



Water-Wise Irrigation

How you can have your plants – and water them, too



Water-wise landscaping focuses on working with nature and natural forces, such as rainfall, to create a pleasant, healthy landscape, while using less water from the local supply. Minimizing the need for watering in your landscape requires careful planning and common sense. Several principles for water-wise landscaping include choosing the best design and plants, preparing soils, planting properly and watering properly for efficient water use.



Water-wise irrigation, conserving water in your landscape, doesn't have to be complicated. A simple tuna can is a great start. Scatter a few around your yard and turn on the irrigation system. Measure how much water is in the cans after 15 minutes of irrigation. Then calculate how long you should irrigate your lawn to apply about $\frac{1}{2}$ " of water. Irrigate every third day during the summer to apply a total of about one inch of water per week. Be sure to consider the amount of rainfall in achieving that one inch per week.



For example, you place four tuna cans around your yard and run your irrigation system for 15 minutes. You measure the amount of water in the four cans and it averages about $\frac{1}{4}$ " per can (you don't need a calculator, keep it simple). So, if you want to apply $\frac{1}{2}$ " of water to your lawn you need to run your irrigation system for 30 minutes; twice the amount of time required to accumulate $\frac{1}{4}$ " of water in the tuna cans in your 15-minute test. Repeat the irrigation three days later to attain about one inch per week. Apply about half this amount during dry spells in the spring or fall. You don't need to measure the tuna cans each time you irrigate but it is a good idea to keep a rain gauge to determine your local rainfall amounts. Or, if there is a major change in your irrigation system (repairs, water pressure losses, etc.) you can run this simple tuna can test again.



You can improve your landscape while preserving one of our most precious resources, water. In addition, your local garden retailer or county Extension agent is an excellent source of knowledge and additional resources on plant selection, planting and maintenance, so if you need to know something that is not addressed here, just ask.

But first, a look at why plants are so important and why any time is the right time to green up your yard.



The power of plants

1 Take a deep breath, then go out and thank the millions of plants that filter out dust and pollutants from the atmosphere. One tree can remove 26 pounds of carbon dioxide each year and release 13 pounds of oxygen daily, enough for a family of four.

2 Shade trees and windbreaks reduce energy consumption, which means you pay for less electricity and less power must be generated.

3 Plants are an investment: Landscaping adds value to real estate and can speed property sales. Various surveys show value increases from 7 to 15 percent.

4 Plants provide habitat for the wild things that share our green spaces, including song birds and other small critters in your yard.

5 On a hot day, lawns will be 30 degrees cooler than nearby pavement, producing a moderating effect on the environment.

6 Roots stabilize soil and control erosion.

7 Trees also shade our rivers and streams, keeping them cool and productive.

8 Strategically placed trees and shrubs can create privacy and reduce noise pollution.

9 Vegetation filters pollutants from water flowing toward lakes and streams, and reduces runoff.

10 Gardening with gusto offers many of the same health benefits as more traditional forms of exercise.

11 Beautiful landscapes encourage feelings of relaxation and well-being. Studies show that plants can stimulate healing, as well as intellectual, social, emotional and physical development.

Getting a good start

Whether it's turf, trees or anything in between, one of the best things you can do for your plants is to give them a good foundation with quality soil. Start with at least 6 inches, but 12-18 inches is even better. It's a good idea to test your soil to determine its composition and nutrient needs. Correcting imbalances will result in healthier plants and less water waste. Soil tests are available (for a minimal fee) through Virginia Cooperative Extension, and kits are available at garden stores. While you're there, ask your local retailer to share his hints for proper planting techniques.

Water conservation takes a can-do attitude

Once you've properly installed your landscaping, it is important to give each plant the correct amount of water, keeping in mind that more isn't always better. In fact, it's best to water plants deeply but less often to encourage the development of roots that go deep into the ground to seek moisture. Frequent watering results in shallow roots and less hardy plants.

A professional landscape contractor or architect can help you create a total water-management plan for your yard. Following are some easy ways to be smart with water:

In general

1 Prevent and control weeds, which compete for water and nutrients, by mulching -- at least 2-3 inches is needed to be effective. Mulching also retains moisture in the soil and buffers soil temperature, further reducing plant stress.

2 Trees and shrubs typically require less water than turf and should be irrigated separately.

Container plants
daily depending on plant selection, or perhaps more often if located in hot or windy location



Annual bedding plants
Keep soil moist but not soggy



Turf grass
One inch per week



MOST OFTEN

WATERING FREQUENCY

OFTEN

When determining your landscape's water needs, consider the root systems. In general, plants with small, shallow roots require water more often. Recently transplanted plants need water more often than those that are established.

It's best to water plants deeply but less often



3 Add a rain switch to automatic irrigation systems to prevent wasteful “double watering” on rainy days, and postpone irrigation when rain is predicted.

4 Have a container, like a rain barrel, set up to catch rain that does fall, and use collected water on container plants both indoors and out. A drop of vegetable oil in the water will deter mosquitoes.

5 Water early morning or late evening versus midday, when evaporation is greatest.

6 Check irrigation systems for leaks. You'll save water -- and money, too.

Trees, shrubs, flowers

1 Don't be fooled: Most established landscape shrubs do not need frequent watering. Check the soil moisture level at a depth of 4-6 inches. The plant should not be wilted, but the soil should be dry and crumbly before watering. In hot summer months, plants need water only when they show signs of stress in the morning. Plants show stress in the afternoon because of the heat, not necessarily because they are drought stressed.

2 If watering by hand, build a watering basin around the root areas of plants to aid in deep watering of new or established landscape shrubs.

3 Be conservative during times of drought. Water plants for survival not to create lush growth.

4 Consider planting in the fall to allow a plant to establish a vigorous root system before experiencing the heat and drought stresses of summer.

Lawn

1 As for your lawn, healthy, properly irrigated turf rarely requires more than 1 inch of water per week. Water occasionally but deeply to make every gallon count. Water slowly or at intervals to avoid puddling or run-off.

2 Lawn aeration improves water penetration and encourages deeper roots.

3 Don't over-fertilize the lawn. Properly selected and applied fertilizer will build up drought tolerance by increasing root development.

4 Properly cut grass releases less water vapor than overgrown grass. Increase the cutting height to expand the root system and mow frequently enough so that no more than one-third of the leaf blade is removed at any mowing. Leave clippings on the lawn to help retain moisture.

Perennials
Need more water when young and during growth and bloom



Shrubs
Water should penetrate the entire root zone - within the first 2 feet for most shrubs



Without rain, trees benefit from a thorough watering once a month during the growth period



LESS OFTEN

LEAST OFTEN

Mulch keeps away weeds and aids moisture retention

Don't forget the mulch

Mulches discourage weeds, prevent runoff and help the soil retain moisture.

ORGANIC MULCHES

Pine needles, compost, shredded bark, grass clippings, wood chips and crushed nut shells.

INORGANIC MULCHES

Rock, gravel and landscape fabric.

1 Many people make the mistake of spreading a thin layer of mulch, but at least 2-3 inches is needed to be effective. Too much, over 4 to 6 inches, can be detrimental.

2 Be sure to keep mulch away from the plants' trunk at ground level, because too much moisture can lead to rotting.

3 Bark mulch isn't your only option. Low-growing, spreading ground covers offer a living alternative. Like traditional mulches, ground covers discourage weeds and help the soil retain moisture.

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Virginia's Green Industry

Nursery and greenhouse crops are one of the fastest growing components of U.S. agriculture. In Virginia, 19,830 acres of land is in ornamental crop cultivation with an economic impact exceeding \$2.4 billion in 2002; a 95% increase in five years (NASS, 2002). Ornamental horticulture crops account for almost 25% of all crop cash receipts and a \$407 million payroll.

Over 1.7 million acres of turfgrass are maintained with over 424,000 employees and a \$1.2 billion annual payroll (NASS, 2004). Over 60% of Virginia turf is in home lawns. The growth of the Green Industry in Virginia has resulted in increased employment and sizeable economic impacts. The sales of horticultural products in Virginia have increased 73% in the past 10 years.

You can find people knowledgeable in **Water-Wise Landscaping** in Virginia garden centers and other horticultural retailers and Virginia Cooperative Extension offices. They will assist you with details in plant selection for water-wise landscaping, good planting techniques, proper maintenance and pruning, and irrigation. Water-wise landscaping can keep your home beautiful and vibrant while keeping Virginia's Green Industry growing and supporting Virginia's economy.

For more information, visit <http://viriniagreen.org>
Be Water Wise

