

# Growing Peppers in New Mexico Gardens

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Peppers (*Capsicum* sp.) exhibit a wide variety of shapes, sizes, colors, and tastes. The term “pepper” should not be confused with “black pepper” (*Piper nigrum*) produced from the dried unripe fruit of a vine grown in India and Ceylon. Peppers can generally be classified into two groups: mild- or sweet-tasting fruit (bell, pimento, sweet wax) and fruit with hot or pungent flesh (long green and jalapeño).

Pepper pungency is determined by the amount and types of capsaicinoids found in the fruit. These chemicals are produced by glands associated with the placenta in the center of the pod where the seeds are produced. Seeds are not sources of pungency, although they may absorb some of these capsaicinoids when cooked. Environmental factors that can affect pungency include water stress (increases pungency) and cool growing conditions (decreases pungency).

## Types and Varieties

**Bell types**—Sweet, large blocky-shaped fruit with thick flesh and 3–4 lobes; 3–4 inches in diameter and 4–5 inches long; normally harvested at mature, green stage, although some may turn yellow or red to brown when mature; can be stuffed, used in salads, relishes, or cooked vegetable dishes; some recommended varieties include ‘Bell Boy’, ‘Gypsy Hybrid’, and ‘California Wonder’.

**Pimento types**—Sweet, slightly pointed, conical-shaped fruit with thick walls; 2 inches in diameter at shoulder, 3 inches long; red when ripe; some recommended varieties include ‘Early Pimento’ and ‘Pimento Select’.

**Sweet wax types**—Fruits are yellow when immature with waxy gloss, turning orange to red when mature; conical; 1 inch in diameter, 2–6 inches long; may be pickled, made into relishes, or used fresh in salads; some recommended varieties include ‘Sweet Banana’ and ‘Hungarian Sweet Wax’.

**Long green types**—Fruit vary in length from 4–12 inches and 1–2 inches wide with relatively thin flesh; also called ‘New Mexico’ or ‘Anaheim’ types; fruit are characteristically harvested either in the mature green stage or mature red stage, although some varieties may turn yellow, orange, or brown; pungency may range from sweet (paprika types) to hot; green pungent pods can be used fresh, canned, or frozen; longer-podded varieties are often used as chile rellenos (deep-fried, batter-covered, stuffed pepper); red pods can be ground into powder; both red and green pods can be used in various salsas; some recommended varieties include ‘New Mexico 6-4’ (mild), ‘NuMex R Naky’ (mild), ‘NuMex Big Jim’ (mild to medium), ‘Sandia’ (hot), and ‘Española Improved’ (hot).

**Jalapeño types**—Fruit conical, 3 inches long and 1–1 1/2 inches wide with thick flesh and tapered blunt tips; immature fruit are dark green turning red at maturity and are highly pungent; used fresh, in salsas, canned, pickled, or on nacho chips; recommended varieties include ‘Jalapeño’, ‘Jalapeño M’, and ‘TAM Jalapeño’.

**Other types**—Pepper choice for the garden depends on the type of cuisine you enjoy. Those liking truly hot salsas may prefer either the 5–10 inches red ‘Cayenne’ or the 2 inches-long red, orange, brown, or yellow-colored ‘Serrano’. ‘Piquin’ is a very small red pepper that characteristically tastes hot, but the heat sensation soon dissipates. Refer to specific recipes for type of pepper recommended. For more information on pepper varieties refer to Circular 530 Capsicum Pepper Varieties and Classification.

## Climatic Requirements

Peppers are a warm-season crop and require growing conditions similar to tomato and eggplant. Peppers are highly susceptible to frost; thus transplanting should be delayed until after the last frost in spring. As cool soil temperatures will delay emergence and retard growth, direct seeding and transplanting peppers in the garden should be delayed until soils warm.

Plant growth and fruit set are maximized when daytime temperatures range between 65 and 85°F, with nighttime temperatures of 60–70°F. Blossoms may not set if temperatures drop below 60°F or rise above 90°F. Under ideal conditions, mature green peppers will be ready for harvest 45–55 days after pollination. Cool weather will delay maturity.

### **Soil Preparation**

Peppers prefer a well-drained loam or sandy loam soil with a pH of 7.0–8.5. Adding ample quantities of compost will improve almost any soil, increasing water-holding capacity and nutrient retention of sandy soils, and aeration and drainage of clay soils.

### **Fertilization**

The amount of fertilizer to apply for good pepper production should be based on a soil analysis. Check with your local county Extension agent for more information on how to collect soil samples and where to send your sample for analysis.

Phosphorous is important for good root development and fruit production. A half-pound of superphosphate (0–36–0) fertilizer per 100 square feet of garden should be incorporated into the soil before planting. A lesser amount may be applied if the soil analysis indicates medium to high levels of phosphorous.

A light application (1 pound per 100 square feet) of ammonium sulfate (21–0–0) before planting will help seedlings to a good start. One week after flowering begins, sidedress plants with an additional 1.5 ounces of ammonium sulfate per 10 feet of row. Sidedressing can be accomplished by digging a shallow trench 1–2 inches deep 4–5 inches to the side of the plants. Spread fertilizers evenly in the trench, cover with soil, and water immediately. Additional nitrogen fertilizer may be applied later in the season if needed. Be careful not to overstimulate plants with nitrogen, which can result in excessive vegetative growth at the expense of fruit production.

### **Planting**

Peppers are best established in the home garden from transplants. Purchase stocky, healthy transplants for best results. Peppers grown in the home greenhouse for transplanting require 6–8 weeks from seeding to

transplanting size. Space plants in the garden 8–14 inches apart in rows 30–36 inches wide. Transplanting is best done in the early evening to reduce transplanting shock. Water immediately after transplanting.

Peppers can also be direct-seeded in the garden, although direct seeding should be limited to areas with a longer growing season. Seeds should be planted 1 inch apart and 1/4 inches deep. Plants can be thinned after they develop four or more true leaves. Peppers can also be seeded to a stand in hills 12 inches apart, with 4–6 seeds per hill. After emergence, plants can be thinned to 1–3 plants per hill.

### **Mulches and Row Covers**

Peppers generally respond favorably to black plastic mulches to help warm the soil early in the season, particularly in northern New Mexico. Black plastic can be replaced with organic mulches when the weather warms. Organic mulches like straw, dry grass clippings, and leaves will help cool the soil during hot weather.

Floating row covers can also be used in the early spring to help seedlings to a strong start. Row covers allow light in while warming the atmosphere around the plants. Row covers should be supported with wire braces that arch over the plants to prevent damage from wind. Outside edges can be anchored with soil. Although most modern row covers allow air circulation, it is best to remove the cover in warm weather. Row covers will also help screen out many insect pests like the beet leafhopper, which spreads curly top disease.

### **Irrigation**

The goal of an irrigation program should be to maintain a uniform soil moisture level that promotes uniform growth and fruit set. Under-watering a crop can cause blossoms to shed, smaller peppers, and blossom-end rots, a dry rot on the tips of peppers. Over-watering a crop can cause Phytophthora root rot, which causes the plant to wilt and die suddenly. Drip irrigation techniques are the most efficient way to water pepper plants. Combined with either a plastic or organic mulch, water conservation can be considerable while providing sufficient water for maximum crop production. Gardeners can also use sprinkler or furrow irrigation techniques, but water and disease management are more difficult.

## **Pest Control**

Weeds are best controlled using shallow cultivation to prevent root damage. Using black plastic mulches in the spring and organic mulches in the summer will also reduce weed competition.

Flea beetles, cutworms, thrips, leafhoppers, and aphids can damage young pepper plants. Horn-worms and cabbage loopers can also be problems later in the season. Check with your local county Extension agent for updates on control measures for these pests.

Common diseases that infect peppers in New Mexico include nematodes, Verticillium wilt, Phytophthora root rot, and curly top. Nematodes in the soil can be reduced in the garden by rotation with grass crops like sweet corn, and by increasing soil organic matter with compost. Rotation with grass crops will also help discourage Verticillium wilt. Using drip irrigation and raised beds will help manage water in the garden and thus decrease the incidence of Phytophthora root rot. Covering young pepper plants early in the season with row covers will help reduce infestations of the beet leafhopper, which in turn will reduce the number of plants with curly top, a disease transmitted by the beet leafhopper.

## **Harvesting**

Green bell peppers should be harvested before they change color. Fruit should be fully developed, firm, and crisp when squeezed. Long green, pungent varieties harvested for green chile should have a similar feel. Most pods can be broken off the plant easily if pods are mature. Chile peppers harvested for red color can be allowed to dry on the plant or harvested when fully ripe and hung up by their stems to dry. Red chile varieties are often dried by tying pods together in long strings called ristras.



# Index

## V

Verticillium wilt 3

## A

aphids 3

## B

bell peppers 3

Bell types 1

## C

cabbage loopers 3

Capsicum 1

Chile peppers 3

curly top 3

cutworms 3

## F

Flea beetles 3

## H

Horn-worms 3

## J

Jalapeño types 1

## L

leafhoppers 3

Long green types 1

## M

mulches 2

## N

nematodes 3

## P

Peppers 1

Phytophthora root rot 3

Pimento types 1

## S

Sweet wax types 1

## T

thrips 3