

## INTRODUCTION

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As a major user of water in the State, the Florida citrus industry has a concern and a sensitivity for the quantity, quality and continuing supply of water it requires. The challenges of prolonged drought, a growing urban population, environmental pressures over wetlands preservation, ground water pollution, and waste disposal add to this concern.

In spite of the setbacks related to the five freezes during the decade of the 1980's, the Florida citrus industry remains a significant contributor to the economy of Florida and will continue to do so in the long term future. It provides income to thousands of workers directly and indirectly related to growing, harvesting, processing and marketing of citrus. The annual economic impact of the citrus industry on the state's economy has been estimated at \$10 billion. Florida citrus also provides an important dietary requirement for the citizens of the United States. The citrus industry is dependent on water to produce its crop. In addition, billions of gallons of water are needed each year in our processing plants and packinghouses. Every processor and packer is acutely aware of the problem of waste disposal. The rapid move toward low volume irrigation has provided major efficiencies to the Florida citrus grower, in terms of water use by the tree, freeze protection and fertigation, among other factors. This technology is founded on a sound research base. The Conserv II municipal waste water program in Orlando and Orange County is a model of how agriculture, the municipality, and environment can cooperate and benefit mutually. Salt water intrusion in our deep wells is becoming more and more of a concern, especially since citrus is considered sensitive to chlorides. Our research in this area will be important in formulating future water strategies.

The regulations placed on the citrus industry by the water management districts are complex. It is important that these policies be based on solid data and that full cooperation among agencies is exercised. There is no question that agriculture must be and is responsible in the conservation and judicious use of water and that it must use the best and most modern technology available now and in the future. IFAS has been a primary contributor to the development and transfer of this technology. The work at the Citrus Research and Education Center in Lake Alfred has been especially instrumental in this progress. For example, the pioneering research of Dr. Robert Koo at Lake Alfred in the initial establishment of irrigation on citrus, low volume irrigation and fertigation has been exemplary. More recently, Dr. Koo's participation in the Conserv II Project along with Dr. Larry Parsons and other IFAS scientists in conjunction with John Jackson of the Lake County Cooperative Extension Service has been a key to the establishment and success of that project. The University of Florida is a flagship institution on the subject of water management for agriculture in the United States. Our research projects on salinity, fertigation, ground water

contamination, freeze protection, waste water management and utilization will make important contributions to the citrus industry of Florida and to the Florida environment.

This short course, we hope, will provide information to citrus production managers, regulators, and others in the industry to better deal with the complexities of the water issue for this foremost agricultural commodity in the State of Florida.

## WELCOME REMARKS

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Welcome to our citrus water management short course. The citrus industry of Florida continues to expand and flourish. The on-tree value in 1987 was \$1.3 billion. It is a mainstay of our state's agricultural success story. We often refer to agriculture as Florida's number one industry. Citrus is part of the foundation of that industry. The program today deals with water quality and water quantity issues as well as irrigation systems and cold protection for citrus. We will also discuss water policy issues that agriculture is facing today and will face in the future. Nationwide, water issues are coming to the forefront. In Florida, these are not new issues. Florida has always been a big water user and, with our ever-expanding population, this trend will continue. We have competing pressures today placed on our water resources. The traditional dialogue between urban and rural users of water will only intensify in the coming decade. Florida is one of the top four water users in the nation (along with California, Texas and Idaho) and we need an additional 111,000 gallons of fresh water per day to accommodate the approximately 900 new residents who move to Florida each and every single day of the year. In addition, our wastewater capacity, for the new residents alone, must increase almost 100,000 gallons per day. As our needs increase for water, we must note that, for the last 20 to 25 years, Florida has had less than normal amounts of rainfall. We hope this cycle will be broken, but we cannot depend on that happening.

Beyond the water quantity issues, are the issues of water quality. There are many who suggest that our water pollution problems could all be solved if we just eliminated agriculture. While I don't believe anyone rationally believes we should simply abolish our multi-billion dollar citrus industry, the industry must take heed of such attitudes, work to correct the many misconceptions that exist and strive to maximize efficiency of water use and minimize impacts on water quality. IFAS has been increasing research emphasis on these issues continually for the past 15 years or more.

During this short course, you will be exposed to much of the latest research from IFAS and many examples of ways you can reduce water consumption and enhance water quality as well. IFAS programs are not just targeted to reach industry. We have ongoing programs designed to make urban residents aware of ways they can reduce water consumption and maintain the quality of our state's precious water resources. We are all in this together. Government, universities, industry and the general public must all work together to maximize the benefits of our water resources for all users.

Responsible use and stewardship of our water resources is part of a sustainable agriculture. I believe sustainable agriculture systems should, over the long term, enhance environmental quality and the resource base on which agriculture depends; provide for basic human food and fiber needs; be economically viable; and enhance the quality of life for farmers and society as a whole. When we speak of sustainable agriculture, we recognize the need for both human food production and natural resources quality. It is a concept that I think reflects industry's concern for the future. It is up to all of us, industry, government, private groups and the general public to provide the climate for sustainable agriculture. Public perceptions are important and the public must recognize the need to ensure that production agriculture remain economically viable.

This two-day program is designed to be informative, interesting and stimulating. I am pleased so many of you recognize the importance of the issues to be discussed and are here today. We will do our best to make it worthwhile. Again, welcome and you may be assured that the University of Florida's Institute of Food and Agricultural Sciences will continue to work with you to improve and enhance our state's food and agricultural industry for the benefit of all our citizens.