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Irrigation System Maintenance

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Irrigation system maintenance is necessary to ensure the most efficient use of the water that is being applied. Efficient irrigation is important because over two-thirds of the total water used in the average Utah home is applied to the landscape. With the natural drought cycles that occur in Utah and the growing population, efficient water use is critical. These maintenance recommendations will help you evaluate your irrigation system before using it each spring and also throughout the growing season.



Irrigation Controller

Irrigation controllers should be checked at the beginning of each growing season before running the sprinklers for the first time. First, find the manual for the controller. If the manual has been lost or misplaced, check the manufacturer's web site for downloadable versions or information on how to order one. Becoming familiar with the irrigation controller's manual will make spring start-up quick and easy.

Open the controller's cabinet and clean out any cobwebs, dirt, or debris. This is also a good time to change the battery and check the wiring for any loose connections. Check all wire connections, including the rain sensor connection if one is attached. If a rain sensor is not attached to the controller, consider adding one to your irrigation system. A rain sensor is inexpensive, simple to install, and will automatically shut off the irrigation system when a significant amount of rain falls.

Next, check the time and day showing on the controller and correct them if necessary. This is also the time to set up an irrigation schedule. If the landscape has slopes, sandy, or clay soils, split the irrigation runtime into two or more cycles to avoid runoff or ponding. Also, remember that in the spring and fall less water is needed to keep plants healthy than in the heat of the summer. The following basic irrigation schedule is recommended for use in Utah. Consult USU county extension offices for irrigation schedules that are directly applicable to your county.

State of Utah Basic Irrigation Schedule*

Startup until April 30	Once every 6 days
May	Once every 4 days
June	Once every 3 days
July	Once every 3 days
August	Once every 3 days
September	Once every 6 days
October 1 until Shutdown	Once every 10 days

*This schedule requires that you apply 1/2" of water each time you irrigate or 5/8" in St. George and vicinity.

Sprinkler System

Once the irrigation schedule is programmed, inspect the sprinkler system by checking the valves, sprinkler heads, and emitters. Before running the system, remove the last sprinkler head in each line and let the water run for a few minutes to flush out any dirt and debris. Replace the sprinkler head and turn the system on, running one valve at a time.

- Observe the spray patterns and position of the sprinklers for obvious problems such as clogged or misaligned heads.
- Some sprinkler heads may be tilted, surrounded by grass, or even buried. If not positioned properly, these sprinkler heads will be unable to apply water efficiently.
- Some sprinklers also have built-in filter screens that should be cleaned and replaced if necessary.
- Watch for leaks and misting from sprinkler heads that may indicate high water pressure problems. High pressure problems may be corrected by plumbing a pressure regulator into the sprinkler system. Pressure-regulating sprinkler heads are also available.

Make the necessary adjustments and repairs to the system in order to apply the water as evenly as possible. The flow control on the valves may also be adjusted to fine-tune the system. When this is done, turn the irrigation system on manually to make sure it is operating as programmed.

Drip System

As with sprinkler systems, flush the drip system before running it by removing the emitters and letting water run through the tubing for a few minutes to flush out any dirt and debris. Replace emitters and run the system, one valve at a time, to check for problems.

- Clogged emitters should be replaced. If the system does not have a water filter, one should be installed.
- Check the placement of emitters. Emitters need to be at the edge of the root-ball on new plantings and moved to the drip line (edge of foliage) of established plants.
- Check for emitters that have popped off tubing because of high pressure, and install a pressure regulator if needed.
- Check to see that all emitters are in place. Missing and broken emitters need to be replaced to keep your system running efficiently.

- Look for pinched or broken tubing and straighten or replace it. Also make sure that all tubing is attached to the appropriate emitters and that connections are secure.

Make the necessary adjustments and repairs to the system. When this is done, turn the irrigation system on manually to make sure it is operating as programmed.

Winterization

Basic winterization of a sprinkler system is quite simple. The water supply should be turned off at the main valve and the irrigation controller should be set to the “rain” or “off” setting. Each valve should be turned on to release pressure in the pipes and water should be drained from the system to protect any components that could freeze. Your system may have drain valves that can be opened for drainage, or you may have to blow out the system using air. You may wish to have your irrigation system blown out by an irrigation professional. Consult your local irrigation supply store for a recommendation.

The goal of irrigation system maintenance is to create the most efficient irrigation system possible so that water is not wasted on the landscape. While perfect efficiency is impossible to achieve, most irrigation systems can be dramatically improved by regularly following these simple maintenance practices. Examine your irrigation system carefully each spring and several times during the growing season (at least once a month), to keep it operating at peak efficiency. Most importantly, use an irrigation schedule that accounts for plants’ changing needs over the growing season.

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Irrigation System Maintenance Checklist

Controller

- Controller manual**
Find the manual for your irrigation controller and make sure you are familiar with its operation.
- Controller cabinet**
Open the cabinet for the irrigation controller and make sure it is free of debris such as cobwebs or dirt. This is also a good time to replace the battery.
- Wiring**
Check all wiring connections for wear and breakage. Repair if necessary.
- Time/day settings**
Check the time/day settings on your controller to make sure they are correct. This is also a good time to set up an irrigation schedule.
- Irrigation schedule**
Set up your irrigation schedule. Ask your local county Extension office for a schedule tailored to your area.

Sprinkler System

- Flush system**
Before running the system, remove the last sprinkler head in each line and let the water run for a few minutes to flush out any dirt and debris. Replace the sprinkler heads and turn the system on, running one valve at a time.
- Broken or clogged heads**
Look for obviously broken or clogged heads and make the necessary repairs. Consider installing irrigation heads that have screens to prevent debris (grass, soil, or bugs) from clogging the sprinkler heads. Clean out screens that may be clogged.
- Broken/leaking valve or pipe**
Observe the lowest head in each station for leaks. Algae or moss may be growing in the area and may indicate the problem.
- High pressure**
Look for a very fine mist from spray heads caused by excessive pressure in the system. Correct the problem with a pressure regulator after the water meter, pressure regulating sprinkler heads, or added devices on individual sprinkler heads. *Visit your local irrigation supply store for needed materials.*
- Low pressure**
Check to see if the sprinklers are covering the desired area uniformly. If your pressure is too low, try watering at a different time or modifying your system so there are fewer sprinklers on each valve.
- Incorrect spray arc**
Check to see that irrigated areas are being covered completely. Consider adjusting the spray pattern if possible, or replace the spray nozzle(s) with another that has the correct spray pattern. *Visit your local irrigation supply store for needed materials.*
- Low head drainage**
Check to see if water is draining through the lower heads. Install check valves where appropriate, or replace existing heads with heads that contain built-in check valves. *Visit your local irrigation supply store for needed materials.*

Mismatched heads

Check to see that different types of heads are not used in the same irrigation zone. Nozzles should also be correlated for matched precipitation rates. *Visit your local irrigation supply store for needed materials.*

Over-spray

Look for over-spray of sprinklers onto sidewalks, driveways, and streets. The sprinklers' spray patterns should either be adjusted or changed to a pattern that will stay within the planting area.

Spray pattern blocked or misdirected

Look for blocked spray patterns. Remove vegetation and other obstructions that may be blocking the spray, or consider raising the heads.

Sunken heads/short pop-ups

Check each head to see that it is at ground level. Raise sunken heads to grade or replace existing short pop-up heads in the lawn with taller pop-ups, as necessary. You can also trim around existing heads to avoid blocking the spray but you will have to do this on a continual basis. *Visit your local irrigation supply store for needed materials.*

Tilted heads

Heads should be aligned vertically, except in sloped areas. In a sloped area, heads should be aligned perpendicular to the slope to achieve proper coverage. Tilted heads can cause ponding and uneven coverage.

Uneven or extended head spacing

Check to see if you have head to head coverage between sprinklers. If necessary, consult a qualified professional to design a system with head-to-head spacing.

Drip System

Clogged emitters/missing filter

Clogged emitters should be replaced. If the system does not have a water filter, one should to be installed. *Visit your local irrigation supply store for needed materials.*

Emitters too close/far from plant

Check the placement of emitters. Emitters need to be at the edge of the root-ball on new plantings and moved to the drip line (edge of foliage) of established plants.

High pressure/missing pressure regulator

Check for emitters that have popped off tubing because of high pressure. Install a pressure regulator on the valve for all drip stations. *Visit your local irrigation supply store for needed materials.*

Missing/broken emitter

Check to see that all of your emitters are in place. Missing and broken emitters need to be replaced to keep your system running efficiently. *Visit your local irrigation supply store for needed materials.*

Pinched or broken tubing

Look for pinched or broken tubing and straighten or replace it. *Visit your local irrigation supply store for needed materials.*

Tubing pulled/blown off single/multiple outlet emitters

Make sure all tubing is attached to the appropriate emitters and that connections are secure.