Workshop Papers and Authors

Presiding: Charles A. Sanchez

Wetlands and Horticulture: Problems and Solutions: Introduction to the Workshop

Charles A. Sanchez

Best Management Practices to Enable the Coexistence of Agriculture and the Everglades Environment

Forrest T. Izuno, R.W. Rice, and L.T. Capone

Selenium in Water Management Wetlands in the Semi-arid West

Dean A. Martens and Donald L. Suarez

Status of Wetlands Supported by Agricultural Drainage Water in the Colorado River Delta, Mexico

Edward P. Glenn, Jaqueline Garcia, Rene Tanner, Chelsea Congdon, and Dan Luecke

Wetland Crops Versus Wetland Drainage

George H. Snyder, Christopher W. Deren, and Barry Glaz

“Green” Water Treatment for the Green Industries: Opportunities for Biofiltration of Greenhouse and Nursery Irrigation Water and Runoff with Constructed Wetlands

R.D. Berghage, E.P. MacNeal, E.F. Wheeler, and W.H. Zachritz

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The national debate over wetlands and wetland policy has political, social, economic, and scientific dimensions. The horticulture industry has contributed to the wetland enigma. From the early history of this nation until relatively recently, the drainage of wetlands in many areas of the country preceded the establishment of thriving horticultural industries. Perhaps the most famous example is the Everglades Agricultural Area (EAA) in Southern Florida, where over 200,000 ha of agricultural land generate approximately \$1.2 billion U.S. of economic activity. However, in the Everglades and in other regions of the nation, there is widespread public concern over the environmental consequences of wetland drainage.

The deposition of agriculture drainage water into natural and constructed wetlands is another concern. In the EAA, there is concern that phosphorus in agricultural drainage water has had adverse ecological effects on Lake Okeechobee to the North and the Everglades

National Park to the south. In the central valley of California, selenium (Se) in wetlands watered by agricultural drainage has caused physical impairments and increased mortality of wild aquatic birds. In contrast, a wetland sustained from agricultural drainage in southwestern Arizona has become a major habitat for migrating birds in the Sonoran desert.

Horticultural scientists, in cooperation with scientists of other disciplines, are seeking solutions that can reconcile the economic realities of horticultural industries with stewardship of the wetland environment. The following paper's describe: a) the development and implementation of best management practices to minimize the impact of crop production on wetland degradation, b) research suggesting that the vegetative management of evaporation ponds in the central valley of California is a possible solution to the formation of toxic Se compounds, c) a bi-national research and conservation effort aimed at managing a wetland supported by agricultural drainage in the Sonoran Desert, d) the potential for producing economically viable aquatic crops as an alternative to wetland drainage, and e) the use of constructed wetlands for the treatment of wastewater from greenhouse and nursery industries.

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