

Water Conservation

Water is not a limitless resource. Water has become a critical concern for most Massachusetts communities. In Massachusetts we normally expect to receive 45" of rain each year. The increasing use of water by more people has brought about a water shortage in many communities. Water becomes most scarce in the late summer months of July, August, and September. This situation is expected to become more severe in the future unless an effort is made to save water and reduce daily consumption. Many towns have already imposed restrictions on outdoor water use. The financial cost for this precious resource has risen dramatically in many communities. Citizens should be aware of the seriousness of the situation and strive to conserve water at every opportunity.

Many community gardeners are currently expected to pay a fee for water. The efficient use of water will be directly related to the cost of gardening. Develop efficient garden watering methods, which you and others in your community garden, can follow to help relieve water shortage.

1. Know your community garden rules regarding the use of water.
 - A. Who pays for the water? How much?
 - B. Is there a water meter?
 - C. Is there a locked spigot?
 - D. Is the water system in good repair? (Who fixes leaks and pays for repairs?)
 - E. Is water use limited to certain times of the day?
 - F. What are the consequences for misuse of water?

2. Understand how much saturation is necessary to support plant life.
 - A. Before watering, check the soil. Push aside the top 2-3 inches of soil. Scrape together a handful of soil and squeeze it into a ball. If the soil holds together, there's enough moisture in the soil to maintain healthy plants. Gardeners can encourage deep, strong root systems on plants by letting the surface and sub-surface become dryer before watering.
 - B. Use a rain gauge to measure how much moisture has fallen. The rule of thumb is a vegetable or flower garden needs about one inch of water per week.
 - C. Remember to empty the rain gauge on a weekly basis or after it has filled up. Keep track of the rainfall and post the information for others to see. Make sure to check the rain gauge (as well as the soil) before you reach for the garden hose.
 - D. Maintain 3-6 inches of mulch on top of the soil. Mulch helps keep moisture in the ground.
 - E. Use water wands or spot watering with bottles rather than sprinklers. There is less water loss due to evaporation. It also keeps water off the leaves, which is desirable to avoid many plant diseases.

F. Use recycled plastic milk jugs to create your own spot watering, fill a milk jug and water each of the larger plants directly at the base or create a drip irrigation system in the garden. To create a simple drip irrigation system, punch holes in the base of the milk jug with a small tack or nail. Bury the jug (up to its neck) in rows between plants, or place a single jug next to a single plant; fill the jugs with water and the jugs will water the plant. You will also know how much water you have used.

G. Use mulch in areas not planted to reduce weed growth. Weeds steal water from the plants you want to grow.

3. Understand how much water you really use and how much it costs.

Water is measured in cubic feet. A cubic foot is 7.48 gallons of water. A garden hose being measured directly through a meter (with no one else using water) uses water at the rate of 20 gallons per minute. Ten minutes of water uses approximately 200 gallons of water. When 50 gardeners water for ten minutes each, 10,000 gallons of water are used. Multiply this by the cost of water per cubic feet, and community gardeners can understand the need to conserve water in terms of dollars and cents!!

4. Understand appropriate times to water the garden and the most efficient method for each time.

A. Seeds need to be kept moist; they will die if they dry out. Water directly with a watering can or a hose-wand (with shut off valve); avoid overhead watering that wastes water on spaces not planted.

B. When plants are setting and developing flower and fruit they need *regular* watering; problems such as blossom end rot, fruit drop, etc. can be avoided with regular watering. Use spot watering, or set the garden hose to trickle slowly at the base of the plants or into the furrow row; avoid overhead watering. Water deeply and use mulch.

5. Understand plant selection and gardening methods that will save water.

A. Select drought tolerant plants.

B. Use intensive-spacing methods; intensive-spacing creates self-shading, therefore saving water as well as space.

C. Plan the garden to create shade, when appropriate; use shade cloth, screen, plants, etc.

D. Use compost; compost increases water retention in the soil.

E. Mulch; mulch reduces water evaporation.

F. Cultivate the soil; loose soil allows water to penetrate deeply.

G. Keep weeds out; weeds steal water.

H. Group plants by their water needs.

6. Understand efficient times to water versus good times for plants to be watered.

A. Avoid the hottest time of day--increased water evaporation

B. Avoid evenings during high humidity--invitation to plant disease.

C. Watering in the early morning or evening is best for water conservation; watering in the early morning is best to avoid plant disease.