

Water Application and Irrigation Efficiencies in Selected Fields in the Arkansas River Valley (CO)

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Abstract. During the 2004 growing season (May 20 - August 20), irrigation activities were monitored along the 160-mile stretch between Fowler and Holly in Colorado's Lower Arkansas Valley. Fifteen fields were monitored to evaluate ongoing water use practices with an eye toward potential improvement. Ten of the monitored fields were surface irrigated, two by center pivot sprinkler systems and two by subsurface drip irrigation systems. Where possible, measurements of total irrigation water inflow and outflow were made. Infiltration tests were conducted, and water was sampled for salinity, phosphate, and nitrate concentrations. To carry out these activities, flumes (Cutthroat and Parshall), existent flow-meters (for sprinkler and drip systems), GPS units, conductimeters, and pressure transducers (water level sensors) were employed. As more than one growing season is required to establish an accurate baseline and understanding of the region's water use practices, the results presented in this paper are all preliminary.

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