FALLOWING FIELDS WITH NETAFIM (SDI) SUBSURFACE DRIP IRRIGATION

The current drought and lack of irrigation water has caused farmers to idle thousands of acres of productive farmland. A good portion of these fields have subsurface drip systems installed. Maintenance of drip systems is always an ongoing thing. When you decide not to use a system for a season, many challenges can occur without proper management and pre-planning. Replacing driplines buried 12" deep can be expensive. The price of the material and the cost of labor to extract the old and install the new can be staggering. If you have a little water available, you should consider using it to maintain the system that's taking the year off. Protect your investment. A little prevention goes a long way.

First, ask these questions:

1. Is there water to irrigate?
    A. No! Proceed to 1 C
    B. Yes! Proceed to 2 through 7
    C. From today and until you can irrigate again
        • Keep fields clean of weeds, with a combination of mechanical and herbicide control methods
        • Keep fields clean of rodents, especially gophers, zero tolerance, in field and habitat surrounding the field
        • Check with your Pest Control Advisor
            ▪ What materials can I mechanically inject in the soil above my dripline to protect from insect damage?
                - Soil with moisture - many options are available
                - Soil with little or no moisture - your options are limited

2. During previous cropping season, did you maintain your system properly?
    A. Do you have a current water analysis on file?
    B. Did you use proper filtration for the suspended solids component of the water?
    C. Did you use a proper maintenance program for the dissolved solids component of the water?
    D. Did you use a proper maintenance program for the biological components of the water?
    E. Did you use proper flushing practices?
        • ≥ 1.5 foot per second flushing velocity?
        • Are the frequency and duration adequate for the water?
        • Did you sample or spot check to verify flushing is being done properly?

3. Pest Control
    A. Invertebrate Pest Control: wireworms, crickets, earwigs and other insects with mandibles can and will damage driplines if left uncontrolled. Insects are especially voracious chewers in spring as soil temperatures start to rise and in the fall when soil temperatures cool, as they come out of dormancy. Insects are especially prolific in fields with woody plant residue left from the previous crop, such as silage corn stubble and/or cotton or if weeds have been allowed to flourish. Please check with your Pest Control Advisor (PCA) for registered materials for application through subsurface drip systems.

    B. Vertebrate Pest Control: any operation with subsurface drip irrigation should have a zero tolerance policy for the vertebrate pest group rodents. Continue to trap, bait, fume with phos toxin, etc. for the control of gophers, mice and squirrels in your fields and in surrounding habitats. Remember trapping is 100% effective, while baits are 45% effective. Please contact your PCA for use of fumigants in controlling rodents. Provide properly built and equipped nest boxes for owls and install around your property. If you have water, Protec-T™ can be applied to an already wetted soil without using much water to get the material out and be effective. However, Protec-T will not be effective applied to a dry soil, without pre-irrigation or a good soaking rain prior to application.

C. Weed Control: don't let your drip fields go to the weeds. Fallow properly - controlling weeds while conserving as much moisture as possible with limited cultivation passes. One weed let gone to seed, can produce thousands of new weeds you have to control. Uncontrolled weed pressure will allow soil insects and rodents to proliferate and will result in damage to your dripline. Cover crops and or green manure crops can be grown if planted in the fall - taking advantage of any early fall and winter rains to grow the crop. Please see 2 E. Is there a crop currently growing?

SAND MEDIA FILTER STATION

FIELD VALVES AND AIR VENTS

4. Clay soils expand and contract with moisture and drying events, leaving cracks and an opening for rodents, mice especially, to enter down into the soil where the driplines are buried. Without frequent irrigations, these soils are going to crack and there is not much one can do about that. The driplines will survive the cracking, but extra attention needs to be given to these fields to control mice and the damage they can do by chewing on the dripline.

5. Is this a good time for a fumigant application of metham sodium or other type of fumigant you can run through the driplines? Were you experiencing high weed or nematode pressure last cropping season. In order for fumigants to work properly by fuming throughout the soil, soil must be of good tilth and moisture level close to field capacity. Pre-irrigation of the field with the drip system prior to application, or a good soaking rain fall, must be experienced.

6. Is there a crop currently growing? i.e.; alfalfa. If you are running out of water, and want to stop irrigating a foundation crop like alfalfa, plan ahead. During the last irrigation for the season, the lines need to be cleaned of all residue buildup inside the lines, like scale from calcium carbonate. Application of an acidic line cleaner will remove the scale buildup. Now this buildup needs to be flushed. Flush good with a minimum of 1.5 feet per second velocity. Spot check during flush to verify flush water is getting cleaner. Flush until no debris shows up in your sample. Acid application along with chlorine will clean up the mineral residue and any algae growing inside your lines. Acid and chlorine will also burn the roots away from the immediate area of the dripline outlets.

7. Proper winterization of the system at the end of the cropping season should always be done prior to shutting down for the season. But, having a good maintenance program throughout the season will speed up winterization and will allow your system to perform at a high level for many years to come.

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