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# virginia home food production



## FACT SHEET

DEPARTMENT OF HORTICULTURE

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### WATERING

Adequate soil moisture is essential for good crop growth. During the first two weeks of growth, plants are becoming established and must have water to build their root systems.

While growing, vegetable crops need about 1 inch of water per week in the form of rainwater, irrigation water, or both, from April to September. You should have a rain gauge near your garden or check with the local weather bureau for rainfall amounts, then supplement rainfall with irrigation water if needed.

During dry periods, one thorough watering each week of one to two inches of moisture (65 to 130 gallons per 100 sq. ft.) is usually enough for most soils. The soil should be wetted to a depth of 6-12 inches each time you water and not watered again until the top few inches begin to dry out. An average garden soil will store about 2 inches of water per foot of depth.

Irrigation practices, when properly used, can benefit your garden in the following ways:

1. Aid seed emergence.
2. Reduce soil crusting.
3. Improve germination and plant stand.
4. Reduce wilting and checking of growth in transplants.
5. Maintain uniform growth.
6. Increase fruit size of tomatoes, cucumbers, and melons.
7. Prevents premature ripening of peas, beans, and sweet corn.
8. Improves the quality and yields of most crops.

#### Methods

The home gardener has several options for applying water to plants - a watering sprinkler can, a garden hose with a fan nozzle or spray attachment, portable lawn sprinklers, a perforated plastic soaker hose, drip or trickle irrigation, or a semi-automatic drip system. Quality equipment will last for a number of years when properly cared for.

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Some basic techniques and principles for applying water:

1. Adjust the flow or rate of water application to about  $\frac{1}{2}$  inch per hour. Much faster than  $\frac{1}{2}$  inch per hour will cause run-off. Use fine spray nozzle attachments.
2. When using oscillating type of lawn sprinklers - a) place on a platform higher than the crop being watered to prevent distortion, b) try to keep the watering pattern even by frequently moving and over-lapping about  $\frac{1}{2}$  of each pattern. (Use several small, straight-sided cans at varying distances from the sprinkler to check your flow rate.)
3. Do not sprinkle foliage in the evening. Wet foliage overnight can encourage diseases. Morning watering is preferred.
4. Perforated plastic hoses or soaker hoses should be placed, with holes down, along one side of the crop row or underneath plastic mulch. The water is allowed to soak or seep into the soil slowly. Soaker hoses and trickle irrigation systems can conserve water by putting moisture next to the plant where it does the most good.
5. It is best to add enough water to soak the soil to a depth of 5-6 inches. It takes approximately  $\frac{2}{3}$  gallon of water for each square foot or about 65-130 gallons for 100 square feet of garden area. This varies with the nature of your soil. Frequent, light waterings will only encourage shallow rooting which will cause plants to suffer more quickly during drought periods, especially if mulches are not used. On the other hand, too much water, especially in poorly drained soils, can be as damaging to plant growth as too little water.