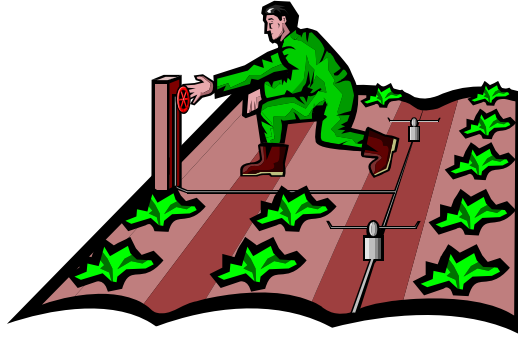


# Irrigation Key to Vegetable Production



As hot, dry weather begins to stress home gardens in June, proper watering is critical for healthy young vegetable plants and quality produce. Watering is both a science and an art. Gardeners should learn to spot signs of water stress on plants. Water-stressed lettuce can be bitter, for example, while tomatoes and chile will often develop dead patches at the tips called blossom end rot. Water-stressed chile also tends to become more pungent, although over watering it can also increase incidence of chile wilt. Water-stressed sweet corn, meanwhile, can be poorly pollinated with fewer kernels on the ear.

To prevent problems, keep shallow-planted vegetable seeds moist until after the plants emerge. Thereafter, water less frequently but deeper, wetting the soil at least 12 inches below the surface. Allow surface soil to dry out between irrigations to promote deeper root growth and more drought-tolerant plants. Applying organic mulch like dry grass clippings, straw or old hay will reduce evaporation. Mulches will also cut down weed problems.

Sprinkler irrigation is popular among gardeners, but it's very wasteful, especially in windy weather. Sprinkler systems can also damage tomato plants during the summer, causing them to crack. Gardeners using sprinklers should irrigate early in the morning to allow plants like squash to dry out in the afternoon to reduce powdery mildew and other foliar diseases.

Furrow irrigation is also popular in some areas. Plant vegetables on the outside edges of raised flat vegetable beds, allowing water to soak inward toward the middle of the bed. This will concentrate salts in the water and soil in the center, away from plants. Never let water run over the top of the bed because it can cause the soil to crust.

Drip irrigation is the most efficient water technique. Place drip lines near the plants so water moves evenly out away from the base, concentrating salts away from the plants. The garden can occasionally be flood irrigated to wash accumulated salts below the roots. Regulators may be needed to reduce pressure on the lines, and filters are often used to keep soil from clogging the lines. More expensive systems can include fertilizer injectors.

This article adapted from Cooperative State Research, Education and Extension Service, USDA. Please contact Ken Churches at [cdcalaveras@ucdavis.edu](mailto:cdcalaveras@ucdavis.edu) or (209) 754-6475 with your agricultural questions. To speak with a Certified Master Gardener: Calaveras (209) 754-2880, Tuolumne (209) 533-5696, Amador (209) 223-6837, El Dorado (530) 621-5543.