

## SEASONAL MAINTENANCE KEEPS DRIPLINES PERFORMING ALL YEAR LONG

By Mike Illia, *Senior Product and Solutions Manager*

Like most farm machinery, drip irrigation systems also require annual maintenance to ensure that they continue to perform at peak efficiency during each growing season. An end-of-season dripline maintenance program to keep driplines free of sediment and debris is strongly recommended.

One of the first keys in determining the type of maintenance schedule needed is to understand the water source and water quality. This will help identify the type of maintenance required to obtain the best results.

In some cases, growers may need to put in extra work and resources to improve their water quality to keep driplines and emitters clean so that they can deliver water and nutrients at the specified design flows.

Beyond initial water quality concerns or seasonal/annual upkeep, determining what type of maintenance begins with identifying potential causes of system degradation. These factors, which can be responsible for reducing water flow, may include suspended material, chemical precipitation, biological growth, root intrusion, soil ingestion, and the crimping of lines.

Every brand-new system starts with a performance index of 100, meaning it's operating to design specifications and uniformity. Once irrigation starts, that index begins to drop due to a number of possible reasons. There's a direct relationship between decreased uniformity and reduced yield. Precisely why we recommend that every grower with a drip irrigation system perform a system flush in between growing seasons.

While drip systems have a primary filter, it's important to remember that for Agricultural applications no filter exists

that is capable of removing 100 percent of particulates from the water.

Mainline flushing is recommended to reduce sediment build up, and submains that service smaller field blocks should also be flushed to eliminate any build-up. When the water changes from cloudy to clear while running, it's a good indication that the lines are properly flushed. In orchards or vineyards where lines are usually above ground, it's important to open the end of the drip tubing for additional flushing, similar to what was done for the mainlines and submains. In alfalfa systems, where the drip is buried 12 inches below the surface, flushing manifolds are installed so each dripline doesn't need individual cleaning.

Regular 'in-season' maintenance, inspection, and flushing will also help prevent emitters from becoming clogged. Chemical treatment is often required to prevent emitter plugging due to either microbial growth or mineral deposits. This option may be necessary when inorganic particles attach to biological slimes, which can be a significant source of plugging. Chlorination can be an effective measure in managing against biological slimes. If scale deposits become problematic, an acid injection may be used to remove them.

Several acids can be used effectively to lower the pH of irrigation water to reduce the potential for chemical precipitation and to improve the effectiveness of chlorine injection. Acid can be injected in much the same way as fertilizer; however, it's important to use extreme caution and understand how to properly apply it. For specific recommendations and protocols for treatment, please refer to [www.netafimusa.com](http://www.netafimusa.com).

