

BLACK UREA® VERSUS WHITE UREA.



CASE STUDY

Grower	Alex Murray
Manager	Alex Murray
Location	Edgeroi, NSW
Crop	Wheat

Demonstration Purpose

The grower undertook a demonstration site to compare Black Urea to white Urea. The purpose was to test the claims of applying Black Urea at 25% less than white urea (standard practice) and still maintain yield and quality.

Demonstration Set Up

The field chosen was split into 4 areas where white urea was applied to two and Black Urea was applied to two, not side by side. The crop was a bread wheat and the products were both applied pre plant and incorporated into the soil.

The white urea was applied at 100kgs per hectare and the Black Urea at 75kg 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	75 kg/ha

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Demonstration Results

The results of the demonstration showed a positive response to Black Urea. The results show a 0.4 t/ha yield increase where Black Urea was applied at the reduced rate of 25%. 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	3.5 t/ha				0 t/Ha
Black Urea	3.9 t/ha				+0.4 t/Ha

The Financial Pay-off and Return on Investment

The financial return in using Black Urea for this grower was significant. At grade APH1 the pricing was \$307 per tonne. Not only did the Black Urea save the grower money per hectare at the reduced rate per hectare applied, it also gave an increase in yield.

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)	\$45	\$1,029.5/ha	\$40	\$1,157.30/ha	+\$127.80/ha

Financial Scenario

Looking forward from these positive results, if the grower undertakes a full farm program of Black Urea over their 2,000 hectares they would achieve an initial saving of over **\$8,000** off their fertiliser bill. And if the above yield results were again achieved the net return to this grower across their total hectares using Black Urea at 75% the rate of white urea would be **\$254,000**

Conclusion

Black Urea in this field demonstration not only met the claims of a reduced rate per hectare to achieve the same results, it has exceeded them by achieving an increase in yield. As a result the grower received a positive increase in net return per hectare where the Black Urea was applied. The opportunity then to apply Black Urea across a greater area the financial reward for this grower would be significant.

About Advanced Nutrients

Advanced Nutrients is a leader in the development of innovative, environmentally benign fertilisers which cost less and deliver more. For the last 13 years, smart agricultural, horticultural and livestock producers throughout Australia, Africa, Asia and the Middle East have been using our products to cut input costs, boost returns and reduce farming costs.

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BLACK UREA® VERSUS WHITE UREA.

“DEFINITELY USE BLACK AGAIN NEXT YEAR”



CASE STUDY

Grower	Claude Pain
Manager	Claude Pain
Location	Jandowae, QLD
Crop	Wheat

Demonstration Purpose

The grower undertook a demonstration site to compare Black Urea to white Urea. The purpose was to test the claims of applying Black Urea at 25% less than white urea (standard practice) and still maintain yield and quality.

Demonstration Set Up

The field chosen was split into 2 x 180ha areas and the products were both applied pre plant - 50kg per hectare of Black Urea against normal practice of 65kg per hectare of white urea and both incorporated into the soil. The crop was planted mid-May through a combine, Wheat variety Gregory H1.

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 received only two falls of rain, one 20ml fall and one 32ml fall. 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	65 kg/ha
Pre Plant	Black Urea	50 kg/ha

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Demonstration Results

The results of the demonstration showed a positive response to Black Urea. The results showed yields were the same where Black Urea was applied at the reduced rate of 25% to the traditional rate of white urea. 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	2.5 t/ha	APH1	11%	2%	0 t/Ha
Black Urea	2.5 t/ha	APH1	12%	2%	0 t/Ha

The Financial Pay-off and Return on Investment

The financial return in using Black Urea for this grower was positive. Not only did the Black Urea save the grower money per hectare at the reduced rate per hectare applied, it also gave an increase in yield.

Black Urea vs White Urea. The Financial Return on Investment

Product	Av Application Rate	Typical Total Tonnes	Av Total Cost	Freight Total Costs	Av Savings
White Urea	65 kg/ha	117	\$57,330 (\$490/t)	\$4,095 (\$35/t)	
Black Urea	50 kg/ha	90	\$53,550 (\$595/t)	\$3,150 (35/t)	\$4,725

Financial Future

Looking forward from these positive results, if the grower undertakes a full farm program of Black Urea over their 360 hectares they would achieve an initial saving of over **\$9,450** off their fertiliser bill.

Conclusion

Black Urea in this field demonstration has met the claims of a reduced rate per hectare to achieve the same results. As a result the grower received a positive increase in net return per hectare where the Black Urea was applied. The opportunity then to apply Black Urea across a greater area the financial reward for this grower would be very positive.

Last comment to the grower:

"I thought it made a difference, much better finish this year, pretty happy all round and will definitely be using again next year."

Claude Pain, Jandowae QLD.

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..Now No More White Urea is needed.....



CASE STUDY

Grower	Ross Armstrong
Agronomist	Marshall Seed & Grain
Location	"Coolibah Plains" Comet QLD
Crop	Wheat

Demonstration Purpose

The grower undertook a demonstration site to look at ways to reduce input costs. Plus the grower has always looked at innovative technology to improve his farming enterprise and nitrogen use efficiency was a key due to its overall costs. The purpose of this demonstration was to investigate opportunities to reduce these input costs through innovative technology; hence applying Black Urea at a reduced rate of 25% less than white urea (standard practice) and still maintain yield was to be tested.

Demonstration Set Up

The goal was a two year test program. The first a small area in a field was chosen and then in the second year half the field was treated as a result of positive first year results. The area chosen was an average representation of the 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 area of the field. The crop was a bread wheat and the products were both applied as a combination of pre plant and top dress application.

The white urea was applied at 200kg per hectare and the black Urea at 150kg 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 & Top Dress	White Urea	200 kg/ha
Pre Plant & Top Dress	Black Urea	150 kg/ha

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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 25% reduced rate for the two years tested. The grower now for the past two seasons has utilised Black Urea across his complete cropping programs and the financial pay off below shows why.

The Financial Pay-off and Return on Investment

The financial return in using Black Urea for this grower was significant. The grower undertakes a full farm program of Black Urea over their cropping hectares at 75% of the traditional rate of 200kg per hectare of white urea, and requires only 150kg per hectare of Black Urea. As a result they achieve a full farm saving of **\$32,000** off their fertiliser bill. This does not include the freight reduction costs.

Black Urea vs White Urea. The Financial Return on Investment

Product	Av Application Rate	Typical Total Tonnes	Av Total Cost	Av Savings
White Urea	200 kg/ha	380	\$190,000 (\$500/t)	
Black Urea	150 kg/ha (70%)	285	\$171,000 (\$600/t)	\$19,000

Conclusion

Black Urea, in the two year field demonstration, showed how it can greatly increase nitrogen use efficiency. As a result of the two years the grower only uses Black Urea for his cropping program. By applying Black Urea at 75% of the rate of white urea he continues to make significant savings on his fertiliser costs as well as freight and handling.

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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

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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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