

# INDIANA IRRIGATION CO., INC.

## IDEAL DRIP OPERATION GUIDE

### Irrigation System Check List & Guidelines

1) **System startup - check system within 3 days of installation**

- Before starting pump, make sure all necessary valves are open
- Record initial reading on flow meter
- Flush all pipelines and tape laterals
- Backwash filters
- Close all ends of laterals and check fittings for leaks
- Assure that all pressures conform to design calculations

2) **A regular management and maintenance program is recommended**

- Monitor water meter regularly to detect any drop in system flow
- Check internal condition of the drip tape throughout the season for signs of contaminants (such as bacteria or algae) that could lead to plugging and treat accordingly.
- Prevent buildup of bacteria and algae through weekly maintenance
- Routine chlorine treatments are suggested
- Flush tape laterals at regular intervals
- Run a solubility check before injecting fertilizers or chemicals by putting the mixture into a clear jar with your irrigation water and letting it sit overnight. If sedimentation or precipitation takes place don't use this formulation.
- Treat for insects and rodents that could damage the tape.

#### Guidelines For Potential Pluggability Of Water

3) **Spoon feed your fertilizer applications.**

- Weekly or by-weekly applications rather than large doses

4) **Flush filters regularly:**

- Flush daily or weekly depending on water quality

5) **Flush pipelines and tape laterals regularly:**

- Flush mainlines and sub-mains at the end of each season
- Flush tape laterals at least once per week depending on the quality of the water

6) **Check uniformity of irrigation system:**

- Check the emitter flows in tape laterals at least once a month

7) **Guidelines for controlling bacteria & algae in drip tube.**

- ⇒ Adjust injector to 1oz. Per Gallon of flow.
- ⇒ Use standard liquid Chlorine Bleach.
- ⇒ Mix Chlorine solution using 1oz. Liquid bleach to 1 Gal. soft water.
- ⇒ Run water from last emitter farthest from injector.
- ⇒ Test water with chlorine test kit.
- ⇒ For best results 1 to 3 PPM Chlorine is recommended.
- ⇒ Adjust Chlorine solution ration until desired Chlorine level is obtained.
- ⇒ Chlorine levels will vary depending on the water supply. Adjust solution as needed.

8) **Estimating time for treated water to arrive at last emitter.**

- Water travels in drip tube at about 1ft./sec. Multiply footage from injector to last emitter x 1ft./sec.

Type of Problem	Hazard Level		
	Low	Moderate	Severe
Physical			
Suspended solids	50 ppm	50-100 ppm	>100 ppm
Chemical			
pH	7.0	7.0 - 8.0	>8.0
Salt	500 ppm	500 - 2000 ppm	> 2000 ppm
Bicarbonate		100 ppm	
Manganese <sup>a</sup>	0.1 ppm	0.1 - 1.5 ppm	> 1.5 ppm
Total iron <sup>a</sup>	0.2 ppm	0.2 - 1.5 ppm	>1.5 ppm
Hydrogen sulfide	0.2 ppm	0.2 - 2.0 ppm	> 2.0 ppm
Biological			
Bacterial population	2,642/gal 10,000/liter	2,642-13,210/gal 10,000 - 50,000/ltr	13,210/gal >50,000/liter
Other			
Oil	??	??	??

<sup>a</sup> When testing for iron and manganese, acidify the water sample to a pH of 3.5 immediately after taking it.