



Industry &
Investment

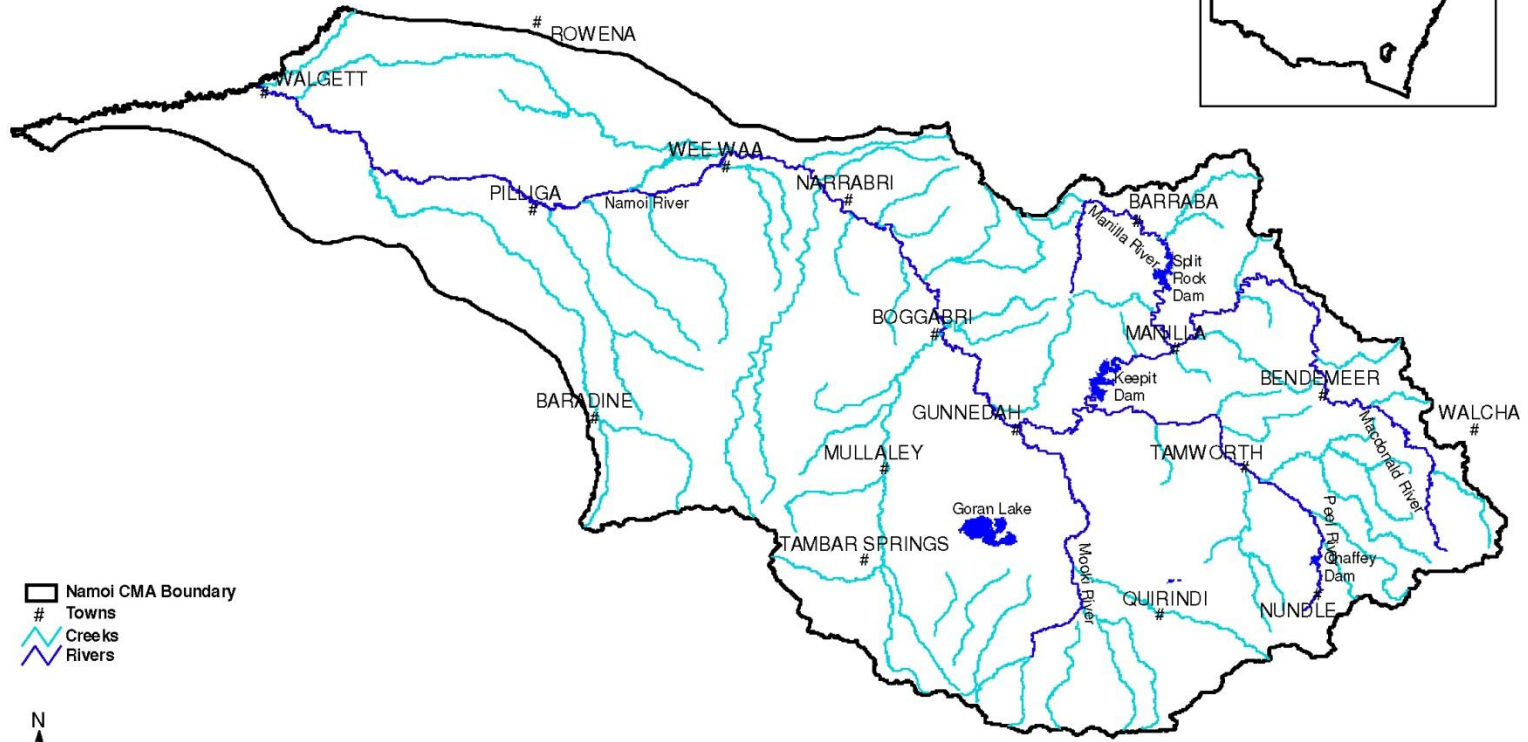
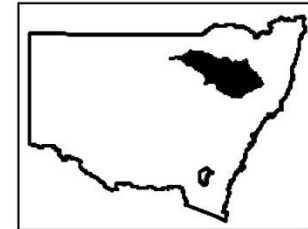


A whole farm comparison of irrigated cotton rotations in the Lower Namoi Valley, NSW

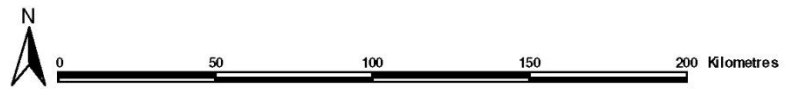
Overview

- Research Objective
- Methodology
 - Namoi Valley Background
 - Farm model characteristics
 - Research trial (& constraints)
- Whole farm results
- Conclusions
- Limitations & future use
- Questions

Namoi CMA Catchment Map

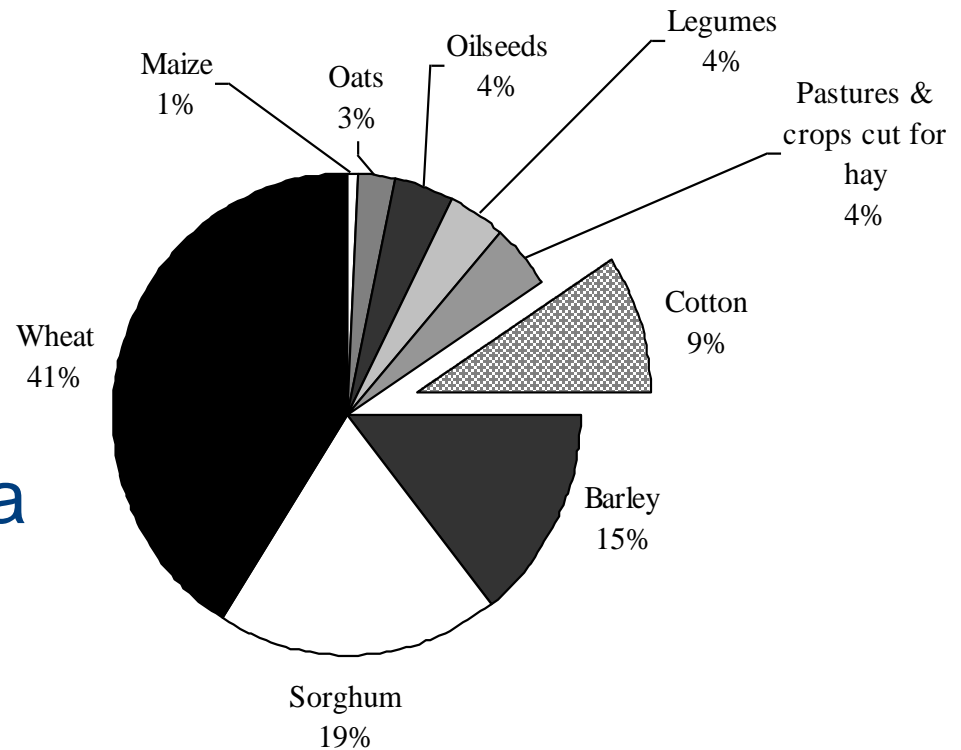


- Namoi CMA Boundary
- # Towns
- ~ Creeks
- Rivers



Crops grown in the Namoi Valley 2005-2006

- Crops accounted for 949,783ha (29%) of the Namoi Valleys Agricultural land use
- An estimated 94,000ha of irrigation
- 57,000ha planted to cotton



Representative Farm

- Lower Namoi Valley, NSW
- 12 month snapshot of farm profitability
- 65% of the farm has been developed for irrigation
- The farm also includes small dryland cropping and cattle enterprises
- The analysis is conducted using 40% of total water resources
- Farmers equity is 73% of \$6.8 million
- Stochastic modelling of commodity prices including; cotton, wheat, fertiliser and diesel

Rotational Trial

- ‘Maintaining profitability and soil quality in cotton farming systems III’, led by Dr Nilantha Hulugalle and funded by the Cotton CRC
- Furrow-irrigated experiment at the Australian Cotton Research Institute, near Narrabri
- Grown as an experimental system during a period of drought

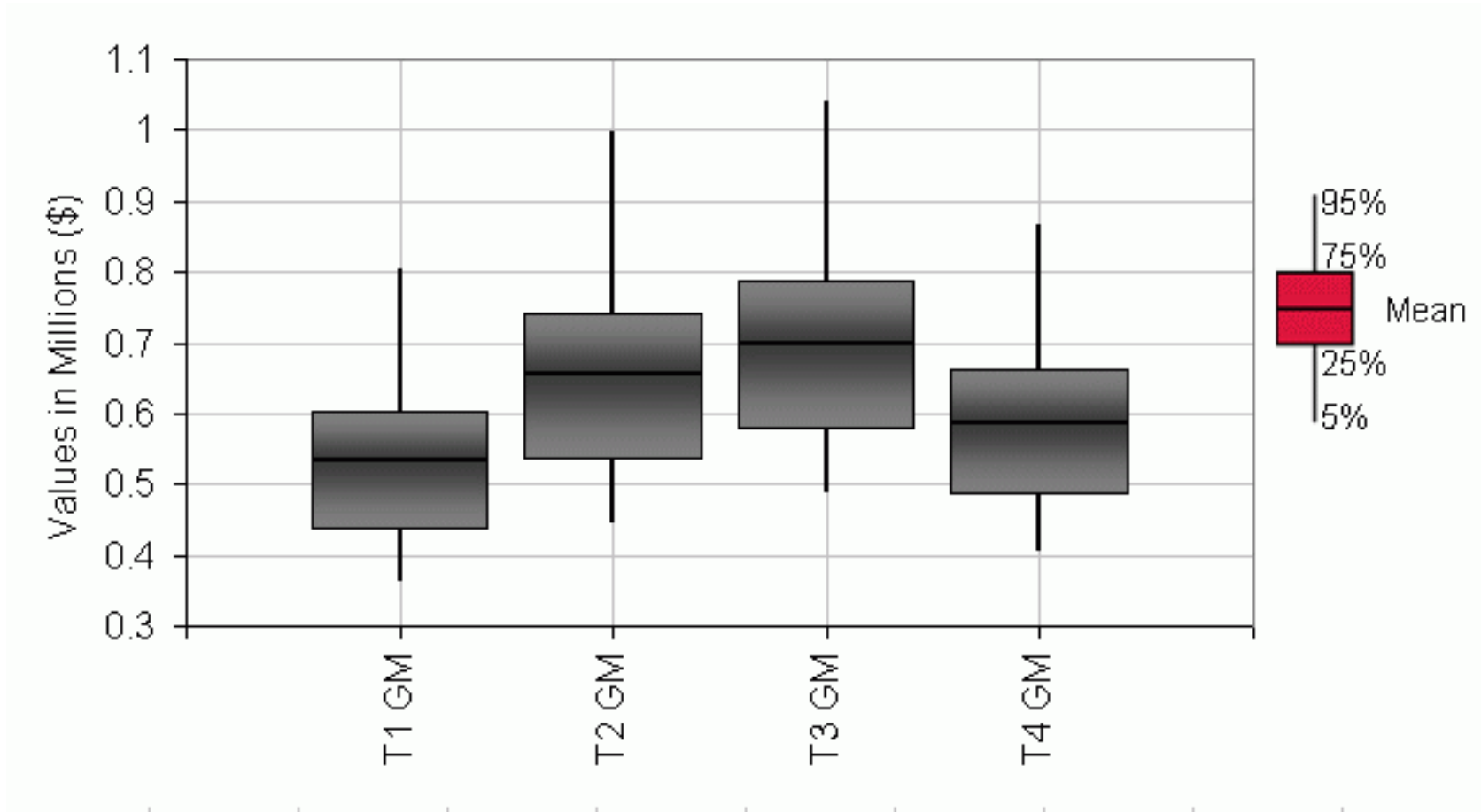
Rotation comparison trial

	Summer	Winter	Summer	Winter	2yr GM/ML
Treatment 1 (T1)	Cotton	Vetch	Cotton	Vetch	\$416
Treatment 2 (T2)	Cotton	Fallow	Cotton	Fallow	\$511
Treatment 3 (T3)	Cotton	Wheat	Fallow	Fallow	\$545
Treatment 4 (T4)	Cotton	Wheat	Fallow	Vetch	\$457

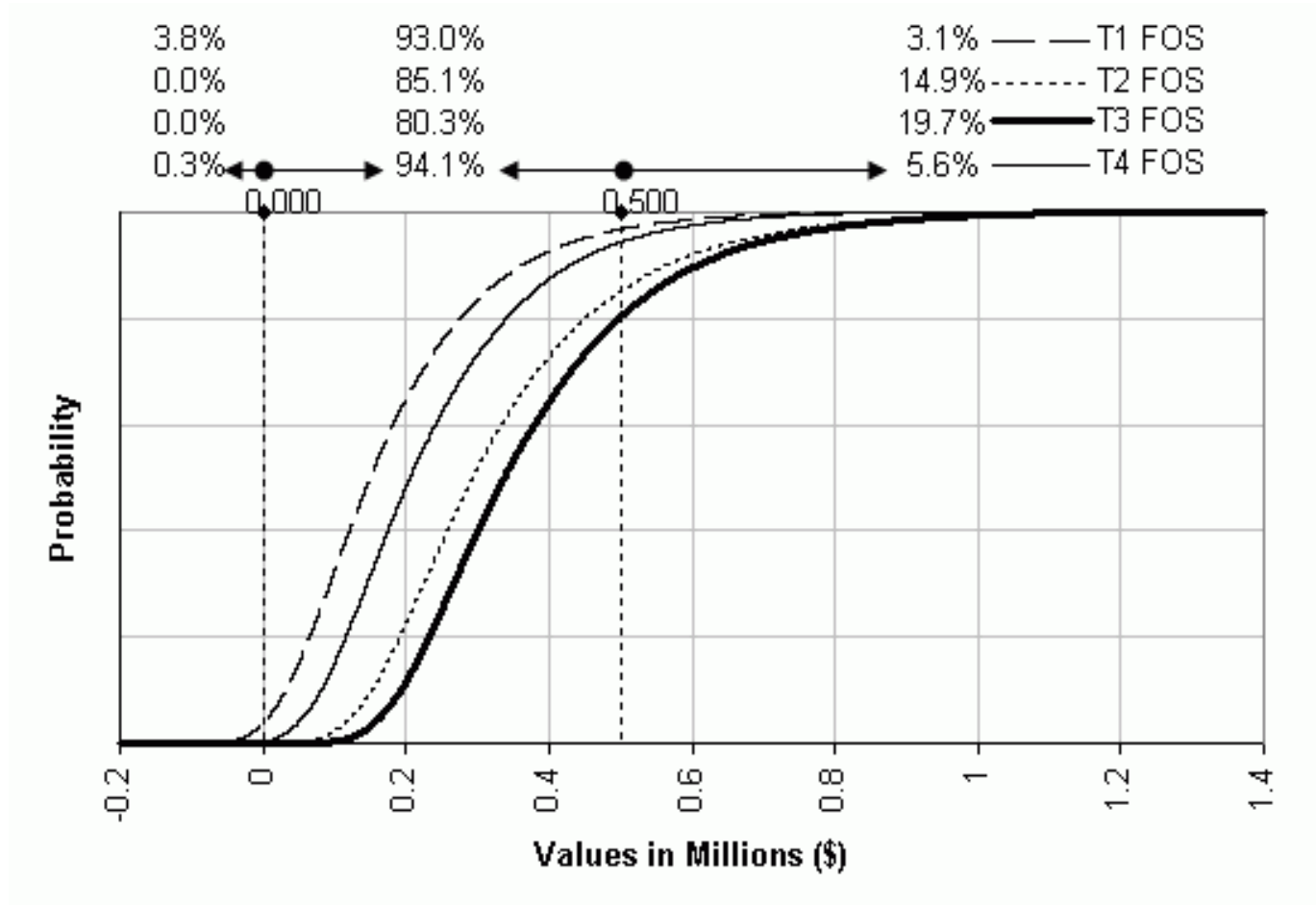
Results

Enterprise Gross Margins	T1	T2	T3	T4
Total Farm Gross Margin:	\$585,013	\$707,595	\$750,910	\$638,521
Overhead Costs				
Total Overhead Costs	\$186,160	\$155,278	\$155,018	\$182,261
Net Farm Cash Income (Gross Margin less Overhead Costs)	\$398,853	\$552,317	\$595,892	\$456,260
Operating Costs				
Total Operating Costs	221,138	221,138	221,138	221,138
Farm Operating Surplus (Net Farm Cash Income less Operating Costs)	\$177,715	\$331,180	\$374,755	\$235,122
%Return on total assets and operator labour (Operating Surplus/Total assets)	2.61%	4.86%	5.50%	3.45%
%Return on equity and operator labour (Operating Surplus/Total equity)	3.57%	6.65%	7.52%	4.72%

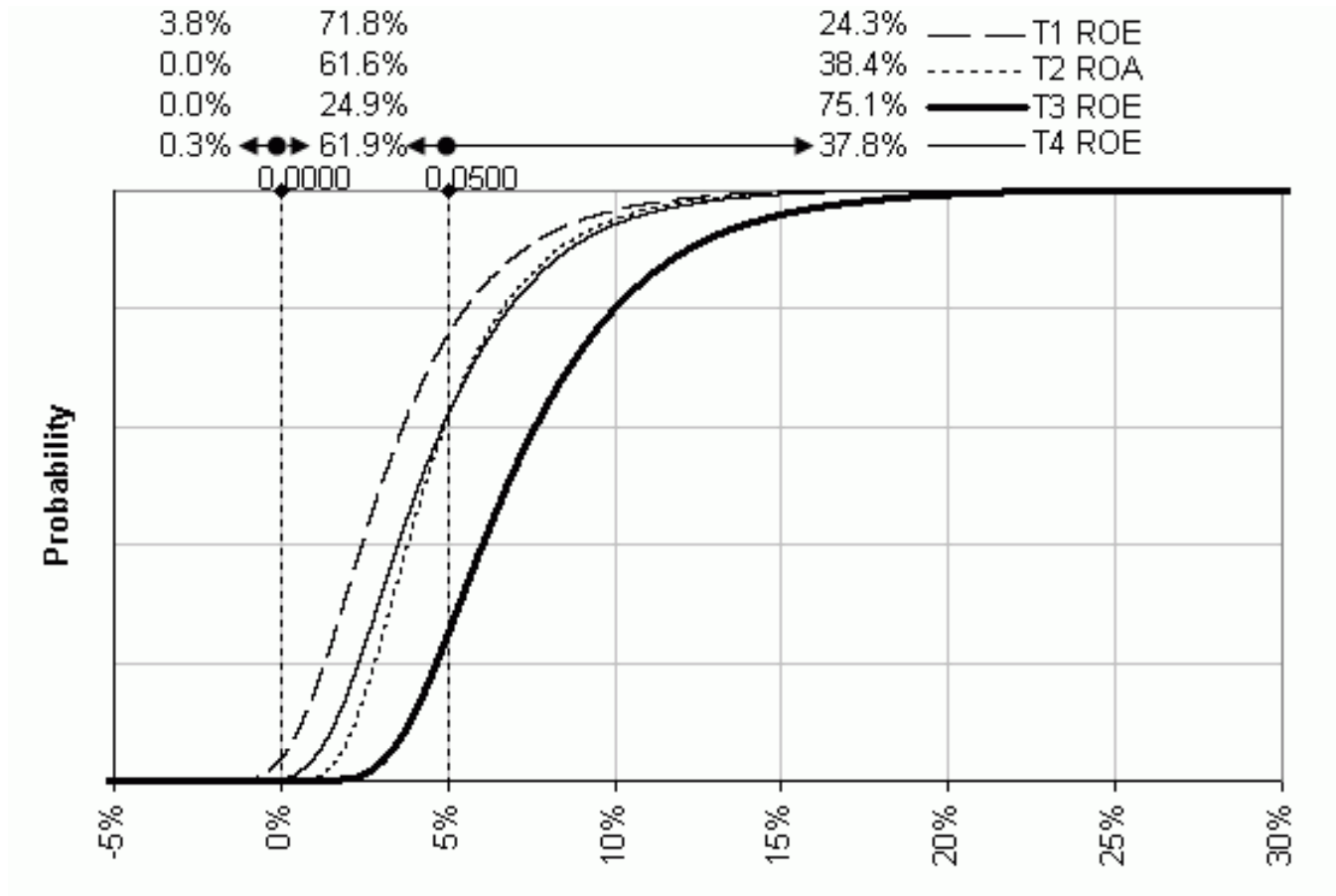
Gross Margin Results \$/ML



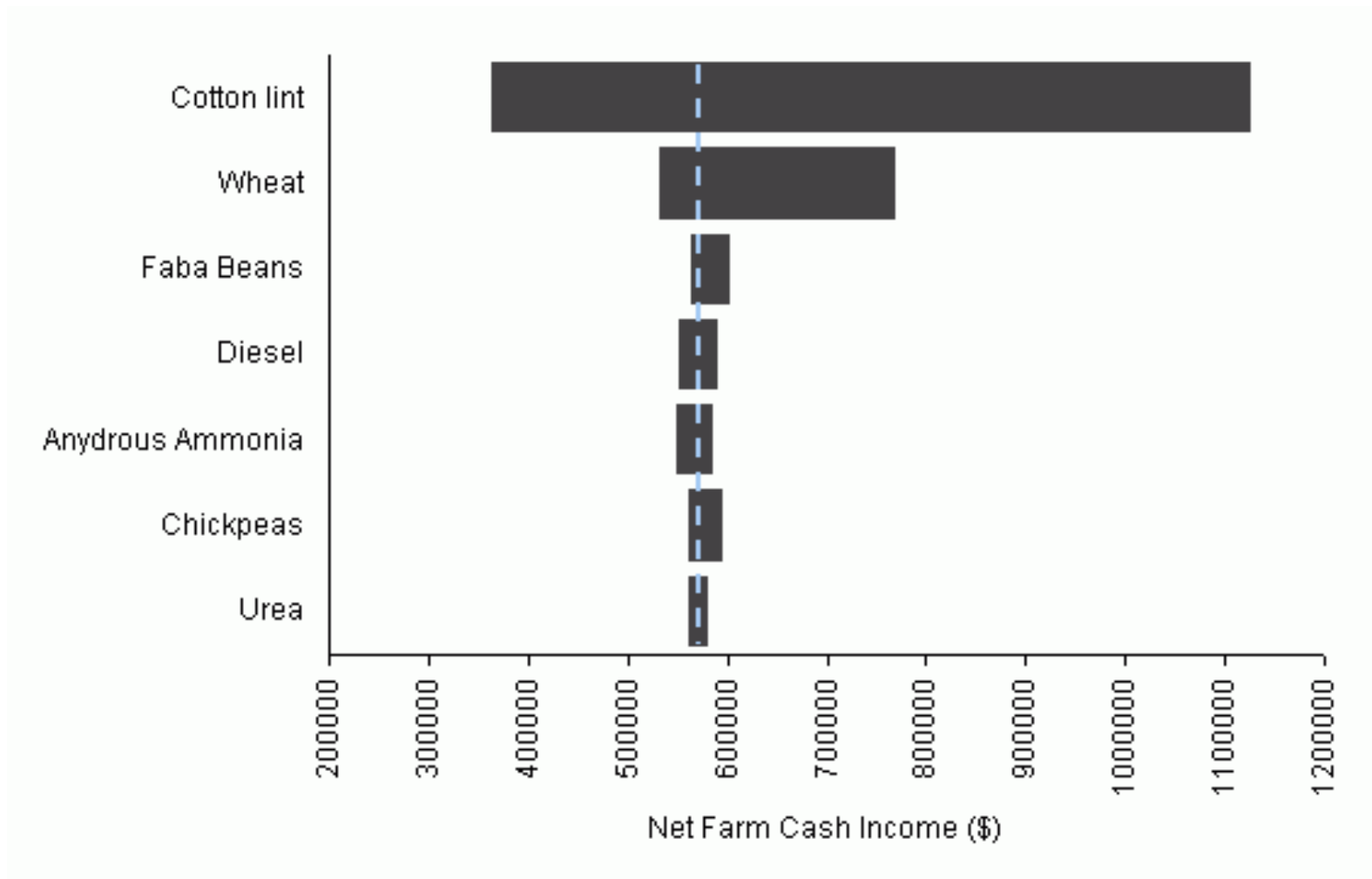
Farm operating surplus



Return on equity



Sensitivity Ranking – Treatment 3



Conclusions

- The two year rotation of cotton, wheat, followed by summer and winter fallows (T3) was the most profitable
- In periods of limited water availability, the allocation of water to a non income creating crop needs to be carefully considered

Potential Further Use

- Impact of
 - Key changes in farming practices
 - Reduction in water allocations
 - Emissions trading scheme
 - Carbon accounting
- Model improvements
 - Increase time horizons to 10 or 20yrs
 - Add agronomic and climate variability

Questions ??