

Mid-south Perceptions about Conservation Practice Performance

C.G. Henry, L.J. Krutz, J. Henggeler, R. Levy, Q.Q. Huang, and K. Kovacs

Irrigators were asked about how much of a reduction in pumping time was expected from a variety of irrigation water management practices. The question was a surrogate for how much water reduction may be expected from these practices. In the south, not all pumps have flow meters, so pumping time was used to estimate the expected water savings.

One challenge was that over half the time (53.3%) survey respondents indicated no energy savings on the IBMPs they were rating. The IBMP having the most zero energy reduction scores was the adoption center pivot at 79%. Zero-grade had the lowest percent of all practices in tallying zero energy reduction scores (25%).

Becoming efficient in using an IBMP may well be a learned trait. For example, on average, it was thought that using tail water recovery systems only reduced energy by 14%, but at the same time managing to have the survey's highest score on perceived energy reduction (90%). The mean values in Table 1 may reflect a skewing of results due to inexperience with the practice in question that could improve over time. Therefore, the table also includes an average with the non-zeros removed that might represent possible savings for savvy practitioners once they had fully climbed the learning curve. Thus, for example, Multiple Inlet Rice Irrigation averaged a reduction of 13%, but when the non-zeros are removed, removing those that do not believe any savings exist, the reduction is 24%, more in line with published research.

Table 1. Anticipated energy savings from nine irrigation practices

Practice	\bar{X}	$\bar{X}_{\text{no zeroes}}$
Zero Grade	22.6%	30.4%
Tail water recovery	14.4%	26.4%
Storage Reservoir	13.8%	30.0%
Multi Inlet	13.4%	24.3%
Scheduling	12.7%	19.4%
Surge	10.5%	19.9%
End Blocking	9.5%	15.2%
Deep Tillage	6.2%	19.8%
Center Pivot	4.4%	20.6%