

From Peter Smith - Agronomist.

COMPARATIVE IRRIGATION COSTS 2012

Irrigation System	Capital Cost/Ha	Irrigation Efficiency % (approx)	Expected life yrs	Labour requirement	Assumed Pumping Head (metres)					Pumping Costs \$ per Megalitre									
					Static Lift	Pipe Friction	Hose Loss	Operating Pressure	Total Head	Electricity Cost per kWh @ cents = \$					Diesel Cost per litre @ cents = \$				
										10	15	20	30	80	100	120	150		
Furrow with head ditch & siphons	2500-3000	50-80	10+	high	10				10	4.52	6.79	9.05	13.57	10.11	12.64	15.17	18.96		
Flood Furrow (Bore)	2500-3000	50-80	10+	high	40	5			45	20.36	30.54	40.72	61.07	45.50	56.88	68.26	85.32		
Border check laser-graded and automatic	3000-5000	55-80	15+	medium	10				10	4.52	6.79	9.05	13.57	10.11	12.64	15.17	18.96		
Lateral move with gravity fed channel ~1.5 times length of LM run	2500-5000	80	15+	low (1/5 furrow)	10	10			30	13.57	20.36	27.14	40.72	30.34	37.92	45.50	56.88		
Centre Pivot with pump, motor and main ~1.5 times CP length	2500-5500	80	15+	low (1/10 furrow)	40	10			60	27.14	40.72	54.29	81.43	60.67	75.84	91.01	113.76		
Drip/Jet spray	6000-9000	85	15+	low	25	15			50	22.62	33.93	45.24	67.86	50.56	63.20	75.84	94.80		
Temporary sub-surface drip	~2000		5+																
Spray (River)	2000-3000	80	15+	high-med	10	15			55	24.88	37.32	49.76	74.65	55.62	69.52	83.42	104.28		
Spray (Bore)	2500-3500	80	15+	high-med	40	15			85	38.45	57.68	76.91	115.36	85.95	107.44	128.93	161.16		
Traveller (River)	2000-2500	70	15+	medium	10	15	10	35	70	31.67	47.50	63.34	95.00	70.78	88.48	106.18	132.72		
Traveller (Bore)	1800-2800	70	15+	medium	40	15	10	35	100	45.24	67.86	90.48	135.72	101.12	126.40	151.68	189.60		
Traveller High Pressure	1800-2500	70	15+	medium	10	15	15	60	100	45.24	67.86	90.48	135.72	101.12	126.40	151.68	189.60		

NOTES:

Assumed pump efficiency = 70%
Assumed fuel consumption = 220 g/kWh = 0.26 litre/kWh
Derating factors: Electric 14% Diesel 20%

Diesel cost per litre are nett on-farm cost
The above schedule is to be used only as a guide.
Each pumping installation should be individually assessed.

0.26 L/kWh

peak 26.43c/kWh "Sunwater"

off peak 9.31c/kWh

Table 3 \$12.66/MAL. & \$7.14/MAL

\$22.16c/kWh or 12.20c/kWh off peak