Maintenance Considerations for Drip Irrigation Systems

D.C. Sanders

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Summary. Because drip irrigation systems are very susceptible to clogging, maintenance revolves around flushing the system. Both primary and secondary filters and main and lateral lines and drip tubes require flushing on a regular basis. Chlorination and use of acid often are necessary for keeping lines clear of contaminants. Rubber gaskets and diaphragms should be replaced every 2 years. A water meter will assist in assuring that desired application rates are being obtained. The use of air vents assures that air locks do not reduce system efficiency. The calibration of injector pumps should be verified at least two times per season.

T he maintenance of a drip irrigation system is almost as critical as its design. The operator must take the responsibility for proper maintenance. Maintenance can be summed up in three words: “flush, flush, flush.” This may appear to be an oversimplification, but more often than not clogging of drip lines is the result of insufficient flushing. All parts of the system, i.e., primary and secondary filters, main, lateral, and drip lines, require regular flushing. Another essential component of a good maintenance program is frequent observation to assure that all parts are operating properly. Using a water meter will give early warning of possible problems.

If a water meter is not calibrated properly or is not functioning, there are enough variables in an irrigation system to determine that every part of the system is operating properly. Recording water application in gallons, rather than time of application, assures that the crop is receiving the desired amount of water and that the irrigation system is functioning properly.

A water meter may not seem like a maintenance item, but regular observation can be used to determine that every part of the system is operating properly. Recording water application in gallons, rather than time of application, assures that the crop is receiving the desired amount of water and that the irrigation system is functioning properly.

Pressure regulators are essential to maintain the design flow rates in the system. It is important to check the calibration and pressure in drip lines at least once per season. If drip line pressures are not within specifications, clogging may have occurred, or the system may be designed beyond component capacities.

Pressure gauges should be checked to ensure that they function properly. High-quality gauges will eliminate many gauge operation problems.

Finally, regular pump maintenance during the off-season helps assure smooth operation during the irrigation season. Attention should be paid to proper and timely motor or engine service and parts replacement.

Drip irrigation system maintenance involves common sense. It is not complicated, but it does require timely practice. Careful and appropriate maintenance will help to assure trouble-free operation.