



# Drought Information

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## **GREENHOUSE AND NURSERY WATER RECYCLING**

*by Amanda Crump, Farm Advisor, Fresno County*

News of a water crisis in Fresno County has impacted farmers and nursery producers alike. One option to save water may be to recycle water. Used water can be safely and efficiently recycled regardless of your irrigation system. The initial cost of such a system will be recouped in the use of less water and fertilizer. Even small nurseries without much irrigation runoff can benefit from recycling winter storm runoff.

The major costs of installing a water recycling system are basin construction, sanitation, labor, equipment, and maintenance. The six basic steps to perform when recycling water according to Dr. Donald Merhaut of UC Riverside are:

1. COLLECTION OF RUNOFF WATER - Water collection basins must accommodate all runoff from the nursery and are best located where gravity can be used to fill the basins.
2. REMOVAL OF FLOATING DEBRIS AND SUSPENDED PARTICULATE MATTER - Debris can be removed through gravity sedimentation, flocculation, or sand/charcoal filtration.
3. SANITATION (treatment of pathogens and other contaminants) - The most common sanitation methods include filtering, chlorination, ultraviolet light, and ozonation.
4. FERTILIZER INJECTION - Addition of fertilizer is the last step in the recycling process and done when mixing fresh water with the recycled water. Growers should be conscious of salinity at this time.
5. BLENDING OF TREATED WATER WITH FRESH WATER - Blending with fresh water is important to ensure dilution of dissolved salts and fertilizers.
6. STORAGE OF BLENDED WATER FOR APPLICATION - Storage basins should be monitored for algae and other organisms that can contaminate stored water until use.

If you are interested in installing a recycled water system, contact Amanda Crump at 559-456-7554 to learn the advantages and disadvantages of each option.

Reference: Merhaut, D.J. 2009. Water Recycling in Nurseries. In *Greenhouse and Nursery Management Practices to Protect Water Quality*, ed. J. Newman, 97-114, Oakland: ANR Publications.

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