

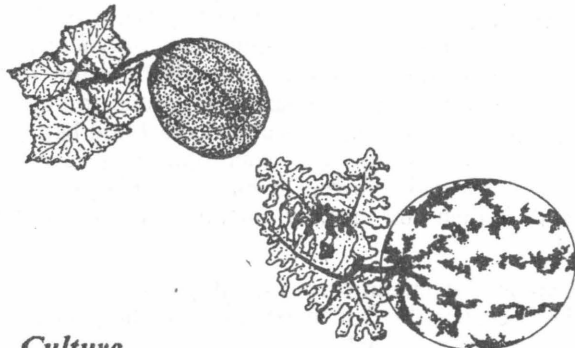


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Cucumbers, Melons, and Squash

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MELONS



Culture

LIGHT: full sun

SOIL: well-drained, moderate organic matter, sandy

pH: 6.0 - 7.5

TEMPERATURES: hot (70-85° F.)

HARDINESS: very tender annual

SPACING: muskmelon hills 24-36" x 60- 90";
watermelon hills 6-8' apart

DAYS TO MATURITY: 70 - 130

PLANTING: seed after all danger of frost is past and when soil warms, or begin transplants in peat pots three to four weeks before this time.

FERTILIZER NEEDS: heavy feeder, preplant broadcast 2 lbs 10-10-10 per 100 sq. ft., use a starter solution for transplants, sidedressing with nitrogen may lower yield or quality or both. Late maturing varieties, however, may need some sidedressing when vines begin to run.

CULTURAL PRACTICES: Muskmelons and watermelons are warm season crops requiring a long growing season of 80 to 100 days from seed to fruit. Most present varieties are not well suited to small gardens because of the space requirement. But newer bush varieties are being developed for use in small gardens.

Melons can be produced from transplants or seeded directly. Those grown from transplants can be harvested as much as two weeks earlier than melons grown directly from seed. Never allow the transplant to harden off or stop growth. Plant or transplant muskmelons in rows five feet apart with hills

spaced every 2-3 feet, two or three plants per hill. Watermelon hills should be 6-8 feet apart, and rows 7-10' apart if a path is desired between rows. Seed should be sown 1/2" to one inch deep after danger of frost has passed and soil is warmed.

Muskmelons and watermelons are well suited for growing on black plastic mulch. The black plastic absorbs heat readily, warming the soil more quickly. It tends to keep the soil moisture level from fluctuating greatly. In addition, the mulch is very effective in controlling weeds, decreasing the labor necessary to care for your melons.

Male and female flowers are separated on the same plant. Bees must carry pollen from flower to flower to insure good fruit. Use insecticides late in the evening to prevent killing bees.

Melon plants can be trained in rows for easier harvesting. Growing on a trellis allows for closer spacing (rows three feet apart), but each trellised melon must be supported by a "sling" made of a material which dries quickly to prevent rot. Old nylon stockings, cheesecloth, and other net-like materials make good fruit slings. Very large watermelons should not be trellised at all, since the weight of the fruit, even if supported, would likely damage the vine.

Common Problems

DISEASES: bacterial wilt (spread by cucumber beetles), fusarium wilt, leaf spot, powdery and downy mildews, alternaria blight.

INSECTS: cucumber beetles, squash vine borer, pickleworms, squash bug.

CULTURAL: poor flavor and lack of sweetness due to poor fertility (low potassium, magnesium or boron), cool temperatures, wet weather, poorly adapted variety, loss of leaves from disease, picking melons unripe, or poor pollination (caused by wet, cool weather, lack of bee pollinators, planting too close, resulting in excessive vegetative growth). A heavy rain when melons are ripening may cause some of the fruit to split open. Fruit in contact with

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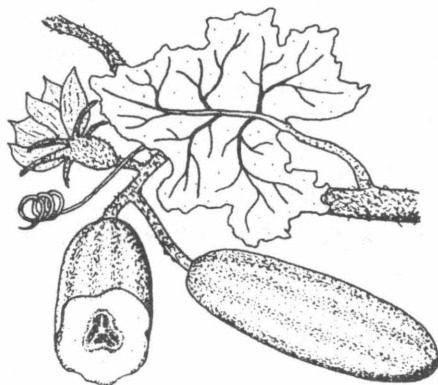
soil may develop rotten spots or be damaged by insects on the bottom. Place a board or a couple inches of light mulching material, such as sawdust or straw, beneath each fruit when it is nearly full-sized.

Harvesting and Storage

HARVEST: Muskmelons are harvested at "full-slip," i.e., when the stem separates easily at the point of attachment. Honeydew, Crenshaw, and Casaba melons are cut off after they turn completely yellow. These melons will rot if left on the ground for too long. For watermelons, become familiar with the variety being grown to determine the best stage for harvesting. The best indicator is a yellowish color on the underside where the melon touches the ground. A dead tendril or curl near the point where the fruit is attached to the vine is used by some as an indicator that the fruit is ready for harvest. You may also "thump" the fruit, listening for the dull sound of ripe fruit, rather than a more metallic sound.

STORAGE: medium-cool (40-50°F.), moist (80-85% RH) conditions; may freeze muskmelons.

CUCUMBERS



Culture

LIGHT: full sun

SOIL: well-drained; moderate-high organic matter

pH: 5.5-7.0

TEMPERATURE: hot (70-80°F.)

MOISTURE: keep moist, not water-logged; mulch helps maintain moisture

HARDINESS: very tender annual

SPACING: 12-18" x 48-72" in rows, 24-36" x 48-72" in hills (2-3 plants per hill); closer if trellised.

DAYS TO MATURITY: 50-70

PLANTING: Seed after danger of frost has passed and soil has warmed, or use plants sown indoors in peat pots 3-4 weeks prior to planting time.

FERTILIZER NEEDS: heavy feeder, 2 lbs 10-10-10 per sq. ft.; side-dress one week after blossoming begins and again 3 weeks later (1-1/2 oz. 33-0-0 per 10 feet of row).

CULTURAL PRACTICES: Varieties include both the slicer or fresh salad type and the pickle type, and vining or bush types.

New varieties of cucumber are being released which are advertised as all-female, or gynoecious types. On a normal cucumber plant the first 10-20 flowers are male, and for every female flower which produces fruit, 10-20 male flowers are produced. Plant breeders worked to increase production by increasing the number of female flowers. Some of the new varieties produce plants which have only female flowers, while others have a greater proportion of female to male flowers. These plants tend to bear fruit earlier, with a more concentrated set and better yields overall. Gynoecious cucumber flowers are pollinated by male flowers from other plants, the seeds of which are usually included in the seed packet.

Parthenocarpic cucumbers are all female and are seedless because the fruit is produced without being pollinated, thus no male flowers are needed. If this type of cucumber is planted near other types, pollination will occur and seeds will form. This type is usually grown in greenhouses.

In order for the flower to develop into a fruit on standard cucumbers, pollen must be carried by bees from male flowers - on the same plant or on different plants - to the female flower, the one with the tiny "pickle," at the base of the blossom. Poor cucumber set is common during rainy weather when bees are inactive. If pesticides are necessary, use them after sundown to avoid harming the bee population.

Burpless cucumbers are long and slender with a tender skin. Through plant breeding the bitterness associated with the 'burp' has been removed. Other causes of bitterness in cucumbers include temperature variation of more than twenty degrees and storage of cucumbers near other ripening vegetables.

Most varieties of cucumber vines spread from row to row. Training on a trellis or fence along the edge of the garden will reduce space needs and lift the fruit off the soil. If trellised, plant four to five seeds per foot in rows spaced 30 inches apart. Untrellised rows may need to be spaced four to six feet apart. When plants are four to five inches high thin so they are nine to twelve inches apart. It may be better to plant a second crop around July 1, which will have fewer disease problems, than to try to continue harvesting an early planting until frost.

There are many excellent bush varieties of cucumber now available. Most of these produce well for the limited amount of space and may be a desirable alternative in a small garden if trellising is not possible.

Plants respond to mulching with soil warming black plastic in the spring for earlier harvest. Organic materials are useful in the summer to return moisture and keep the fruit clean in non-trellised plantings.

Working in the vines when leaves are wet may help spread diseases. Wait until after morning dew or rain evaporates. Trellising gets leaves up off the ground so that they dry off faster. Also, if the vines are trellised, the gardener is less likely to step on the vines and there is no need to move the vines for weeding or other purposes, reducing the risk of damage. If vines are not trellised, avoid destroying blossoms or kinking vines by gently rolling the vines away rather than lifting them when searching for harvestable fruit.

There has been a significant increase in disease resistance in cucumber varieties in recent years. Try to select resistant varieties when possible.

Common Problems

DISEASES: Bacterial wilt (spread by cucumber beetles), mosaic, leaf spot, anthracnose, scab, powdery and downy mildews.

INSECTS: cucumber beetles, aphids, flea beetles, pickleworms.

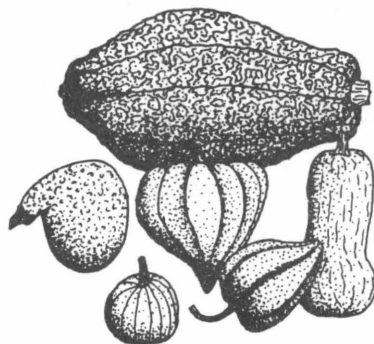
CULTURAL: mis-shapen cucumbers (low fertility or poor pollination), failure to set fruit (too few bees for adequate pollination, no pollinating plants for gynococious hybrids, changes in temperature).

Harvesting and Storage

HARVEST: From when cucumbers are about two inches long up to any size before they begin to turn yellow, about 15 days. Remove by turning cucumbers parallel to the vine and giving a quick snap. This prevents vine damage and results in a clean break.

STORAGE: medium cool (45-50°F.) and moist (95% RH) conditions; or pickle.

WINTER SQUASH



Culture

LIGHT: full sun

SOIL: well-drained

pH: 6.0-7.5

TEMPERATURE: warm (65-75°F)

HARDINESS: very tender annual

SPACING: bush types: 2 - 2 1/2 x 3 ft; semivining types: hills, (2 plants/hill), 3-4 ft. x 5-8 ft; vining types: hills (2 plants/hill), 5-7 ft. x 6-10 ft.

DAYS TO MATURITY: 80-140

PLANTING: Seed after danger of frost is past and soil has thoroughly warmed.

FERTILIZER NEEDS: Heavy feeder, 2 lbs 10-10-10 per 100 sq. ft., sidedress one week after blossoming begins (3 Tablespoons 10-10-10 per 10 feet of row); repeat three weeks later.

CULTURAL PRACTICES: Winter squash is allowed to mature on the vine and develop a hard rind to permit winter storage, although with many varieties it can be picked early and used like summer squash.

Winter squashes are generally categorized according to their fruit size. Small fruits (1-4 lbs., 80-100 days to harvest) include: Acorn types, Butternut types, and some True Winter Squash types. Intermediate fruits (6-12 lbs., 110 days to harvest) include: Banana Squashes, Cushaw, Hubbards, and Sweet Meat varieties. Large fruits (15-40 lbs., 120 days to harvest) include: Blue Hubbard, Boston Marrow, and Jumbo Pink Banana varieties. Jumbo fruits (50-100+ lbs., 120 days to harvest) are often called Jumbo Pumpkins and include: Big Max and various Mammoth varieties. Some of the small fruited types have been bred for bush or semivining growth habits. Another winter squash, Spaghetti Squash or Vegetable Spaghetti, has gained in popularity in recent years. Its flesh, when steamed or baked, separates into spaghetti-like strands. The delicate flavor is unique combined with its firm yet tender texture making it useful as a low calorie, low starch pasta substitute. The plant vines vigorously and benefits from trellising. Cultural techniques are the same as for other squashes. The large, oblong fruits turn yellow when fully ripe. Spaghetti Squash may be stored as a winter squash or cooked and frozen successfully.

Winter squash requires a long, warm growing season. Sow seeds after all danger of frost is past and the soil has thoroughly warmed. Plant them 1 inch deep (4 to 5 seeds per hill). Thin bush types to one plant every 3-4 ft. Leave the two best plants of semivining types every 4-6 feet, and the two best plants of vining types every 5-7 feet. Large fruited vining types need plenty of room to sprawl and may take over small gardens.

Initially, keep weed-free by shallow cultivation or use mulch. Watering may be necessary during early

summer. Once established, winter squash requires a minimum of care. Two timely sidedressings of fertilizer may increase yields. Protect from insects and diseases.

Bees are needed for pollination, so spray insecticides in the late afternoon or early evening.

Common Problems

DISEASES: powdery and downy mildews, blossom blight, bacterial wilt

INSECTS: cucumber beetles, squash vine borers

CULTURAL: blossom end rot from irregular moisture or calcium deficiency, flower drop which may occur normally when male flowers form before female flowers or during periods of heavy fruit set.

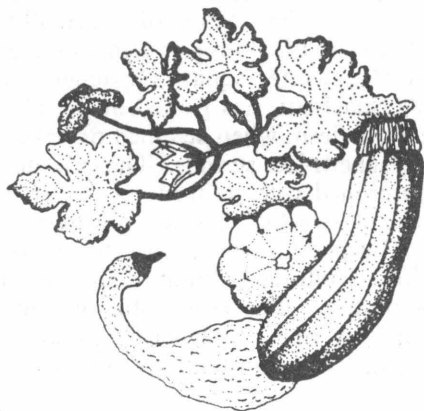
Harvesting and Storage

HARVEST: Harvest when the fruits turn a deep, solid color and the rind hard. Allow to ripen on the vine. Harvest after vine dries up before heavy frost. Cut the stem 2-3" from the vine as fruit without a stem tend not to store well.

STORAGE: warm (45-55°F), very dry (50-60% RH) conditions; 2-6 months

PRESERVATION: usually kept in warm, dry storage

SUMMER SQUASH



Culture

LIGHT: full sun

SOIL: well-drained

pH: 6.0-7.5

TEMPERATURE: warm (65-75°F)

HARDINESS: very tender annual

SPACING: hills (2-3 plants/hill) 3-4 ft. x 4-6 ft.;
single plants 2-3 ft. x 3-5 ft.

DAYS TO MATURITY: 50-65

PLANTING: Seed after danger of frost is past and soil has warmed.

FERTILIZER NEEDS: Heavy feeder, 2 lbs 10-10-10 per 100 sq. ft., sidedress one week after blossoming begins (3 Tablespoons 33-0-0 per 10 feet of row); repeat three weeks later.

CULTURAL PRACTICES: Summer squash grows on nonvining bushes. There are many varieties having different fruit shapes and colors. The three main types include the yellow straight neck or crooked neck; the white, saucer shaped, scallop or patty pan; and the oblong, green, grey or gold zucchini.

Soil containing well-rotted compost or manure is ideal, although good crops may be grown in average soils which have been adequately fertilized.

For extra early fruit, plant seeds in peat pots in greenhouses or hotbeds and transplant about three weeks later after danger of frost. Older plants that have hardened off and stopped growth will not transplant well and should be discarded. Squashes are warm season plants and do not do well until the soil and air temperatures are above 60°F. Seed or transplants can be planted through black plastic. Cover seed with one inch of soil.

Pollen must be transferred from the male flowers to the female by bees. Use insecticides late in the evening to prevent killing bees.

Common Problems

DISEASES: powdery and downy mildews, blossom blight, bacterial wilt

INSECTS: cucumber beetles, squash vine borers, pickle worm

CULTURAL: blossom end rot (irregular moisture or calcium deficiency) flower drop (may occur normally when male flowers form before female flowers or during periods of heavy fruit set).

Harvesting and Storage

HARVEST: Harvest when immature--only about 6-8" long and 1 1/2 - 2" in diameter for elongated types, 3-4" in diameter for patty-pan types, and 4-7" long for yellow crooknecks. If the rind is too hard to be marked by the thumbnail, it is too old. Remove old fruit to allow new fruit to develop. Check plants daily once they begin to bear.

STORAGE: cool (32-50°F), moist (90% RH) conditions; 5-14 days; or as pickles or relish.