WaterCan Profit: more profit per megalitre of irrigation

***"Using WaterCan Profit saved me 3-4 years of work trying to find the most profitable crops for my farm"* - Irrigated grains farmer, Limestone Coast, South Australia**

www.watercanprofit.com.au

What is it?

A web-based calculator allowing contrast of agronomic decisions to improve profitability of irrigated crops

- **Water price:** Rapid comparison of gross margins of several crops with variable water prices

  Optimiser: What is the most profitable combination of crops for my farm in $/ML and $/ha?
- **Investment:** Contrast investment decisions in irrigation infrastructure

The calculator presents a range of options and allows the farmer to make a choice specific to their own cost / price / investment structure.

The calculator has been co-designed with users across the country and has national applicability

Three apps for tactical and strategic decision making

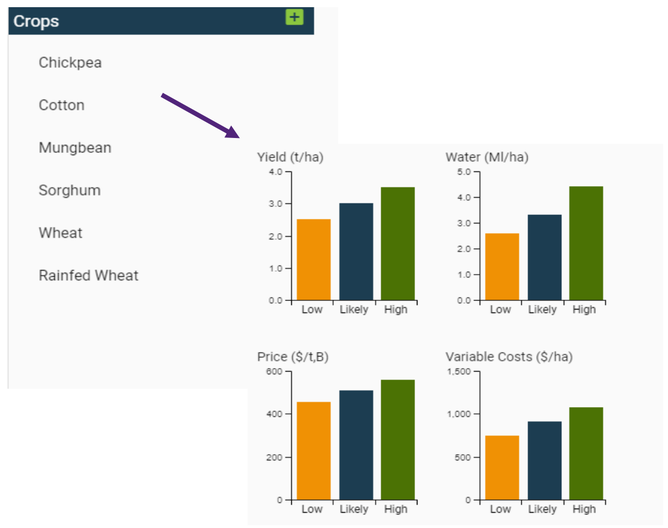
Water Price app

Calculates gross margins of alternative crop options as water prices change.

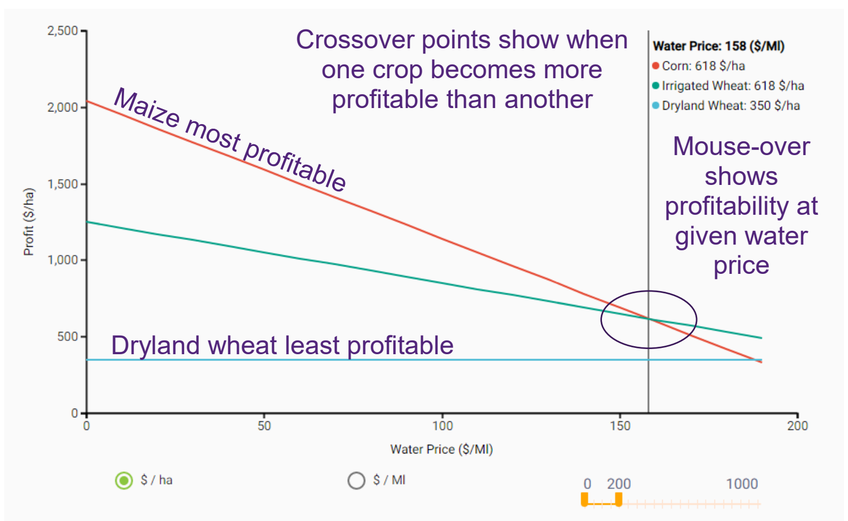
Uses farm-specific values of production, costs, prices and variable costs

Able to identify when crops are no longer the most profitable under changing water price

Identifies price points for a change in crop choice



Farm & crop specific data is specified and modified by the user. Tooltips describe each input.



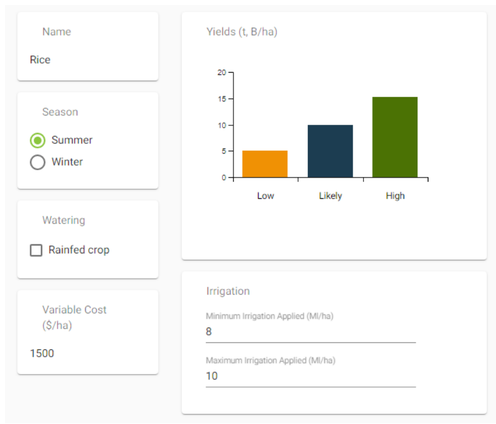
Optimiser app

Given limits on the availability and price of water, this app finds the most profitable combination of crop, amount of irrigation water and land. This also accounts for seasonal conditions and type of irrigation.

Runs an exhaustive search to identify the most profit per area, or water specific to the season ahead

Can evaluate a range of water prices to find change points

Requires farm specific details on each irrigation source, paddock and crop



Dry season

Farm		Irrigated Maize	Rainfed Wheat	Irrigated Wheat	Total
Irrigators	Price ($/t,b)	450	300	300	
Paddock	Yield ($/t,b)	11	2.5	2.5	
Crops	Variable Cost ($/ha)	1550	450	500	
Optimiser	Water Cost ($/ha)	150	150	150	
WP Optimiser	Water Applied (Ml/ha)	10 (100%)	0	2	50(Ml)
	Irrig Cost ($/ha)	1500	0	225	
	Gross Margin ($/ha)	1892	300	25	
	Gross Margin ($/Ml)	189	0	17	
	Area (ha)	5 (5%)	0 (0%)	0 (0%)	

Diagnostic tables show relative performance of each candidate

Wet season

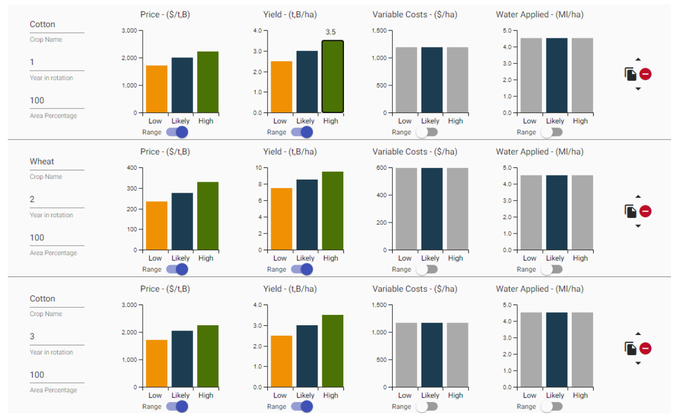
Irrigated Maize	Rainfed Wheat	Irrigated Wheat	Total
270	220	220	
17	7	7	
1550	450	500	
150	150	150	
9	0	2 (100%)	200(Ml)
1350	0	300	
1690	1090	740	
188	0	370	
0 (0%)	0 (0%)	100 (100%)	

Investment analysis app

This app quantifies the time required for an investment to be paid off and contains detailed economic metrics in the background that account for crop rotations, volatile markets, water use, grain yield and investment costs.

Assessments of alternative rotation sequence can be used to estimate the economic performance of an investment over time.

Statistical ("Monte Carlo") methods describe the likely range of the estimate



Year	Crop	Yield (t/ha)	Price ($/t)	Var. Cost ($/ha)	Gross Margin ($/ha)	Cash Outflow ($/ha)	Net Cash Flow ($/ha)	Cuml. Net Cash Flow ($/ha)
Initial						-$3,250	-$3,250	-$3,250
2021	Cotton	3	1983	1185	$4,581	-$1,468	$3,113	-$137
2022	Wheat	8.5	281	595	$1,617	-$1,468	$149	$12
2023	Cotton	3	1999	1170	$4,623	-$1,468	$3,155	$3,167
2024	Maize	10	243	1500	$760	-$1,468	-$708	$2,459
2025	Cotton	3	1980	1185	$4,563	-$1,468	$3,095	$5,554
2026	Wheat	8.5	280	595	$1,606	-$1,468	$138	$5,692
2027	Cotton	3	1996	1170	$4,633	-$1,468	$3,165	$8,857
2028	Maize	10	244	1500	$747	-$1,468	-$721	$8,136
2029	Cotton	3	1975	1185	$4,572	-$1,468	$3,104	$11,240
2030	Wheat	8.5	280	595	$1,603	-$1,468	$135	$11,375
2031	Cotton	3	1997	1170	$4,638	-$1,468	$3,170	$14,545
Present value of future cash flows							$21,672 ($/ha)	
Investment worth:							$18,422 ($/ha)	
Internal rate of return:							58 (%)	
Payback period:							2 (y)	
(mean of 1000 samples)								

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