



## DRIP IRRIGATION FUNDAMENTALS

# MAINTAINING A DRIP IRRIGATION SYSTEM

### **READY, SET, FLOW: DRIP START-UP CHECKLIST**

#### **INSPECT SYSTEM COMPONENTS**

- Check mainline, header lines, and drip tape/tubing (if visible) for cracks, rodent damage, or UV wear.
- Look for clogged, missing or damaged emitters.
- Inspect fittings, valves, pressure reducer, gauges etc. for wear or leaks. It's often a good idea to replace all washers throughout the system.
- Make sure pumps and controllers are in good working order.

#### **CLEAN AND SERVICE FILTER(S)**

- Clean filters, replace worn gaskets/seals.
- If applicable, backflush filters before start-up.

#### **FLUSH THE SYSTEM**

- Open the ends of the mainlines, header lines and drip lines.
- Run water through the system until it flows clear.
- If necessary, flush the system one section at a time to ensure adequate water pressure for a thorough cleaning.

#### **TEST WATER PRESSURE AND FLOW\***

- Check pressure at the water source (pump, spigot etc.), filter outlet and at the furthest drip line.
- Visually and physically inspect drip tape. If lines are bulging or have no give when slight pressure is applied, pressure is too high. This can lead to blown lines, popped ends or splits.
- Adjust or replace pressure reducer if readings are outside the recommended range.

#### **CHECK FOR LEAKS AND UNIFORMITY**

- With the system running, walk the field and look for leaks, puddling or dry spots.
- Replace or repair damaged tubing, tape or emitters.

#### **TEST AUTOMATION (IF APPLICABLE)**

- Inspect irrigation timers, moisture sensors and fertigation equipment.
- Replace batteries (where applicable).
- With the system running, turn the fertigator on to ensure it's operating correctly and the appropriate pressure is maintained throughout the system.

#### **FOR POND WATER, IT MAY BE NECESSARY TO TREAT FOR BIOLOGICAL BUILDUP**

- Check for signs of algae or bacterial slime and flush the system with approved cleaning treatments if buildup is present.

#### **FINAL CHECK**

- Make sure all lines are closed after flushing.
- Confirm uniform flow from emitters.
- Ensure repair supplies are on hand for in-season repairs.

**System is ready to irrigate!**

*\*Including pressure gauges in the system design can make checking and monitoring system pressure a simple task.*

## 💧 KEEP IT FLOWING: IN-SEASON DRIP CHECK

### ❑ CLEAN FILTER(S)\*

- With the water turned off, open the filter housing and remove the filter (screen or disc).
- Rinse the filter with clean water until all debris is removed.
  - For stubborn dirt or algae, it may be necessary to scrub gently with a soft brush.
- Reassemble filter – make sure the gaskets/seals are in place to avoid leaks.

### ❑ FLUSH THE SYSTEM\*

- Open the ends of the mainlines, header lines and drip lines.
- Run water through the system until it flows clear.
- If necessary, flush the system one section at a time to ensure adequate water pressure for a thorough cleaning.
- Remember to re-cap the ends of all the lines when flushing is complete.

### ❑ INSPECT FOR LEAKS, DAMAGE, AND DRY SPOTS

- While the system is running, regularly walk the field(s) looking for geysers, flowing water or dry spots.
- Flag leaks or damage so you can find and fix them when the water is off.
- Check for clogged emitters and even watering.

### ❑ MONITOR PLANT HEALTH

- Always look for signs of water-stressed plants (over- or under-irrigated).
- If you notice uneven watering, check for leaks/damage, clogged emitters, low system pressure or other common issues. For more tips on troubleshooting a drip system, check out "Trouble Shooting your Drip Irrigation System ([www.uaex.uada.edu/publications/pdf/FSA6175.pdf](http://www.uaex.uada.edu/publications/pdf/FSA6175.pdf)).
- If the system is working correctly, you may just need to adjust the irrigation schedule (how often or how long you run it).

*\*Flushing is one of the most effective ways to prevent problems in a drip irrigation system. How often you flush depends on water quality and filter performance. With fairly clean water, flush about once a month (or at least three times a season). If the water source is dirtier or debris-heavy, it may be necessary to flush once a week or more. Water quality also affects how often filters should be cleaned. If emitters clog often, flush the system more regularly and clean filters more often.*

## 💧 SHUT DOWN SMART: END-OF-SEASON CHECKLIST

### ❑ SHUT OFF AND DISCONNECT THE WATER SUPPLY

- Shutting off and disconnecting a water supply can look different depending on the water source, type of irrigation pump set-up, spigot, etc. Follow the manufacturer's instructions on winterizing your equipment.

### ❑ REMOVE AND STORE COMPONENTS

- If using a timer connected to a hose or spigot, disconnect it and bring it inside.
- Remove backflow preventer, filters, pressure reducers, drain and store indoors.
- Remove batteries from the timer to prevent damage and corrosion.

### ❑ STORE OR DRAIN DRIP TAPE, HEADER AND MAINLINES

- **Drip Tape:**
  - For annual cropping systems, drip tape is often a single-use component and can be removed from the field and discarded. Be sure to remove and store all couplings, connectors, and end caps.
  - If drip tape is used for multiple seasons and is resting on the soil surface, sun exposure can cause it to break down more quickly. Removing the tape from the field and storing it out of the elements and away from the sun for the off-season can increase the service life of the tape.
  - Subsurface drip tape can remain in place but water should be drained or blown from the lines.
- **Drip Tubing** and point source emitters can remain in the field but water should be drained from the lines.
- **Header/Mainlines:**
  - Subsurface header/mainlines can remain in place but water should be drained or blown from the lines.
  - Surface header/mainlines should be removed and stored out of the elements and away from the sun. For surface header/mainlines left in the field, see sun exposure and service life notes above.

### ❑ CAP EXPOSED LINES

- Close or cover any open lines or exposed components. Rodents and other small pests may shelter inside uncovered lines and create problems when the system is started in the spring.

### ❑ INSULATE EXPOSED COMPONENTS

- Wrap exposed pipes, backflow devices or valves that will remain in the field to prevent freezing.