

CULTURE AND VARIETIES FOR
THE HOME GARDENER AND
BEDDING PLANT GROWER



Growing Peppers

SUGGESTED VARIETIES AND DESIRABLE CHARACTERISTICS

<i>Varieties</i>	<i>Days to maturity</i>	<i>Disease resistance</i>	<i>Suggested use</i>	<i>Comments</i>
<i>Sweet peppers (thick-walled types)</i>				
North Star*	68	MR	G	Early to red; sets in cool weather
Jupiter types	70	MR	G	Earliest nonhybrid bell
Super Red Pimento	71	MR	G	Extra-thick walled; flat shaped
King Arthur*	72	MR,PVY,TEV	—	Large, blocky bell
Bell Boy*	74	MR	G	All-American winner
Boynnton Bell*	75	BLS-1,2,3		Large, thick, blocky bell
Lipstick	78	—	G	Days to red; top shaped, very sweet
Bell Tower*	80	MR	G	High yielding, green, blocky
Corona	100	MR	G	Glowing orange at maturity
Valencia*	103	—	G	Large, orange, blocky
<i>Sweet peppers (thin-walled types)</i>				
Biscayne*	62	—	G	Green, ripening to scarlet for frying
Gypsy*	64	MR	G	Tapered bell; light yellow to orange-red
Canape*	65	MR	G	Prolific; 3.5" x 3" at base
Super Shepherd	68	—	G	Green and red for frying
Super Sweet Banana	72	—	C,G	Long, yellow fruit; very sweet
<i>Hot peppers</i>				
Surefire Hybrid*	65	—	C,G	Easy pick, productive Hungarian Wax
Sizzler*	65	MR	C,G	Glossy green to red, medium hot
Hungarian Yellow Wax	70	—	C,G	Yellow, ripening to crimson
Super Cayenne II*	70	—	C,D,G	Prolific and attractive
Thai Hot	70	—	C,D,G	Tiny firecrackers for Asiatic cooking
Long Red Cayenne	72	—	D,G	For pickle making
Super Chili*	75	—	C,D,G	Very prolific and ornamental
Large Red Cherry	80	—	C,G	Very pungent
Habaner	85	—	C,D,G	Among the hottest peppers known

CODES

Variety: * = F1 Hybrid

Disease resistance: MR = Mosaic resistant or tolerant; PVY = Potato Virus Y tolerant; Tev = Tobacco Etch Virus tolerant; BLS-1,2,3 = Bacterial leaf spot resistant to strains 1, 2, and 3

Suggested use: C = canning; D = drying; G = for use fresh from the garden.

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Starting Seedlings

Pepper seedlings can be grown at home, but growing them requires more attention than tomato seedlings do. Pepper seeds germinate rapidly only if the soil temperature is 80° to 85°F. Germination is very slow at 60°F and is severely restricted below 55°F. Sow seed 1/4 to 1/2 inch deep in peat pellets or other growing media in a greenhouse about 7 to 8 weeks before the plants will be set in the garden. If seeds are sown too early, the plants will grow too large and the gardener will try to hold them back or plant them too early. In either case, the gardener can expect poor results.

If pepper seedlings are watered excessively or given insufficient light, they are more likely to rot off at the soil line than tomato seedlings grown under similar environmental conditions.

Soil Fertility and pH

Peppers do best at a pH between 6.2 and 6.8. Fertilize and lime as directed by soil test results (kit can be purchased from your county extension office). In the absence of a test, for each 100 square feet, apply 3 1/2 pounds of 5-10-5 fertilizer plus either 1 pound of 0-20-0 (regular superphosphate) or steamed bone meal (approximately 2-29-0). Add compost to the soil prior to fertilizer and incorporate. Assume that potash levels are adequate to excessive wherever wood ashes, manures, or high rates of complete fertilizers have been applied previously.

Planting

Generally, June 1 is the time to set out transplants in central Pennsylvania. Transplant about 2 to 3 weeks earlier in the warmest regions of the state and about June 10 in the coldest regions. Plants should be no more than 8 weeks old when set out and the air temperatures should average 65° to 70°F during the day; chilling injury and stunting can occur below

40°F. Slightly toughen plants the last week by slowing down their rate of growth to prepare them to withstand such conditions as chilling, dry winds, shortages of water, or very high temperatures. Withholding water (but not to the point of wilting) and slightly lowering the optimal growing temperature (by 10°F or less) are the best ways to harden plants.

A good transplant is disease free, slightly hardened, and 6 to 9 inches tall, with a sturdy stem. Color should be medium dark green; stem and leaf texture neither soft nor woody, but strong and firm.

If possible, transplant into moist (but not wet) soil on a cool, cloudy day and then shade plants for a day or two to prevent wilting when the sun is bright. If plants must be set during hot sunny weather, it is best to plant them in late afternoon or evening. Press soil firmly around roots. Apply liquid fertilizer, compost, or plant starter solution at transplanting time. Dissolve a 10-55-10, 12-48-8, or similar high-phosphorus, all-soluble fertilizer at the rate of 2 tablespoons (1 ounce) per gallon of water. Pour one cup of solution in each hole, set plant, and press soil firmly around roots.

Spacing

Between rows: 1 1/2 to 3 feet

Between plants in rows: 1 to 1 1/2 feet.

A wider spacing may encourage sunscald on fruit.

Special Precautions

Young pepper transplants are more sensitive than tomatoes to extreme temperature, wind, and direct sunlight. They do not recover readily from any serious shock or stunting.

Night temperatures below 60° or above 75°F often result in poor fruit set; blossom drop is common during periods of abnormally cool or hot weather.

Avoid fertility practices that lead to excessive nitrogen or low levels of calcium, magnesium, and pH. Low calcium levels or pH levels below

6.0, when coupled with deficiencies or excesses of moisture at blossom time, can result in blossom-end rot.

Suggestions

Consider using black plastic mulch or straw mulch. It will help 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. Be sure soil is adequately moist before laying the plastic. Apply fertilizer or compost before laying the plastic. Never lay plastic mulch on dry soil. Straw mulch will allow water to pass through to soil, eliminate crusting, provide weed control, and reduce water evaporation.

Bell (or sweet) peppers can be picked either at the green mature stage when they reach full size or after they turn red (or golden yellow, orange, white, lilac, or purple in some cases). Hot peppers vary in size and shape. They are green in early maturity but quickly turn yellow, orange, or red. Both sweet and hot peppers are edible at all stages of growth. At harvest, cut sweet peppers from the plant; the branches usually are brittle and will break easily if pulled. Hot peppers generally detach from the plant much more easily than sweet peppers, and plants are less brittle.

DISEASE IDENTIFICATION AND CONTROL

Colored pictures of disease symptoms may be seen in the publication, *Identifying Diseases of Vegetables*, available from the Publications Distribution Center, 112 Agricultural Administration Building, or from county extension offices.

Bacterial Spot

Small dark spots develop on leaves and fruit. When young leaves are affected, leaves tear around the leaf spots as leaves expand.

Phytophthora Blight

Affected plants wilt, and severely wilted leaves and branches die. Roots frequently are rotted. Under severe disease pressure, where soil is wet, entire plants can die rapidly. Large rot areas can develop; at least 50 percent of a fruit can be affected. A whitish gray mold can appear on affected areas of fruit during wet periods.

Viruses

Symptoms vary depending on the virus or strain, the plant, the time of year, and environmental conditions. The range of symptoms may include leaf mottling, puckering, or curling; stem and petiole streaking; rough, deformed, or spotted fruit; stunted plants; and leaf, blossom, and fruit drop.

Control

1. When possible, plant varieties that have resistance to diseases of concern. Many varieties are resistant to TMV, the most important virus, spread by contaminated hands or tools that rub against leaves. A few varieties are resistant to the PVY and/or TEV viruses, which are spread by aphids and rubbing leaves. A few are resistant to some strains of the bacterial spot pathogen, which affects both leaves and fruit.
2. Start with disease-free seed and transplants from reputable producers. Bacterial spot can be introduced with seed and transplants.
3. Plant peppers where peppers and tomatoes have not been grown for the past few years. The bacterial spot and *Phytophthora* blight pathogens can survive in soil for several years.
4. Plant peppers in garden locations that are unshaded. Bacterial spots are promoted when plant surfaces remain wet for long periods.
5. Plant peppers in garden locations with good moisture drainage. *Phytophthora* blight can occur where soil remains wet for long periods.
6. Do not work in plantings when leaves are wet. The bacterial spot

pathogen becomes sticky when wet and can be carried from plant to plant on hands, garden tools, and clothing.

7. Try to prevent aphid problems near and in the garden. Aphids pick up and carry some viruses; it takes only 1 minute for an aphid to transmit a virus to a plant.

INSECT IDENTIFICATION AND CONTROL

Aphids

Aphids are small (1/16 inch), soft, yellowish green, sucking insects that form small colonies on the tips and undersides of leaves.

Control: Usually not necessary unless numbers increase rapidly. Spray if needed with Pyrenone *or* insecticidal soap. Control should be achieved after two sprays at 5- to 7-day intervals.

Colorado Potato Beetles

Moderately sized (3/8 inch), turtlelike, yellow with black stripes, hard-shelled beetles or dark red, soft, humped-back larvae. Also look for yellow egg masses on leaves of plant (especially undersides). Adults and larvae eat and destroy leaves.

Control: Can usually be kept under control on a few dozen plants by hand picking the adults and larvae and by crushing the egg masses on the leaves.

European Corn Borers

Pinkish white worms (3/4 inch) with dark spots, inside peppers. Also look for holes in peppers. Not usually a problem until the latter half of August to mid-September.

Control: Peppers can be protected with Orthene (7 days to harvest), carbaryl (Sevin) or *Bacillus thuringiensis* (Bt). Apply first spray about August 10 and repeat twice at weekly intervals.

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