



GROWER 101:

Irrigation Practices



Reduce your wastewater with a few steps.

By
Carrie Burns

It doesn't matter if your operation is large or small, new or old, if you grow annuals or perennials, or if you are affected or not affected by the drought; irrigation is a critical, yet sometimes overlooked practice. It can save you money and, after considering the recent precipitation problems, protect you from a disastrous drought.

So, what do you need to know about irrigation? According to Laura Pottorff, regional commercial greenhouse specialist at the Colorado State University Cooperative Extension, these three steps can help you utilize water properly with the minimum amount of waste. The first step should be implemented by all greenhouses wherever feasible. The second is better but more expensive, so it should be executed when financially possible. And the third is ideal.

STEP 1: REDUCE RUNOFF

To reduce wasted water and/or runoff, try to group plants with similar water needs. Then, apply 10-15 percent more water than the container will hold, and don't allow water to flow over the top of the container. Consider which media is best. Some of the organic constituents used in growing media have hydrophobic or water-repelling charac-

teristics. Unless these are absolutely necessary, try to avoid using them.

STEP 2: EMBRACE NEW IRRIGATION TECHNOLOGIES

This step gets a little more expensive than the last, but savings on your water bill is worth it in the end. It also ensures that an adequate supply of high-quality water will be available when it is needed during production. Subirrigation systems, whether ebb-and-flow, flood-floor, trough or capillary mat, are the most efficient water users. Though they are very expensive to install, they require less fertilizer than overhead systems, and they allow foliage to remain dry. Drip or trickle systems also work well, providing good control over the amount of water applied.

STEP 3: COLLECT AND REUSE IRRIGATION WATER


The third step is the most expensive and complex of the three, but the benefits over time make it worth the investment. Retention basins, storage ponds, storage tanks and additional pumping capacity are used for this. Make sure local regulations allow for holding ponds or for reusing irrigation water. With any form of recycling, many problems can arise: for example, harmful

pathogens or impurities can contaminate the water and damage your crop. But this can be overcome by careful monitoring.

Monitor salts, chemicals, nutrients and pH. Dilute high-salt water with fresh water. Or, use reverse osmosis to remove harmful salts.

Become proactive when dealing with water-borne pathogens. Scout problem crops more often; remove diseased plants right away; monitor pathogen levels of irrigation water by taking samples to plant disease testing laboratories; and treat water for disease organisms by retention and dilution, filtration, chlorination, ozonation and/or UV light.

FIND WHAT'S BEST FOR YOU

Every greenhouse has different financial and physical situations, so complete reuse may not be possible. Put into effect what you can and what is right for you. Maybe even purchase water wise products/equipment over time; they will pay for themselves in the end. 

Carrie Burns is an associate editor of GPN.



LearnMore!

For more information related to this article, go to www.onhort.com/LM.CFM/gp070203