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Using Reclaimed Water in Production of Containerized Nursery Stock[®]

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Civano Nursery, located in the far-east side of Tucson, Arizona, has significantly reduced its water costs by converting from city potable water to city reclaimed water. In addition to the reduced water costs, the nursery is beginning to evaluate the potential nutritional benefits in hopes of further savings. The nursery is established within the community of Civano, a special community that has incorporated many self-sustaining concepts including the use of reclaimed water on common area and residential landscapes. The nursery was established within the community of Civano because the opportunities connected to the community and the future demand for a nursery/garden center in this expanding area of town.

Ground broke for the nursery in Fall 1997. Although the nursery was originally irrigated with potable water, the irrigation system was designed and installed in anticipation of the arrival of reclaimed water to the community. During Summer 1999, the reclaimed water meter was installed, and the nursery began conversion to the reclaimed water. Not knowing the full effects of the reclaimed water on the more than 500 species of plants grown at the nursery, a gradual conversion process was implemented.

The reclaimed water was first introduced to the larger stock, that was on a spray stake-type irrigation system. During the same season, a few experimental areas with overhead spray were set up to see the effects on the foliage of a few selected species. After consulting with colleagues and known experts, and the completion of these trials, it became obvious that the quality of the reclaimed water was suitable for irrigation. As of Summer 2000, the entire nursery is being irrigated with reclaimed water.

The nitrogen charge that is provided by the reclaimed water is a benefit currently being realized. Liquid feed levels have been reduced by 15% resulting in significant savings in fertilizer costs. Difficulties in maintaining proper pH, equipment failure, and mineral deposits on foliage are ongoing issues currently being managed.

By and large the benefits from the use of reclaimed water remain with the cost savings on irrigation and fertilizer. An added benefit is the positive image it creates in the community by no longer drawing from Tucson's precious natural water resource. Reclaimed water is a valuable alternative to the use of potable water in areas of decreasing natural water supplies.