







Republican River Basin Irrigation Management Project

1996-2001 Summary

Six Year Average of Corn Yields by
Management Strategy and Site.

Site	Soil WHC ¹ (in/ft)	Management Strategy			
		FARM	Fully Watered	Water Miser BMP	Deficit
Average Yields (bu/acre)					
Arapahoe	2.1"	188	189	198	190
Elsie	1.5"	196	196	185	162
Dickens ²	1.0"	202	201	187	175
Benkelman	1.8"	209	210	193	172
North Platte ³	2.0"	-	203	202	188
McCook	2.0"	153	147	133	133
All Sites⁴		191	193	185	171
Percent of FARM Yield		100	101	97	89

¹Soil Water Holding Capacity.

²Data for Dickens not included in 97 due to irrigation error & soybeans in 2000.

³FARM management strategy not used in North Platte.

⁴Yield and applied water are weighted by the number of years of data at each site.

Republican River Basin Irrigation Management Project

1996-2001 Summary

Six Year Average of Corn Water Use by
Management Strategy and Site.

Site	Soil WHC ¹ (in/ft)	Management Strategy			Deficit
		FARM	Fully Watered	Water Miser BMP	
Applied Water (acre-inches/acre)					
Arapahoe	2.1"	8.1	7.4	5.3	4.3
Elsie	1.5"	10.9	10.5	8.1	6.1
Dickens ²	1.0"	15.3	14.1	12.0	9.7
Benkelman	1.8"	12.8	12.5	9.7	6.2
North Platte ³	2.0"	-	10.2	7.8	4.9
McCook	2.0"	16.0	9.7	8.0	5.8
All Sites⁴		12	10.7	8.4	6.2
Percent of FARM Applied Water		100	87	69	50

¹Soil Water Holding Capacity.

²Data for Dickens not included in 97 due to irrigation error & soybeans in 2000.

³FARM management strategy not used in North Platte.

⁴Yield and applied water are weighted by the number of years of data at each site.

2003-2006 Average of Corn Yields and Water Use by Management Strategy and Site

Site	Management Strategy			Def.
	Fully Watered	Water Miser	BMP	
Average Yields (bu/acre)				
Holbrook	193	197		
Culbertson	150	165	117	
Holdrege	239	244	233	
Curtis	219	223	177	
Arapahoe	192	185	171	
All Sites¹	198	203	174	
Percent of Fully Watered Yield	100	102	88	

Site	Applied Water (acre-inches/acre)		
	Fully Watered	Water Miser	BMP
Holbrook	10.0	6.6	
Culbertson	10.1	9.0	5.6
Holdrege	6.0	4.7	3.4
Curtis	9.5	9.5	7.0
Arapahoe	8.9	8.1	6.9
All Sites¹	8.9	7.6	5.5
Percent of Fully Watered Applied Water	100	85	62

¹ Yield and applied water are weighted by the number of years of data at each site.

End of Season Irrigation Worksheet

Field	West Pivot
Today's Date	8/20
Crop	Corn
Soil Texture	Silt Loam
Present Stage of Growth.	Beginning Dent
Predicted Maturity Date (today's date + 24 days) Table I	9/13
1. Current % of available water ^a available water in top 4 feet $90\% * 8.0 \text{ in (Table II)} = 7.2 \text{ in}$	7.2
2. Water required to crop maturity. (Table I).	5.0
3. Predicted water balance at maturity line 1 minus line 2	2.2
4. Minimum balance (Table II).	3.2
5. Remaining available water at maturity. (line 3 minus line 4).	-1.0
6. Irrigation requirement in inches assuming no rainfall. (If line 5 is positive, no further irrigation is needed. If line 5 is negative, then the amount of rain plus irrigation needs to be equal to line 5)	Between today and 9/13, rain plus irrigation needs to equal 1.0 inch