



GROWING PEPPERS IN NAPA COUNTY

By Dean Donaldson, Farm Advisor

Peppers (*Capsicum*) are small shrubs of the nightshade family (*Solanaceae*), the same family as tomatoes and potatoes. There are five species of *Capsicum* grown, but most in the United States are *Capsicum annuum*. While long lived in the tropics, most peppers in California are grown as annuals. Species groups are divided into cultivars based on fruit shape, flavor and use in cooking. There is a tremendous variation in fruit size, color, pungency and shape as well as plant growth habit. There are over 120 bell pepper cultivars available that ripen into a spectrum of colors from shades of red, orange, yellow, green and brown. The heat of peppers (pungency) is a complex of related alkaloids, often called capsaicin for the most prevalent one. Capsaicin is produced inside the fruit in glands on the seed-producing placenta. Seeds are not the source of the pungency, but can absorb capsaicin because they grow close to the placenta tissue. Like wine tasting, those experienced with peppers can detect subtle flavors of chilies. For example, ancho is sweetish, chipotle is smoky, mirasol is fruity, and mulato is chocolaty. Further, there are differences in flavor depending on whether pods are ground, toasted, soaked in water, or eaten fresh.

KINDS OF PLANTS

<i>Sweet Bell Types</i>	<i>Sweet Yellow or Cubanelle</i>	<i>HOT</i>
Bell Boy	Sweet Banana	Hungarian Yellow Wax
California Wonder	Gypsy	Anaheim
Yolo Wonder	Hy-Fry	Anaheim TMR 23
Keystone Resistant Giant	Cubanene	Cayenne Long Red Slim
Jupiter		Serrano Chili Pepper
Golden Summer Hybrid		Tam Mild Jalapeno
Golden Bell		Jalapeno M (very hot)
Early Pimento		

REQUIREMENTS

Peppers hate cold and fog – love hot weather. Optimum growing temperatures and daytime temperatures below 90°F and nighttime temperatures above 60°F. They need full sun all day. Frost injures or kills pepper plants. Plants grow like tomatoes, needing well drained warm soil with moderate fertility.

SOIL PREPARATION AND PLANTING

See 'Growing Tomatoes in Napa County' for specific soil preparation and fertilizer suggestions. Set 2-to 4-inch tall transplants into warm soil after soil reaches 75°F. Space most varieties of peppers 1 foot apart in rows spaced 3 feet apart. Protect new plants with a 'hot cap' or similar device to favor heating the soil around your newly planted peppers. Water carefully to avoid root rot or 'damping-off' diseases,

particularly in cool weather conditions. When plants reach 10 inches high you can begin to water more deeply and less frequently. Keep weeds under control.

CARE

Water like tomatoes. Plants must start off and grow rapidly after transplanting or they will start blooming and set fruit while they are too small. Do not fertilize after mid season. Keep tall plants tied-up so they do not get diseases from touching the soil. Let the ground surface dry between irrigations. Keep weeds under control. Destroy diseased plants.

COMMON PROBLEMS

Seedlings and transplants are attacked by cutworms, flea beetles, Diabrotica beetles, slugs and snails. Watch for flower damaging insects such as aphids, lygus and thrips when local weeds and grasses begin to dry. Protect with vegetable dust or insecticidal soap. Later in the season you may find caterpillars, aphids or weevils. Those are big enough to simply remove when you spot them. (Note: some of these insects only feed at night.) Fruits may be scorched by heat or get blossom end rot from being too dry. Be sure to give extra deep irrigations during hot weather. Major diseases attack roots – avoid by proper watering and planting in different ground each year. Virus diseases are spread by aphid insects and produce stunted plants with few fruit and with funny colored leaves. Destroy any diseased plants.

HARVESTING

Expect to harvest after 110 to 150 days after transplanting. Peppers are usually eaten after they begin to color. Rapid color development occurs at temperatures between 65 to 75° F, but stops below 50 and above 80° F. Color develops poorly in fall weather.

TRICKS

Use transplants. Plant into warm soil with plastic cover to help rapid growth. Remove early flowers to get bigger plants. Water deeply, not frequently. Do not over water. Plant into a different spot each year.

Additional Reading:

Home Vegetable Gardening, UC ANR Publication #21444, 1992.

Pests of the Garden and Small Farm, UC ANR Publication #3332, 1990.

Planting Guide for Napa County, UCCE Napa County, mimeo, 1982.

Bell Pepper Production in California, UC ANR Publication #7217, 1996.

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