



# Colorado MASTER GARDENER

## Seven Principles of Water-Wise Gardening

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### The Seven Principles of Water-Wise Gardening

- Plan and design for water conservation, beauty and utility.
- Improve the soil.
- Create practical turf areas.
- Water efficiently with appropriate irrigation methods.
- Select plants appropriate for our climate and group them according to their water needs.
- Mulch to reduce evaporation.
- Maintain good horticultural practices.

### Plan and Design for Water Conservation, Beauty, and Utility

A landscape design for water conservation, beauty, and utility doesn't come by accident. Develop a plan before purchasing and installing plant materials. It's easy to make adjustments on the plan to fit desired outcomes. Once plants are purchased and installed flexibility is lost.

For additional details refer to the fact sheet 7.752, *Water-Wise Gardening: Planning and Designing for Water Conservation, Beauty, and Utility*.

### Improve the Soil

Good soil is basic to the success of any garden. With good soil pore space, roots spread deeper and reach a larger supply of water and increase resilience to hot dry weather.

In the arid west, soils are naturally low in organic content. The ideal garden soil has 4 to 5 percent organic matter. For soils low in organic content, add 1 inch organic matter per season. Additional amounts should be applied only after a soil test has evaluated the potential for salt problems.

For additional information on improving soils, refer to the following fact sheets:

- 7.235, *Choosing Soil Amendments*;
- 7.721, *Earthworms*;
- 7.722, *Managing Soil Tilth*;
- 7.741, *Soil Amendments*;
- 7.742, *Using Manure*;
- 7.743, *Using Compost*; and
- 7.744, *Cover Crops and Green Manure Crops*.

Keep in mind however, that many plants native to the poor soils of the high plains and Rocky Mountain region prefer soils that are fairly low in organic matter. If planted in rich soils, growth may be adversely impacted or the plant may grow so well that it loses its tolerance to low water situations.

### Soil Water Holding Capacity and Irrigation Management

The soil's texture and structure play a primary role in water holding capacity and water movement. A soil's water holding capacity is the foundation for irrigation management. For additional details, refer to the fact sheet 7.754, *Soil Water Holding Capacity and Irrigation Management*.

### Create Practical Turf Areas

Select turf based on needs of the landscape design and use. In Colorado, we have many options from high input Kentucky bluegrass and turf-type tall fescue to moderate input Kentucky bluegrass and turf-type fescue to low input buffalo grass. The use on some sites may suggest a high-input turf as the best match for the needs. While on many sites a moderate or low input turf would be acceptable for the needs and design.

For details, refer to the fact sheet 7.761, *Water-Wise Gardening: Creating Practical Turf Areas*.

### Water Efficiently with Appropriate Irrigation Methods

For most homeowners, attention to irrigation has the greatest potential for water conservation. In the typical home yard, extra attention to irrigation system design, maintenance, and management could reduce water use by 20 to 50 percent!

Refer to the following fact sheets for additional information:

- 7.755, *Water-Wise Gardening: Watering Efficiently*;
- 7.756, *Irrigation Management: Types of Sprinklers*;
- 7.757, *Irrigation Management: Converting Inches to Minutes*; and
- 7.759, *Irrigation Management: Irrigation Audit*.

### Select Appropriate Plants

A key principle in water-wise garden design is grouping plants by irrigation requirement, call **hydrozoning**. Plants requiring routine irrigation should be placed together. Plants tolerating less irrigation should be placed in another zone, where they receive less water. Plants that don't require supplemental irrigation (after becoming established) should be in another zone.

For additional details, refer to the fact sheet 7.753, *Water-Wise Gardening: Hydrozoning*.

### Mulch

Mulching of shrub areas, flowerbeds and vegetable gardens reduces water need by 30 to 50 percent. On reduced or nonirrigated sites, this savings makes a big difference in plant vigor and plant growth.

For details on mulching, refer to the following fact sheets:

- 7.214, *Mulches for the Home Grounds*; and
- 7.760, *Mulching with Bark/Wood Chips, Grass Clippings and Rock for Mulch*.

## Maintain Good Horticultural Practice

Maintaining plant health is central to minimizing insect and disease problems. Plants in good health are more tolerant of insect and disease problems. When the landscape is maintained with good horticultural practices, less than 10 percent of the common landscape insect and disease problems warrant the use of a pesticide.

Since many of the common insect and disease problems attack only plants under stress, maintaining health with good horticultural practices is the primary management tool. Most borers attack only trees under stress. Cytospora, a common shade tree disease, only attacks trees under stress. Shade trees are rather tolerant of aphids, except when under water stress. Root rots occur only in soils that are over watered or have poor drainage. Iron chlorosis is a primary symptom of overwatering, particularly in the spring.

No gardening system is maintenance free. Contrary to the perceptions of some novice gardeners, perennial gardens, Xeriscapes, and even nonirrigated landscapes require some maintenance.

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