

USE A SOIL PROBE TO CONSERVE IRRIGATION WATER



With irrigation restrictions in your future it will be critical to know how often and how much to water you lawn, landscape and garden.

You may ask your local nursery professional for help on how often to irrigate but they will likely tell you, "It depends." It may not be the answer you want but it is the right answer.

When calculating how often and for how long to run your sprinkler system, there are so many variables that it is impossible to give an accurate response.

Here are some reasons why they cannot and should not give you a definitive answer.

- 1) They do not know your soil texture, structure or organic matter content. These three items influence how water moves into and through the soil and how long it stays there.
- 2) They do not know anything about your irrigation system. Different irrigation systems need to be turned on for different periods of time.
- 3) The only way to know how often to irrigate and for how long your irrigation system should run is to examine the soil with a soil probe.

Benefits of using a soil probe:

- 1) It's fun to use.
 - a. Play in the soil (not dirt) without getting your hands dirty.
- 2) You can see if you have a healthy soil – a soil probe is your window to the world beneath your feet.
 - a. Worms indicate healthy soil.
 - b. Observe soil structure, horizons and the possible existence of hardpan.
- 3) You can see why plants are doing poorly – 80-90% of plant problems are due to improper irrigation!
 - a. Is your soil wet or dry?
- 4) You might discover the cause of plant health problems.
 - a. Wet soil from watering too frequently results in root rot;
 - Likely you do not need a fungicide – just irrigate less frequently.
 - b. Pests munching on roots.
 - c. Lawn has thatch making proper irrigation difficult and creating conditions favorable to pests.
- 5) With irrigation restrictions you will need to:
 - a. Determine accurately when to irrigate (avoid irrigating before it is needed and wasting water).
 - b. Determine how long to irrigate (so it gets to your plant's deep roots).
- 6) You can use the soil probe to take a soil sample and send it to a soil testing service. They will inform you how to properly fertilize your soil's biology so they can feed your plants.
- 7) You can determine your soil texture which influences how often and how long to irrigate your plants plus how close together to install drip lines.
- 8) You can determine if your irrigation system is missing an area, causing dry conditions causing stressed plants that wilt, turn brown, and possibly develop pest problems. You may find that what was a suspected pest problem is really an irrigation problem.
- 9) Take soil samples between your drip irrigation lines or emitters to determine if the emitters are too close together (wasting water) or too far apart (depriving your plants of needed water).



How to use a soil probe:

- 1) Twist the probe like a screwdriver to insert it into the soil. Then pull out.

Use a soil probe to determine if it is time to irrigate now or you can wait another day or more.

- 1) Dry and/or cracked surface soil does not necessarily indicate you need to irrigate. The soil can be moist or even wet just ¼ inch below the dry crusty surface layer. Adding more water under this condition will rot roots, cause pest problems and potentially kill your plants. Plus it wastes water!
- 2) Before irrigating, push your soil probe into the soil.
- 3) Pull out the probe, look at and touch the soil core displayed in the probe.
 - a. Is it dark and moist? If so, you don't need to irrigate.
 - b. Is it light colored and dry? Time to irrigate.
- 4) How do you determine how much water to apply (how long to have your sprinkler system running)? When the soil has been found to be somewhat dry and in need of irrigation:
 - a. Run the irrigation system for half as long as normal.
 - b. Wait two hours to allow the water to move down into soil as far as possible due to gravity.
 - c. Take another soil core (several from different areas).
 - d. The soil near the top of the probe will be darker and the soil at the insertion point of the probe will be lighter in color. The darker soil has been moistened by the irrigation water. You now know how far down into the soil water will move for the amount of time you irrigated.
 - e. If you determined the water moved 4 inches into the soil and you irrigated for 10 minutes, but you want the water to move 8 inches into the soil, you need to irrigate for twice as long or 20 minutes.
 - f. You need to irrigate to different depths depending upon the type of plant you are watering. Small plants have shallower root systems compared to shrubs and trees so they do not need to be irrigated as deeply.

Water should not run into the gutter while irrigating. In order to avoid this problem and still irrigate your plants properly:

- 1) Practice cycling. Irrigate until the water runs off. Turn the water off on that line and water other areas of the landscape. Then come back and water again until the water runs off. Repeat as often as necessary on the same day until the proper amount of water is provided to get it to the desired depth.
- 2) Improve the water's ability to move into and through the soil.
 - a. Aerate your lawn and dethatch if needed (over 3/4 inch of thatch)
 - b. Break up the crusty surface layer on the soil and cover it with mulch before irrigating.
 - c. Mulch, mulch, and mulch some more.
 - d. Frequently topdress with a quality compost or earthworm castings to improve soil quality.
 - e. Avoid cultivating the soil. It compacts and destroys soil structure and beneficial soil biology.
 - f. Fertilize with organic fertilizers, and if they contain beneficial soil microbes, you can skip the next tip.
 - g. Add beneficial soil microbes.

With a soil probe you can maximize the efficiency of your irrigation water, evaluate your soil's health and possibly identify potential pest problems. Only a soil probe can provide this critical information. Buy and use yours today.

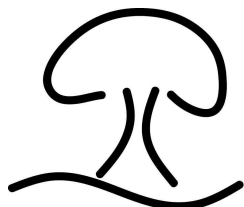
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