

EVALUATING AN IRRIGATION SYSTEM

An integral part of Irrigation Management is the ability to know what is happening with an irrigation system. With accurate information it becomes much easier to develop a maintenance program or to troubleshoot a system that isn't working properly. In order to properly evaluate a system you have to:

- 1) Know how to measure the performance of an irrigation system.
- 2) Know what the information means once you have it.

Today, we will discuss some of the tools that make it easier to evaluate a system.

One of the key factors affecting sprinkler performance is spacing, therefore it is very important to have a measuring wheel or a steel tape measure available. Any areas that are starting to look weak should be measured. This is a good time to start a good "as-built" if you don't have one.. Obviously, spacing won't change so these are one-time only measurements.

Another type of measurement that can change is pressure. This is one of the most important parts of sprinkler operation. A pressure gauge and a pitot tube can be used to check the pressure of the water as it comes out the sprinkler nozzle. The person checking pressure should be very consistent about the method he (or she) uses to check the sprinklers. Ideally the pitot tube should be placed in the middle of the sprinkler system about 1/16 " outside the nozzle. The actual location of the tube is not as important as having the same location on each sprinkler. A pressure recorder can help you understand what is occurring over the whole period of watering. These recorders are battery operated and can be placed in a QCV. Severe fluctuations or low pressure can lead to many types of problems, so these units can be extremely helpful.

Many systems today are electrical, so a modest amount of "electrical" knowledge and a few simple instruments can make life a little easier. A "multi-meter" allows you to measure voltage and resistance in your control system. It's simple because most systems require 110 volts to supply controllers and 24 volts to activate valves or sprinklers.

As your understanding of the electrical system increases, you may find it practical to purchase a "tracker" and "fault -finder". If you don't know where your wires are, the tracker can be used to flag the path that your wires follow. The fault finder can help you locate breaks or "leaks" in your

wire.

These are just some of the tools available for use by irrigation workers. If you have a suggestion that helps with maintenance, please write us. One of the questions sent in asked for a tool to help find plastic pipe. After talking to other irrigation people, we have come up with two suggestions:

- 1) Keep looking for an as-built, since that should show every pipe, valve, and sprinkler.
- 2) The second idea would be to try a water-witch. I realize that the skeptics will laugh but it might work if the line is large enough.

One other thought, if you have an electrical control system, you can try wire tracking. Another question received asked about pre-fab swing joints. In talking with different contractors, the results so far are very positive. All recommended using the swing joints as they were easier to install and had not given any problems.

Thanks for the questions sent in -- we are still looking for answers to some sent in, and will respond as soon as possible. Keep the questions coming in so we know what you need.




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