

Water Conserv II Mid Florida Citrus Foundation's A.H. Krezdorn Grove

By Ryan Atwood

The Water Conserv II project in Orange County can trace its inception to the citrus industry. Back in the early 1980s, the city of Orlando and Orange County were mandated by court order to stop discharging wastewater effluent in surface waters. At that time there were environmental concerns, a building moratorium and water use restrictions for Orange County.

In a joint effort between the city and county, the Department of Environmental Protection, and area citrus growers, the largest water reuse project of its kind in the world was developed. The Water Conserv II reuse project is a balance between rapid infiltration basins (RIBs) and agricultural irrigation that provides for an environmentally sound and economically feasible regional solution to previously discharged wastewater. Water Conserv II replenishes the Floridan aquifer through the discharge of reclaimed water to the RIBs and reduces the demand on the aquifer by eliminating the need for well water irrigation.

Citrus growers provided a solution that saved Orange County from having to slow its development and from having to spend large sums of money in order to acquire additional lands for more RIB sites. One concern the citrus growers had early on was the quality of the reused water for irrigation. The growers asked the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) to research the effects of reclaimed water on citrus. Bob Koo, who had been working on citrus processing plant wastewater, found that the standards of the water being offered by the county would be suitable for citrus production. Citrus growers required the city and county to provide some research funding to ensure the long-term health of their groves would not be compromised.

The Mid Florida Citrus Foundation (MFCF) is a non-profit organization that has leased approximately 100 acres of land from the city of Orlando and Orange County to conduct citrus research over the last 23 years. The foundation supports research conducted by UF/IFAS and the United



A.H. Krezdorn grove manager Mickey Page shows off some of next year's Valencia crop.

— past, present and future

States Department of Agriculture. The MFCF Board of Directors is comprised of Central Florida citrus growers and representatives from the city of Orlando, Orange County, Woodward & Curran, the University of Florida, and the various support industries. The foundation provides all research results to the agricultural community through meetings, field days and written articles.

The MFCF's A.H. Krezdorn Grove has produced a wide range of research results over its 23-year history. The initial research conducted at the Water Conserv II project had two components. The first study involved surveying commercial citrus groves; the second involved irrigating citrus trees with various annual amounts of reclaimed water. Both studies had the goal of evaluating the effects of applying large quantities of reclaimed water on the growth and productivity of citrus.

With the exception of lower soluble solids per box typical of high irrigation amounts, no adverse effects have been found on citrus. Over time, more researchers have conducted experiments at the Water Conserv II site. Past projects include water and nutrient management, plant improve-

ment, cold protection, demonstration plantings of various deciduous fruits and nuts, woody biomass production among various forest trees, and forage production.

CURRENT RESEARCH

Current research efforts include psyllid and leafminer control in young citrus trees, citrus variety improvement, citrus rootstock evaluation, irrigation scheduling and coverage, weed management with new and existing products, and reclaimed water's effect on agricultural crops.

The weed management research this past year focused on post emergent chemical control products. Of particular interest was control of tropical dayflower.

Some plant improvement long-term research includes a Midsweet and Valencia selections trial that has already collected three years of yield data to date. Located in the grove is a large planting of a new variety that UF hopes to make available this year, including some irradiated trees that hopefully produce seedless fruit. Additional research also includes dwarfing rootstocks and new mandarin varieties.

An irrigation study of different

under-tree irrigation spray coverages and their effects on tree performance is in its sixth year. A second irrigation study is looking at the impact of irrigating mature citrus trees at different soil water depletion levels during two portions of the year (spring-summer and fall-winter) on citrus production.

Entomological experiments have been implemented which evaluate the efficacy, tree growth effects, and time to production resulting from application of systemic insecticides, foliar insecticides, and petroleum oils on young citrus trees. Another recent project

examined the use of a new pheromone, developed by researchers in California for management of citrus leafminer.

Additionally, there are still the long-term evaluations of reclaimed water on citrus and other fruit crops

The MFCF's A.H. Krezdorn Grove provides a secure and well-managed site for citrus researchers. It has been a vital part of citrus research conducted on the ridge. The MFCF grove provides a great combination of research and applied citrus knowledge with its grower-scientist interaction.

A great example of this blend of

knowledge can be seen in grove manager Mickey Page. Mickey is a UF school of horticulture graduate with more than 30 years experience growing citrus. Mickey's experiences as a chemical products research assistant and grove care business owner have proven to be a great fit for the research site.

The MFCF is currently trying to secure a new long-term lease with the city of Orlando and Orange County, which will hopefully include some new lands for future citrus plantings. The Water Conserv II site has been attracting new researchers and is

Conserv II harmony develops sour note

By Ernie Neff

For decades, Conserv II in west Orange County was hailed as a model of cooperation between local governments and citrus growers. The county and the city of Orlando, under federal mandate to quit discharging sewage wastewater improperly, in the 1980s offered to deliver the water to citrus groves for free. They would do so under the innovative Conserv II program. Growers in west Orange and south Lake counties agreed to take the water for a long term.

Everyone seemed to benefit. The city's wastewater disposal problems were solved. Growers received free water for irrigation and freeze protection. Citrus researchers learned the value of reclaimed water in groves.

The harmony developed a sour note when the city and county voted in 2005 to start charging growers upon expiration of their 20-year contracts with Conserv II. Some growers talked to city and county officials in an effort to continue receiving free water. One, Carl Fabry, wrote that city and county officials told growers "their only recourse for reinstating our agreements for free water forever, was for the growers to sue the city and the county."

In the summer of 2006, Fabry and four other growers receiving Conserv II water did sue the city and county, claiming the government entities broke long-term free-water agreements. The growers suing are Fabry, Barbara Dun, Jerry Chicone, Robert Griffith and Jack Ross.

Some argue that everyone hasn't been treated the same by Conserv II. After Rex Clonts, Jr. bought a grove that was getting Conserv II water in 1992, he received a new 20-year contract to receive free water until 2013.

"We want equity in the system," said Chicone, whose 20-year contract with Conserv II expired in 2006. He received a letter informing him that upon expiration of his contract, he'd have to start paying for water from the project. "They gave Rex Clonts 20 years; we want 20 years," Chicone said. "If they give him a new contract, they need to give us all a new contract."

Fabry said another complaint is that he and some other growers signed contracts with Conserv II in the early 1990s that contained the old starting date of 1986. He said those growers were told the contracts would be updated to reflect the actual signing date, but never were. Those contracts expired in 2006, after growers received water for less than 20 years, he said.

Fabry said growers who contracted with Conserv II were told they would receive free water for 20 years, with an option to renew for 20 more years on the same terms.

In affidavits, the men who served as mayor of Orlando and as chairman of the Orange County Commission stated that the city and county intended for growers to receive free water forever.

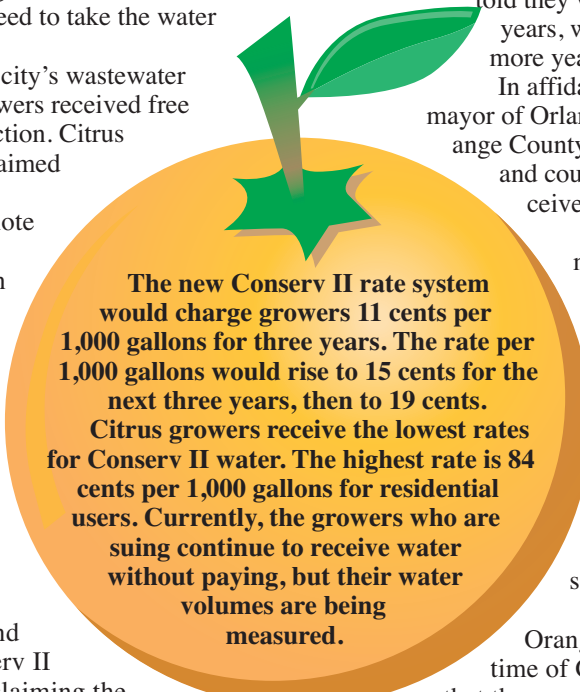
Bill Frederick, who was Orlando mayor during the inception and implementation of Conserv II, stated: "The residents and taxpayers, of the city of Orlando, and the city and county were all well aware of the fact that the water would be delivered to the citrus growers, without cost, as consideration, on a continuing and permanent basis, as a reward, for the public service rendered by the growers."

Tom Dorman, chairman of the Orange County Commission at the time of Conserv II implementation, stated that the new rate structure "unethically and

unfairly requires the citrus growers to pay for the water that we had promised them would be theirs free, without charge, forever."

In his affidavit, Chicone stated that growers at the time of Conserv II implementation were seen as "heroes, in coming to the rescue of our community." More recently, he said, "We worked together and now that they don't need us, they turned their backs on us. If we have to pay for the water, we're going to have to sell (groves) and put more rooftops (houses) there."

Fabry said the suing growers seek, at the least, to get the 20 years of free water they were promised and an option to renew contracts for another 20 years. They would also like to receive free water as long as they are in business.



The new Conserv II rate system would charge growers 11 cents per 1,000 gallons for three years. The rate per 1,000 gallons would rise to 15 cents for the next three years, then to 19 cents. Citrus growers receive the lowest rates for Conserv II water. The highest rate is 84 cents per 1,000 gallons for residential users. Currently, the growers who are suing continue to receive water without paying, but their water volumes are being measured.

continuing to encourage new research at the site, even with space becoming a limiting factor.

The future of the Water Conserv II MFCF A.H. Krezdorn Grove is undecided for the time being. Research

funding that was previously provided by the city and county as part of their agreement with the area citrus growers is diminishing and will no longer be available in five years (when the last original grower agreement expires).

Alternative funding sources are being identified and the MFCF board of directors is working on securing future funding.

Ryan Atwood is a multi-county citrus Extension agent.