BLACK UREA® VERSUS WHITE UREA.

CASE STUDY

Agronomist	Scott Bartlett
Location	Shepparton, VIC
Crop	Wheat

Demonstration Purpose

The grower and agronomist undertook a demonstration site to compare Black Urea to white Urea. This area of Victoria is a high cropping production area but also a high input cropping area. The purpose of this demonstration was to investigate opportunities to reduce these input costs by applying Black Urea at 30% less than white urea (standard practice) and still maintain yield.

Demonstration Set Up

Pre plant nitrogen was applied as white urea, MAP was applied at planting and then a top dress of Black Urea and white urea were applied at late tillering. Hence the goal was to have 300kg of urea or 140 units of total nitrogen applied to the crop. For the demonstration area was chosen that was an average representation of a field and was believed to give an unbiased and true result. The Black Urea was applied to the selected area and the white urea was applied to the remaining areas of the field. The crop was a bread wheat and the products were both applied as final top dress application.

The white urea was applied at 100kg per hectare and the Black urea at 70kg per hectare. These rates were based on soil test results and traditional practice of the farm. All other practices were kept the same throughout the growing of the crop. The crop was harvested and yield monitors were used to gauge the results of the plots.

Application Date	Product Applied	Application Rate
Pre Plant	White Urea	100 kg/ha
Pre Plant	Black Urea	70 kg/ha

Demonstration Results

The results of the demonstration showed a positive response to Black Urea. The results showed no difference in yield when Black Urea was applied at the 30% reduced rate. Figure 1 shows the total yield per hectare of both products applied.

Figure 1.

Product	Yield Per Hectare	Grade	Protein	Screenings	Yield Difference
White Urea	6.0 t/ha				
Black Urea	6.0 t/ha				

The Financial Pay-off and Return on Investment

The financial return in using Black Urea for this grower was positive. The input cost reduction to this grower was $8 per hectare.

Black Urea vs White Urea. The Financial Return on Investment

Grain Price	White Urea Cost Per Hectare	White Urea Net Return	Black Urea Cost Per Hectare	Black Urea Net Return	Positive/ Negative Profit of Black Urea
$307 (APH1)	$50	$1,945.5/ha	$42	$1,953.30/ha	+$8/ha

Financial Future

Looking forward from these positive results, if the grower undertakes a full farm program of Black Urea over their 1600 hectares at 70% of the traditional rate of 300kg per hectare of white urea, they would require only 210kg per hectare of Black Urea and based on the above results, they would achieve a full farm saving of **$40,000** off their fertiliser bill. This does not include the freight reduction costs.

Product	Av Application Rate	Plant Area	Total Tonnes	Total Costs	Av Savings
White Urea	300 kg/ha	1600	480	$240,000 ($500/t)	
Black Urea	210 kg/ha (70%)	1600	336	$199,920 ($595/t)	$40,080

Conclusion

Black Urea in this field demonstration has shown that input costs in this region of high production can be reduced utilising the enhanced efficient fertiliser Black Urea. By applying Black Urea at 70% of the rate of white urea growers can make significant savings on their fertiliser costs as well as freight and handling. This not only is good for over farm production costs but plays a significant advantage for the individual grower's environmental impact statement.

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