences or trellises to which they will cling.

If the soil has not been tested for nutrient level, then one should routinely apply 1 pound of nitrogen and 1 pound of phosphorus pent-oxide per 1000 square feet. This rate of fertility may be obtained with 2 pounds of urea and 2 pounds of triple superphosphate, both of which contain about 46 percent active ingredients. The fertilizer should be applied and worked into the top 4 inches of soil prior to planting the seed.

If organic fertilizers are preferred, 2 bushels of manure, or 1 quart of heat-treated activated sewage sludge, or 1 cup of bone meal and 1 cup of dried blood per 100 square feet may be used. These organic fertilizers also can be divided up and worked in around the hills rather than spread over the whole area.

If the seeds are planted in moist soil, no further watering should be needed until after the seedlings emerge. As the plants grow and the weather becomes warmer, more water will be required. When the plants cover the soil surface and in warm weather, the plants may use 1 to 1-1/2 inches of water per week. It is better to irrigate thoroughly every five to seven days than to sprinkle lightly every day. Temporary wilting in the heat of the afternoon is common, but wilted plants in the morning is a distress signal - they should be watered.

Pests

These vegetables are subject to attack by a number of insects, each of which has a recommended chemical for control. However, it is not practical for the home gardener to maintain a large arsenal of chemicals for insect control. Instead, attention should be given to producing healthy plants, and dealing with insect problems when they arise by using, first, an insecticidal soap which is

the least toxic and most environmental friendly control. Should this fail, sevin may be used if beetles are the culprit. Otherwise, apply malathion, which has a broad spectrum while being relatively safe to use.

Regulations regarding the use of chemicals for pest control are continually changing; therefore, be sure to follow label instructions.

When diseases strike these vegetables an assessment must first be made of the situation. If only a few leaves are affected, these leaves may be removed and this may solve the problem. If it is more general, then chemical control may be in order.

Among cucumber diseases, the most likely to be encountered is Angular Leaf Spot. This bacterial disease causes angular shaped lesions on the leaves and also attacks the fruit. These lesions become necrotic producing the angular areas which gives the disease its name. The first course of action is to stimulate growth by applying nitrogen and water and reduce competition for sunlight and space by removing competing foliage. If six uninfected leaves can be maintained at the ends of the vines, the plants will remain productive. After having accomplished this, the foliage may be sprayed with a copper compound to control the disease.

Late season diseases are associated with the senescence of the plant and their control affords no benefits.

Weeds are most safely controlled by sanitation and mechanical means. Weeds should not be allowed to go to seed in the garden, and materials known to contain weed seed should not be applied to the garden. Then, when weeds do arise, they should be removed while they are small, before they become competitive.

Before using pesticides, it is a good idea to have a positive identification of the target pest, then follow the label instructions for the pesticide to be used.

Pollination

Gardeners often become concerned when these plants begin to flower but no fruits are produced. Most varieties produce several male flowers before female flowers appear and fruits are set. It is easy to differentiate between male and female flowers (Figure 1).

If female flowers are being produced, there are two common reasons for failure to set fruit:

1. If there are growing fruits already on the plant, they will inhibit further fruit set until they mature or are harvested.

2. These plants depend upon insects, mainly honeybees, for pollination. If insect activity is very low, fruits may not set due to lack of pollination. Insufficient pollination sometimes results in deformed fruits.

Harvesting

Cucumbers and summer squash are harvested and used as immature fruit. Time of harvesting depends on fruit size. For summer squash, fruits about 6 inches long are of prime quality. Cucumbers for slicing usually are harvested at about 6 to 8 inches. For pickling it is wise to select the size

best for the kind of pickles desired. Harvest should be frequent and thorough: fruits left on the plants will inhibit further fruit set until they mature.

Winter squash and pumpkins are harvested when mature. The skin will harden so it can't be penetrated easily by a thumbnail. These mature fruits can be stored most of the winter if protected from freezing. For more information see Service in Action sheet 7.601, *Storage of homegrown vegetables*.

The winter melons (casaba, crenshaw, honeydew) also can be stored for several weeks if harvested before they begin to soften.

Watermelons and cantaloupes are harvested when fully ripe. They don't store well. Watermelon ripeness can be judged by thumping – a dull sound indicates ripe, a ringing sound, not ripe – or by a buttery yellow color of the soil spot where the fruit rests on the ground.

Ripe cantaloupes will slip easily from the vine when picked up; unripe ones require more force to pull them away from the vine. The background color of cantaloupes also changes from grayish green to yellowish as they ripen and the characteristic musky odor develops.

Table 1: Varieties for Colorado home gardens.

| | Days to Maturity | | Days to Maturity |
|------------------------------|------------------|------------------------|------------------|
| Cucumber (pickling) | | Crenshaw | |
| Armada* | 54 | Honeyshaw* | 85 |
| Blitz* | 51 | Honeydew | |
| Calypso* | 51 | Earli-Dew | 80 |
| Carolina* | 52 | Pumpkin | |
| Explorer* | 52 | Autumn Gold* | 90 |
| SMR 58 | 56 | Big Max ² | 120 |
| Cucumber (slicing) | | Bushkin | 95 |
| Armenian ¹ | 70 | Connecticut Field | 100 |
| Centurion* | 59 | Howden | 100 |
| Comet* | 60 | Squash (summer) | |
| Early Pride* | 55 | Crookneck (yellow) | 53 |
| Marketmore 76 | 66 | Straightneck (yellow) | 50 |
| Pot Luck* | 55 | Scallop (gn, yel, wh) | 50 |
| Raider* | 55 | Zucchini (gn, yel) | 54 |
| Streamliner* | 60 | Squash (winter) | |
| Sweet Slice* | 63 | Acorn | 80 |
| Sweet Success* | 54 | Buttercup | 105 |
| Muskmelon (Cantelope) | | Butternut | 80 |
| Alaska* | 64 | Golden Delicious | 100 |
| Earli-Sweet* | 70 | Spaghetti | 100 |
| Magnum .45* | 80 | Watermelon | |
| Sweet 'n Early* | 75 | Bush Sugar Baby | 80 |
| Sweet Bush* | 74 | Golden Crown* | 80 |
| Top Flight* | 80 | Sugar Baby | 75 |

* F₁ hybrid varieties that usually are more vigorous and productive than standard varieties

¹ Long, slender, corrugated fruit which may be eaten without peeling.

² Large fruits may exceed 200 pounds, usually grown for exhibition.