



USDA-CSREES 2007 National Water Quality Conference

[U.S. Needs to Bring Agriculture Back to Water](#)

Most U.S. food and fiber was once produced under rain-fed conditions in the East and Mid-west. By 1950, the transport of taxpayer-subsidized river water for hundreds of miles had made irrigated agriculture profitable in the arid West, while rural electrification helped establish agriculture in the High Plains by providing cheap electricity for pumping groundwater from the seemingly inexhaustible Ogallala aquifer. These new farming areas were soon booming while states in the East and Southeast lost much of their agriculture and rural economy. While average rainfall is plentiful across the Southeast, it is extremely variable in space and time throughout the crop growing season, and this makes the shallow, eroded, low water-holding soils of the region more prone to short-term drought. Thus, Southeast farmers often suffer large losses in productivity unless they have supplemental irrigation. As U.S. transportation systems improved and transport costs declined, Southeast farmers relying on rain-fed agriculture could no longer compete with producers farming the deep, high water-holding soils of the Mid-west. Neither could they compete with western farmers producing high-yielding crops every year where they were provided with all the water they needed at 5 to 10 percent of its costs for urban use. However, with increasing urban and ecosystem water demands in the West and the dropping water table of the Ogallala, long-term sustainability of irrigated agriculture in the western U.S. does not look good. A dilemma for the U.S. is whether to make up the western irrigated agriculture losses internally or become more reliant on other nations to supply more of our food, fiber and energy needs. One solution is to shift more agriculture to the humid Southeast, where an average of 6 to 12 inches of irrigation water per year can be used to produce high-yielding crops for food, fiber and bio-energy needs.

Author: James E. Hairston

University Affiliation: Auburn University

Co-Author(s): Richard McNider, John Christy and Donn Rodekohr