

TABLE 10A-2: Middle Rio Grande Irrigation Systems: On-Farm Water Use Characteristics and Possible Improvement

All land, water, crop and cost numbers presented in this table are based on published documents or data from agencies, many of which use estimates or placeholder assumptions to assign values. These values are based in part on empirical data (measurements, studies) however, they should not be considered as measured data. Therefore, the results of this analysis should be viewed as conceptual only and not as factual. Specific, more accurate data needs include, cropped acreages, crop irrigation requirements, on- and off-farm efficiency coefficients. References for all source documents have been provided.

Notes and Assumptions

1	Consumptive Irrigation Requirement	2.2 acre feet/acre	For MRGCD: <i>ibid</i> , S.S. Papadopoulos & Assoc.; <i>ibid</i> , Wilson, B.,
	(CIR values should be viewed at estimates not measured values)	1.13 acre feet/acre	for Small Sandoval systems: <i>ibid</i> , Wilson, B.,
2	On Farm Efficiency (Ef)	48%	<i>Wilson, B. 1999 - Sandoval, Bernalillo - MRGCD</i>
3	On Farm Efficiency (Ef)	50%	<i>Wilson, B. 1999 - Valencia - MRGCD, small Sandoval systems</i>
4	Border Irrigation Max Efficiency	90%	<i>ibid, Kay, Melvin</i>
5	Eff. Improvement possible due to proper land prep (leveling)	7%	<i>ibid, Kay, Melvin (10%)</i>
6	Eff. Improvement possible due to improved water management	15%	<i>on-farm conveyance improvement, canal lining and piping</i>
7	Eff. Improvement possible due to on-farm water metering/control	8%	<i>Vickers, Amy, Handbook of Water Use and Conservation, the Waterplow Press, June 2002 (10%)</i>
8	In column 9 incidental off-farm depletions (ID) are subtracted from possible diversion water reduction. ID coefficient from Wilson, B. (1999)		
9	Exercise assumes total farm coverage		

#	Irrigator Groups	Consumptive Irrigation Requirement	Farm Delivery Requirement	Improvement due to			New Farm Delivery Requirement	Systems Diversion Water Reduced
				Better Land Prep	Improved Water Management	On-Farm Water Metering		
1	2	3	4	5	6	7	8	9
		acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet
1	Sandoval-MRGCD	14,813	30,860	2,019	4,025	2,286	22,530	7,080
2	Bernalillo-MRGCD	28,314	58,988	3,859	7,694	4,369	43,065	13,534
3	Valencia-MRGCD	68,064	136,127	3,605	12,824	4,832	114,867	18,071
	Sub Totals	111,190	225,974	9,482	24,543	11,487	180,462	38,685
4	Sandoval-Small	5,242	10,484	2,692	988	372	6,432	3,444
	Total	116,432	236,458	12,175	25,530	11,859	186,894	42,130

New On-Farm Irrigation Efficiency (Ef)	62%
Possible Diverted Water Reduction (acre-feet)	42,129.6