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The Productivity of Water in Irrigated NM Pecan Production: Measurements and Policy Implications

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Abstract Text:

Pecans are a major agricultural crop in New Mexico. Currently there are more than 25,000 acres of pecans in the Mesilla Valley, consuming more than one third of the annual diversion. The research presented here provides previously unavailable broad-scale estimates of pecan ET and the pecan water production function in southern New Mexico. The data which form the foundation of this research were generated using the Regional ET Estimation Model (REEM) developed at New Mexico State University for agricultural and riparian vegetation (Samani et al. 2005, 2006, 2007). REEM uses remotely sensed satellite data to calculate ET as a residual of the energy balance. This research extends the results of REEM to an analysis of the productivity of water in irrigated pecan production in the Mesilla Valley. The results of this research provide new insight into pecan water use and the yield results of this water use. This research illustrates the linkages which can be made between remote sensing technology and models, and farm-level yields. This research sheds new light on the long-standing practice of deficit irrigation, as well as the yield and conservation impacts of this practice.

Impact Statement:

This research provides previously unavailable broad-scale estimates of pecan ET and the pecan water production function in southern New Mexico.

This title will also be submitted as a poster presentation.