



## Irrigation Check-Ups: A How-To Guide

It is important to maintain a healthy and beautiful landscape by watering efficiently per the plant's water demand. In order to do so, your irrigation system must be functioning properly to deliver water where it needs to go. An irrigation check-up is a great way to identify problem areas within your system, helping you figure out how much to water, and ultimately saving you time, money, and water! Check out the tips below to increase the efficiency of your irrigation system.

1. The original irrigation system design plan will provide information on where your zones are located. If you have this plan, make copies to use as a resource during the checkup. If you no longer have the design, take some time to draw out a rough sketch of your system for note-taking purposes.
2. Turn on each station for a few minutes (enough time to allow you to walk around without missing a zone) and observe. Using your design plan, number the sprinkler heads in each zone to reference if/when problems occur.

Potential problems to look for:

- i. **Head to head coverage.** You want the throw of water from each sprinkler head to reach the corresponding head in the zone. This will help reduce the amount of dry spots in your yard.
- ii. **Heads that are spraying water on non-plant items,** such as fences, sidewalks, driveways, infrastructure (houses, garages, sheds, etc.), and roads. Concrete doesn't need water!
- iii. **Missing heads.** This will often result in pressure issues and poor distribution in the entire zone.
- iv. **Broken or sunken heads.** Again, causing pressure and distribution problems for the whole zone. Water gushing up into the air like a water feature is not the look we are going for!
- v. **Tilted, clogged, or obstructed heads.** Heads that are tilted too low/high will not deliver head to head coverage, same for heads that are obstructed by trees, fences, infrastructure, playgrounds, etc. Heads can get clogged from debris in the system, also causing uneven distribution.
- vi. **Pressure problems.** Misting is a sign of too much pressure while too little pressure results in a dribble of water, obviously affecting the water that actually reaches the plant material.
- vii. **Mixed heads.** Different types of sprinkler heads (sprays, rotors, rotarys) apply water to the landscape at different rates with different pressure requirements. Therefore, if different heads with unmatched application



rates are on the same zone, a rotor and a spray for example, this will create either overly wet or dry areas.

- viii. **Broken equipment.** In addition to broken heads, be on the lookout for damaged valve boxes and lateral or main lines. These can be big water wasters!
3. Repair the problem areas that you discovered in the run-through yourself or hire a licensed irrigation professional. Once the repairs have been completed, you can focus on how determining how long to run each zone in your system.
4. Conduct a catch-can test to check for uniform distribution. This test will assist you in determining if you need to change your irrigation zones or adjust the run times for your zones.
  - i. **Gather supplies.** You will need 10-20 cans or cups of the same size (tuna or cat food cans will work), using 4-6 cans per zone depending on the zone size. Write on the the inside of each can with 0.5", 0.75", and 1" marks. You will also need a pencil/pen, record sheet, and a timer/stopwatch.
  - ii. **Arrange containers.** Set cans up evenly, yet randomly throughout the designated irrigation zone to reflect the spray pattern. You will repeat this and the following steps for each zone.
  - iii. **Run zone.** Turn on the sprinklers in the designated zone for 15 minutes.
  - iv. **Measure.** After the sprinklers have turned off, measure and record the depth of water in each can. If the irrigation system is running efficiently, ideally each can will contain about the same amount of water.
  - v. **Calculate.** Per zone, add up all of the measurements together and divide by the number of cans to get the average depth. Then multiply the average depth by 4 (since you used a 15 minute timing interval, one quarter of an hour) to get the precipitation rate per hour for the zone.
  - vi. **Schedule your timer.** Determine the appropriate schedule for that zone based on plant material and precipitation rate. Kentucky bluegrass lawns need about 1-1.5 inches per week depending on the month during irrigation season (April-October). Consult the Colorado State University Extension Service's website or the Master Gardener Program to learn more about plant water requirements. When plugging in your schedule, be sure to set the timer to deliver the amount of water for the zone that accounts for the losses from evapotranspiration (ET; amount of water lost due to evaporation and transpiration, or the water used by the plant). Adjust your irrigation schedule seasonally.