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# ASK A MASTER GARDENER

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## VEGETABLE GARDEN IRRIGATION

*By Johanne Ryker, Placer County Master Gardener*

**Q** How much and how often should I be watering my vegetable garden?

**A** Gardens in our area normally require some irrigation, especially in summer. Irrigation that is inadequate will cause a significant reduction in productivity. However, water can be very expensive, so creating an irrigation system that will adjust to the rooting depth of various plants is important.

Deeper root plants such as tomatoes will need water less often, but when you do water, water for a longer period of time. Crops with shallower roots will need water more often, but for a shorter duration.

Vary the amount and frequency of irrigation according to each variety of vegetable you grow. In the home with a variety of crops, it is usually best to adjust irrigation to meet the needs of shallow-rooted crops. If their needs are met, the medium- and deep-rooted crops automatically get enough water.

This same rule applies where the topsoil is shallow—when only 1 to 2 feet of soil is available for root growth. Shallow-rooted crops have main root systems in the top 1 to 2 feet of soil. Examples are cabbage, cauliflower, lettuce, celery, sweet corn, onion, white potato, and radish.

Moderately deep-rooted crops are those with the main root system in the top 1 to 4 feet of soil. Examples are snap bean, carrot, cucumber, eggplant, peas, pepper, and summer squash.

For deep-rooted crops, the main root system is in the top 1 to 6 feet of soil. Examples are asparagus, globe artichoke, cantaloupe, pumpkin, tomato, and watermelon. (The maximum rooting depths given here are the potential rooting depths under ideal soil conditions.)

Plan your watering depth based on your root depths. Soaker hoses are a form of drip irrigation and can be used to advantage if rows are short (20 to 25 feet), and the soil is level. For longer rows or on sloping soil, soaker hoses cannot be expected to provide as uniform irrigation as that provided by a true drip system.

Do not waste water. There are simple ways to measure how much water you give your garden. If you use a garden hose, turn it on to the force you commonly use and time it to find out how many minutes it takes to fill a 1-gallon can. This gives you the rate of water flow per minute. One gallon of water wets one square foot of ground to a depth of 1.6 inches. If you use a sprinkler system, place some empty cans under the sprinkler spray at various spots. Keep track of the length of time the sprinklers are on and then measure the depth of the water in the cans when you turn off the water. Average the various depths to determine how much water is being applied to the garden at each sprinkling.

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