Water Conservation tips from Natural Resources Conservation Service

Save water with efficient systems and healthy plants.

In Your Backyard

Wise use of water for garden and lawn watering not only helps protect the environment, but saves money and provides for optimum growing conditions. Simple ways of reducing the amount of water used for irrigation include growing xeriphytic species (plants that are adapted to dry conditions), mulching, adding water retaining organic matter to the soil, and installing windbreaks and fences to slow winds and reduce evapotranspiration. Watering in the early morning before the sun is intense helps reduce the water lost from evaporation. Installing rain gutters and collecting water from downspouts also helps reduce water use.

Plant Needs for Water

Water is a critical component of photosynthesis, the process by which plants manufacture their own food from carbon dioxide and water in the presence of light. Water is one of the many factors that can limit plant growth. Other important factors include nutrients, temperature, and amount and duration light.

Plants take in carbon dioxide through their stomata – microscopic openings on the undersides of leaves. Water is also lost through the stomata in the process called transpiration. Transpiration, along with evaporation from the soil surface, accounts for the moisture lost from the soil.

When there is a lack of water in the plant tissue, the stomata close to try to limit water loss. Wilting occurs when the tissues lose too much water. Plants adapted to dry conditions have developed numerous mechanisms for reducing water loss, including narrow leaves, hairy leaves, and thick fleshy stems and leaves. Pines, hemlocks, and junipers are also well adapted to survive extended periods of dry conditions which they encounter each winter when the frozen soil prevents the uptake of water. Cacti, with leaves reduced to spines and having thick stems, are the best example of plants well adapted to extremely dry environments.

Efficient Watering Methods

Trickle irrigation and drip irrigation systems help reduce water use and meet the needs of plants. With these methods, very small amounts of water are supplied to the base of the plants. Since the water is applied directly to the soil, rather than onto the plant, evaporation from leaf surfaces is reduced. The water is also placed where it will do the most good, rather than sprayed over the entire garden.