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By A. G. B. Bouquet

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GROWING GARDEN PEPPERS

by

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The garden pepper (*Capsicum frutescens*) is an important crop plant in the group of vegetable crops of relatively minor value. Most of the pepper production in Oregon is confined to market gardens and home gardens, for statistics indicate that no great amount of fruit is grown for shipment or for processing.

Climatic relations. Being a warm-season crop the plants and fruit develop to the best advantage where the climatic conditions are comparatively warm and the frost-free season is about the same as that favoring the growing of tomatoes. Pepper plants particularly require a good deal of warmth in the earlier part of their growth, but being of a woody character, can tolerate more extremes of heat and dryness than the tomato and the eggplant. They are not subject to extreme vegetative growth as the tomato, but the plants are injured by spring and fall frosts. The greater part of the pepper crop is harvested during the late summer and fall in Oregon although some fruits are often large enough to be harvested in the early summer. In the areas of little summer rainfall, it is almost imperative that the plants be watered occasionally; otherwise, dry rot may occur.

Plant characters. The pepper plant is an upright, compact, woody one of 24 to 30 inches in height and having a common spread of about 24 inches, which is the customary distance, therefore, between plants in a row. The leaves are comparatively small, smooth, glossy, and dark green. The plant produces numerous lateral branches so that a number of fruits can be borne by a single plant. The flowers are small, white, and perfect, that is, male and female organs are in the same flower. Self-pollination, therefore, takes place, and there is little pollination carried on by insects. The fruit is rectangular to bell-shaped, depending on the variety, the former shape being preferred. The present-day green pepper, such as the California Wonder, is rectangular and has a thick outer wall which adds immensely to the solidity, carrying, and handling characters, weight, and general market value of the fruit. The sutures or wrinkles of varieties of peppers in earlier days have been largely eliminated by breeding fruits which are now smooth of outline and of a uniform shape. Even the lobes of the fruit at the base have virtually disappeared so that it is uniformly rectangular and truncate. As the fruits change from the green to the red color, they ripen to a bright crimson with pigments of lycopene, xanthophyll and carotene.

The seed is small, flat, and yellow, and requires a preferred temperature of 75° F. or so for favorable germination. Seeds germinate slowly, and it is usually three weeks or more before the plants are large enough to be first pricked out.

Varieties of peppers. These are usually divided into three classes: (1) Green and red peppers having little, if any, pungency (hot flavor) such as Harris Earliest, Bull Nose, California Wonder, Chinese Giant. Of these varieties, Harris Earliest is grown quite widely for an early variety, with California Wonder being the most widely grown variety for late summer and fall; (2) Mild or sweet varieties for processing, such as Pimiento, used almost exclusively in the ripe or red stage; and (3) The varieties having a hot or pungent flavor used for relishes and various forms of culinary dishes. Comparatively little production is carried on in Oregon with the last two varietal groups.

The pungency or hot flavor of the smaller fruited varieties such as Cayenne, Chili, etc., is due to the presence of an alkaloid called capsaicin which is present in various parts of the fruit.

Soils and fertilizers. The pepper plant prefers a warm, rich soil inducing a good vegetative growth and a heavy production of good sized fruits. While the plants may be grown comparatively well in any good home garden soil, the preferred land for a commercial crop is of a sandy or silt loam type with good humus content. Good yields of peppers are also grown on peat land.

Manure is always beneficial, preferably turned under several weeks before setting out plants. A mixed commercial fertilizer having a 1-3-1 ratio can be supplemented by a side dressing, if need be, using a carrier of soluble nitrogen such as sulfate of ammonia, 200 pounds or so to the acre. As a general rule, there is little danger of having the soil too well enriched for pepper plants.

Plant growing. Pepper plants are started from seed planted in a warm greenhouse or hotbed. The time elapsing from seeding to field setting of plants is about eight weeks or so. Consequently, seeding should take place about March 15. The plants are shifted for the first time when they have three leaves. The common distance at which the plants are spaced is 2 inches or so although it is highly desirable for a gardener to use individual veneer bands in which a single plant grows, thus reducing to a minimum the shock in transferring the plants to the garden. This latter operation is done after spring frosts are over and the weather is warm and settled. The common distances of setting plants in the field are 18 to 24 inches between the plants in the row and 30 to 36 inches between the rows.

Maintenance of pepper plantings. Shallow cultivation or soil tillage is desirable, mainly for the purpose of weed control. If the plants seem to lag in growth, apply at a distance of one and one-half to two inches away from the plants two ounces of a soluble nitrogen fertilizer or a mixed fertilizer such as previously mentioned.

Irrigation is always of benefit to pepper plants in providing a uniform content of soil moisture and is especially useful in the control of the disease known as dry rot. Plants have been found to produce more blossoms and set a greater percentage of fruit when grown under either a medium or high soil moisture.

During the summer there are apt to be periods of warm temperatures which may interfere with proper pollination and fruit setting. However, when temperatures resume normality, there will be the usual complement of fruit setting on the plants.

Comparatively few insects do damage to pepper plants. Sometimes eleven-spotted beetles may be active but they can be controlled by the use of DDT.

The most likely disease which might be present in a planting of peppers is dry rot which, due to soil moisture shortages, causes the fruits to break down at the base. Consistent amounts of water applied by irrigation is the key to controlling this trouble.

Harvesting. Green peppers are sometimes harvested before they have reached full size. Green peppers are picked before they show signs of changing to red, but later on there may be portions of the green fruit showing a slight coloration towards maturity. If the large green fruited varieties are wanted for ripe fruits, they should be allowed to stay on the plants, provided that it would appear that the season is long enough for the fruit to ripen. Harvesting of peppers is done by breaking off the stem just above the apex of the fruit.

Peppers can be kept in good condition for as much as a month or more at a temperature slightly above 32° F. with a relative humidity of 95 to 98 percent. The present thick-meated strains of California Wonder make it possible to keep green peppers longer than formerly when the side walls of the older varieties were decidedly thinner. Experimental data show that peppers will keep well for about a month or so at 40 degrees F. and for at least two weeks or more at 50 degrees. At higher temperatures, the fruit breaks down because of loss of water and possibly through mold due to careless handling of the fruit.

Useful References

- Growing Early Vegetable Plants under Glass, O. S. C. Ext. Cir. 342
- Garden Soil Management, O. S. C. Ext. Bul. 612
- The Home Vegetable Garden, O. S. C. Ext. Bul. 614