

**CULTURE AND
VARIETIES FOR THE
HOME GARDENER**



Growing Cucurbits

(Cucumbers, Melons, Squash, and Pumpkins)

SUGGESTED VARIETIES AND DESIRABLE CHARACTERISTICS

Variety	Days to maturity	Disease resistance	Suggested use	Comments
Cucumber (slicing)				
Raider*	52	MR, SR, AL	G	Early and productive
Bush Champion	55	MR	G	Best bush type
Sweet Success*	55	MR, SR, AL	G	All American winner
Salad Bush*	57	MR, SR, DM, PM	L, G	Productive bush type, slicer, or pickle
Comet 86*	60	SR, MR, DM, PM, A, AI	G	Bitter-free
Dasher II*	60	A, AI, PM, MR, SR, DM	G	Productive, standard
Burpless Hybrid*	62	—	G	Truly burpless, excellent flavor
Marketmore 86	63	MR, SR, PM, DM	G	Short vine with fancy fruits
Sweet Slice*	63	SR, MR, DM, PM, A, AI	—	Non-bitter, sweet flavor
Marketmore 76	65	MR, SR, PM, DM	G	Excellent slicer, uniform-green
Cucumber (pickling)				
Pioneer* 51	MR, SR, PM, DM, A, AL	C	Heavy yields, standard	
Picklebush	52	MR, PM	C	Compact plant
Calyspo* 52	A, AL, DM, MR, PM	C	Moderate yields, standard. vines	
Triple Mech*	55	'Wide disease tolerance'	C	Very uniform and productive
SMR	58	MR, SR	C	Old standard for pickles
Patio Pik*	55	PM, DM	C, G	Dwarf, patio containers, also slicing
Muskmelon (orange flesh)				
Earligold*	73	F, PM	G	Good for early season
Superstar*	84	F	G	Very large, fair quality
Honeyshaw*	85	—	G	Honeydew x Crenshaw
Musketeer	85	—	G	Best bush type
Burpee Hybrid*	85	—	G	Standard, heavy netting, 4 lb
Harper Hybrid*	86	F	G	Fine netting, excellent quality
Ambrosia*	86	DM, PM	G	Very high quality
Pulsar*	86	F, PM	G	
Gold Star*	87	—	G	Good yield and quality
Saticoy*	89	F, PM	G	Excellent quality
Burpee Crenshaw*	90	—	G	Early crenshaw type, excellent quality
Melons (green flesh)				
Sweet Dream*	79	PM	G	Green cantaloupe
Earli-Dew*	85	F	G	Best early quality
Limelight*	88	—	G	Large and luscious
Venus*	90	—	G	Small but high producer
Watermelon				
Yellow Baby*	72	—	G	Yellow flesh, sweet, few seeds, 1975 Bronze AAS
Golden Crown Hybrid*	75	A, PM	G	Outside rind turns yellow when ripe, AAS '91
Bush Jubilee	75	A, F	G	Small vines, large 13-lb fruit
Sugar Baby	80	—	G	Standard, small, icebox size
Bush Baby II Hybrid*	80	A, F	G	Bush with best quality
Jack of Hearts*	85	—	G	Seedless, 12 lb
Crimson Sweet	87	A, F	G	Standard, fruit up to 25 lb

PENNSTATE



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(table continued from front page)

Variety	Days to maturity	Disease resistance	Suggested use	Comments
Summer squash				
Zucchini Elite*	47	—	F, G	Straightneck, dark green
Seneca Zucchini*	47	—	F, G	Straight, dark green
Dixie*	48	—	F, G	Crookneck, yellow
Seneca Butterbar*	50	—	F, G	Straight, yellow
Seneca Prolific*	50	—	F, G	Straightneck, yellow
Gourmet Globe*	50	—	F, G	Round zucchini
Early Prolific				
Straightneck	53	—	F, G	Straightneck, yellow
Sundance*	50	—	F, G	Crookneck, yellow
Gold Rush*	52	—	F, G	Golden zucchini, AAS 1980
Sunburst*	52	—	F, G	Yellow patty pan, AAS 1985
Peter Pan*	50	—	F, G	Green patty pan, AAS
Scallopini Hybrid*	55	—	F, G	1977 AAS Bronze; green, scalloped fruits; pick at 3-inch diameter or less
Long Cocozelle	56	—	F, G	Striped green
Winter squash				
Table King	80	—	G	Bush acorn, Silver AAS; '74
Table Ace*	75	—	G	Hybrid bush acorn
Bush Ebony	85	—	G	Semi-bush acorn
Cream of the Crop	85	—	G	White acorn, 1990 AAS
Emerald	85	—	C, F, G	Semi-bush buttercup; good quality
Buttercup	95	—	C, F, G	Excellent quality, vining type
Gold Nugget	85	—	G	Bush type, orange, 1966 Silver AAS
Butternut 95	—	C, G		Nut-like flavor, vining type
Delicata	100	—	G	"Sweet potato squash"
Waltham Butternut	100	—	C, G	Larger butternut, vining type
Tivoli Hybrid*	100	—	G	Semi-bush, spaghetti-squash
Golden Delicious	105	—	C, F, G	Good quality, vining type
Sweet Meat	105	—	C, F, G	Fine texture, vining type
Blue Hubbard	110	—	C, G	20 to 30 lb, vining type
Vegetable Spaghetti	110	—	G	Vine type, productive
Big Max	120	—	G	Exhibit squash, very large fruit
Pumpkin				
Spirit*	95	—	C, G	Semi-bush, AAS
Small Sugar	105	BR	C, G	Small, pie type, standard
Baby Bear	105	—	C, G, D	Carving, pie type, semi-hulless, AAS, 2 lb
Triple Treat	110	BR	C, G,	Small, pie type, standard, 6 lb, round
Thomas Halloween	110	BR	C, G	15 to 20 fruit
Howden's Field	115	BR	C, G	25-lb fruit
Lady Godiva	110	—	D	For hulless seed only, eat dried seed either raw or toasted
Connecticut Field	120	—	C, G	21-lb fruit, old standard
Prizewinner*	120	—	—	Forexhibit
Atlantic Giant	120	—	—	Forexhibit

CODES

Variety: * = F1 Hybrid

Disease resistance: MR = mosaic; SR = scab; PM = powdery mildew; DM = downy mildew; A = Anthracnose; AL = angular leaf spot; F = fusarium wilt; and BR = black rot.

Suggested use: C = canning; D = drying (Lady Godiva seed); F = freezing; and G = for use fresh; AAS = All American Selections award winners.

CULTURAL PRACTICES

Starting Seedlings

In colder areas of Pennsylvania where the growing season is short, seeds of melons, squash and pumpkin may need to be started indoors 3 to 4 weeks before field transplanting. This will help ensure maximum yields before fall frosts.

Many gardeners use peat pellets (ie. Jiffy 7) to grow the transplants. Planting the peat-pot with the started plant will reduce root damage which often occurs when transplanting. Be sure to bury the peat-pot completely when transplanting or you will get drying through wick action. When transplanting, all pots should be thoroughly soaked with a high-phosphorus starter solution such as 2 tablespoons of 10-55-10 dissolved in a gallon of water.

Transplants with three true leaves can be produced in 3 weeks by raising the soil temperature to about 85°F and providing adequate light. Use either bottom heat to warm the soil or raise the air temperature to 100°F. In addition, use water which has been warmed to about 85°F for watering. Under these conditions, germination should occur in about 3 days.

After seedlings have germinated, they should be grown at about 75°F during the day and 65°F at night. Harden slightly during the last week by watering less frequently and by dropping the day/night temperatures to 70/60°F.

If this is not possible, purchase young, healthy transplants with no more than three expanded true leaves.

Soil Fertility and pH

All of the above crops except watermelons grow best on soils with a pH of 6.2 to 6.8. Watermelons will grow well on soils with a pH of 5.5 to 6.8. Fertilize and lime as directed by soil test results (kit can be purchased from the local cooperative extension office). In the absence of a test, apply for each 100 sq ft 3 1/2 pounds of 5-10-5 fertilizer plus either 1 pound of 0-20-0 (regular superphosphate), well-decomposed compost, or steamed bone meal for all of the above crops, except watermelon. Use only 1 1/2 pounds of 5-10-5 fertilizer, but the same amount of phosphate,

compost or bone meal, for watermelon. All vine crops benefit from relatively high levels of organic matter. Therefore, use of a cover crop in the fall-winter before planting and judicious use of compost can be very beneficial. Since magnesium appears to be especially important for vine crops, also consider applying 3 pounds of Epsom salts per 100 sq ft if magnesium is expected to be low in your soils and has not been corrected with dolomitic limestone.

Planting or Field Seeding

Approximate dates for central Pennsylvania are:

Cucumbers (slicing): Direct-seed May 15 to June 30. Floating row covers are strongly suggested for additional warmth and for early cucumber beetle control.

Cucumbers (pickling): Direct-seed May 25 to July 1.

Muskmelon, watermelon, winter squash, and pumpkins: Set transplants May 20 to June 1 through black plastic mulch. Winter squash and pumpkins also can be direct-seeded during the above period.

Summer squash: Direct-seed May 15 to June 15 for early crop, about August 1 for late crop.

Depth of Seeding

Seed 1 inch deep for all of the above crops.

Spacing

Between rows: Slicing cucumbers—5 ft; pickling cucumbers—4 to 5 ft; muskmelons and small vine watermelons—6 to 8 ft; standard vine watermelons, vining winter squash; and pumpkins—8 to 10 ft; summer squash and bush winter squash—3 to 5 ft.

Within rows: Slicing cucumbers—1 ft; pickling cucumbers—6 inches; muskmelons and small vine watermelons—2 ft; standard vine watermelons, vining winter squash, and pumpkin—3 to 5 ft; summer squash and bush winter squash—3 ft.

To conserve space consider planting on the sunny side next to corn rows. Vines will run between corn rows and, in the case of cucumbers, even climb the cornstalks.

SPECIAL PRECAUTIONS

Black plastic mulch is practically a must for successful melon production on heavy soils. It will control weeds, increase soil temperature early in the season, eliminate soil packing and crusting, and maintain a more uniform distribution of moisture throughout the season. To ensure success with black plastic mulch, soil must be adequately moist (ideal moisture for transplanting) before laying the plastic. Plastic mulch should never be applied over dry soil.

Organic mulches and certain reflective mulches (such as aluminum foil) cool the soils and therefore should not be applied until cucurbits are well established.

To reduce insect pests which may transmit a virus you can cover the plants with a row cover until they begin to flower. The plants are especially sensitive to insect damage when they are young and this will reduce the need to apply pesticides.

Do everything to encourage pollination by insects in the above crops. Avoid using pesticides particularly harmful to bees during the blossoming period. Apply all pesticide sprays in the evening, if possible. The early morning hours would be a second choice.

HARVEST SUGGESTIONS

Cucumbers may be harvested at almost any stage of development before they begin turning yellow. However, most slicing cucumbers are best when they are over 5 inches long, but still slender and dark green. When sliced, the seeds and seed cavity should still be immature. Pickling cucumbers are picked when they are the desired size—usually all those over 2 inches long.

Muskmelons are harvested when they slip easily from the vine. Fruit should show changes in color and degree of netting, and a softening at the blossom end. Best eating maturity follows in one to three days; and best flavor is attained if muskmelons are held near 70°F for this final ripening, then chilled for serving.

Watermelons are harvested when fruits are full size for the variety, dull in color, and the bottom (portion touching the soil) turns from greenish white to cream in color. At this stage the curly tendril closest to the point of vine attachment is often shriveled or dying.

Summer squash are harvested and eaten while still young and tender, before the seeds ripen, or the rinds harden.

Winter squash, which is allowed to mature and develop hard rinds, can be eaten after maturity or stored for winter use. Immature “acorn” types may be used as a substitute for summer squash, but those to be stored should be left to mature on the vine.

Pumpkins are harvested when fruits are full size for the variety; the rind is firm and glossy, and the bottom of the fruit (portion touching the soil) is cream to orange in color.

Melons which ripen upon defoliated vines generally are very disappointing in quality.

Cucumbers and summer squash require regular picking about two to three times a week to attain maximum quality and production. Plants cease to produce if fruits are allowed to reach full maturity.

Squash and pumpkins for storage will rot unless the rinds are hard and well-matured. Ideal storage procedures after harvest are: cure at a temperature of 85° to 90°F and a relative humidity of about 80 percent. After four days remove and store at 55°F. Too high temperatures tend to dry the flesh too much, and too low temperatures can cause chilling injury and a subsequent reduction in shelf-life.

DISEASE IDENTIFICATION AND CONTROL

Bacterial Wilt

Plants wilt and die due to this disease.

Control: Use protective netting such as a floating row cover to keep beetles off of young plants (four to five weeks); when they are most susceptible to infection. Remove the protective netting when plants begin to bloom, since they require pollination by an insect and the threat of bacterial wilt has decreased.

Viruses

Plants are stunted and new leaves are mottled and distorted.

Control: Grow cucumber mosaic (CMV) resistant cucumber varieties such as Marketmore 70 and SMR58, or others listed. Use a floating row cover to exclude insects which vector virus. Remove floating row cover once plants begin to blossom, since bees must pollinate the plants to produce fruit.

Leaf Spots and Downy Mildew

Yellow to brown spots develop on leaves; crown leaves are affected first.

Control: Choose a sunny planting site. Avoid areas where vine crops were grown within three years. Spray with fungicides when disease is observed, at seven-day intervals as necessary. Use a (fixed) copper. Remove plants as soon as harvest is completed. Use resistant varieties (DM) (AL).

Scab

Dry dead spots, sometimes with dry exudate, develop on fruit.

Control: Choose a sunny planting site. Avoid areas where vine crops were grown within three years. Grow scab resistant muskmelon varieties as listed (SR). If necessary use same treatment as for leaf spots.

Muskmelon Fusarium Wilt

Plants wilt; dark stem streaks develop at the soil line.

Control: Avoid areas where vine crops were grown within three years. Grow wilt resistant muskmelon varieties (F) such as Saticoy or Harper Hybrid.

Powdery Mildew

A white powdery growth develops on leaves, especially on the lower leaf surface.

Control: When possible, grow powdery mildew resistant varieties (PM):

- (a) Cucumbers: Saladbush, Marketmore 86, and Dasher II*.
- (b) Muskmelons: Saticoy, Pulsar, Earligold and Ambrosia. For susceptible muskmelon varieties spray with fungicides such as benomyl or chlorothanil (provides fair effect) or fixed copper at seven-day intervals when disease is first observed.

Fruit Rots of Pumpkin and Winter Squash

Dry rots and sometimes wet rots develop on the fruit surface.

Control: Choose a sunny planting site. Avoid areas where vine crops were grown within three years. Pumpkin varieties that appear to be least affected are Small Sugar, Thomas Halloween, and Triple Treat (BR).

INSECT IDENTIFICATION AND CONTROL

Striped and Spotted Cucumber Beetles

These beetles are about 1/5 inch long, and yellowish-green with black stripes or black spots on the back. The striped cucumber beetle is the more important and destructive of the two species. It is practically impossible to grow cucumbers and muskmelons unless these beetles are controlled. Beetles must be controlled because they carry the organism which causes bacterial wilt, a disease which usually kills the plant. *Control:* See bacterial wilt control in the disease section.

Squash Bug / Squash Vine Borer

The bugs are dark brown color and are approximately 3/4 inch long, with flat backs with triangle shield shapes on their

backs. They are often found under the leaves or under debris near the plant. The full grown borers are large (up to 1 1/4 inches), plump, white, and they tunnel inside the stems of squash and pumpkins. Cucumbers and melons are seldom attacked. Infested plants suddenly wilt and often die. Sawdust-like excrement will be noticed coming from holes along the basal portion of infested stems.

Control: Spray the base and stems of squash plants during the last week of June if you have seen several of the insects feeding on the plants. Spray two times, a week apart with carbaryl or methoxychlor and follow the label for application. The best time to check your plants is in the early morning before temperature gets hot. Note that methoxychlor is not as harsh on bees as carbaryl.

Melon or Green Peach Aphid

These aphids are about 1/16 inch long, green, soft, sucking insects which are generally in clusters near the end of the stem. Their feeding causes distorted, stunted plants and transmits mosaic viruses. Aphids become more troublesome late in the season.

Control: Materials available for control include malathion or diazinon or horticultural oil. Note: horticultural oil is not the same as dormant oil. Read and follow the directions carefully.

Spider Mites

These mites are about 1/25 of an inch long, yellowish, soft, and move quickly over the leaf. They become more of a problem during the dry and hot months.

Control: Mites are easily controlled with Kelthane or Horticultural oil. Horticultural oil is not the same as dormant oil. Read and follow the directions carefully.

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