



# Black Urea™ Commercial Field Trials

<b>Crop and Location:</b>	Dryland Wheat - "Mayfield", Quirindi
<b>Application:</b>	Applied by air in crop, July 2004, 50kgs/ha.
<b>Trial Conditions:</b>	Urea is usually applied at 80kgs/ha in crop but is difficult to maintain to be economically viable. Black Urea™ is tried at 50kgs/ha to determine if overall economics improve over an area of 200ha.
<b>Soil Conditions:</b>	A black basalt soil with a 6.5 pH and a CEC of 28. Two good rain events through the season with a wetter than normal harvest.
<b>Result:</b>	<b>Urea</b> average yield: 4.23 t/ha at nutrition cost of \$28/ha = 151kgs yield per \$1.00 spent. <b>Black Urea™</b> av. yield 4.89 t/ha, at a nutrition cost of \$23/ha = 212kgs yield per \$1.00 spent. <b>Black Urea™ delivered an increase in the overall yield economics of over 40%.</b>
<b>Growers Comments:</b>	"There was a visual difference in the crop that showed an increase in nitrogen use efficiency".

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<b>Crop and Location:</b>	Pivot Irrigated Cotton – "Girraween" Bonshaw
<b>Application:</b>	Surface spread, early December 2004, 250kgs/ha (both products).
<b>Trial Conditions:</b>	In crop applications of granular urea can experience severe increased nitrogen losses. The addition of organic carbon compounds are reported to assist. A commercial trial of Black Urea™ and urea blended with potassium humate was set up to determine the economic differences of the two products over 120ha each.
<b>Soil Conditions:</b>	Sandy loam soil with a pH of 5.0 – 5.5 pH and a CEC of 13. High December rainfall
<b>Result:</b>	Tissue tests throughout the season continually showed 5-12% higher nitrogen levels in the Black Urea™ pivot although both remained in desirable range. The Black Urea™ pivot yielded 0.22 bales per hectare more than the granular urea potassium humate blended pivot. As costs were the same for both treatments; <b>Black Urea™ yielded an economic advantage of \$84 per hectare.</b>
<b>Growers Comments:</b>	"The crop looked fantastic!!!"

**Crop and Location:** Dry Land Pasture - "JNardi", Eureka

**Application:** Ground spread, September 2005, 80kgs/ha

**Trial Conditions:** In order to evaluate any economic benefit of Black Urea on rye grass pasture directly compared to granular urea on an intensely grazed dairy farm.

**Soil Conditions:** Red volcanic soils with a 5.0 pH and a CEC of 18. High summer rainfall.

**Result:** Granular Urea: after 21 days approx. 8 t of dry matter per ha.  
Black Urea™ : after 21 days approx. 10 t of dry matter per ha.  
**The additional 2t/ha dry matter netted an additional 5 days grazing giving the grower a calculated nett increase of \$36/ha**

**Growers Comments:** "I have never seen rye grass respond so quickly and keep so long in all my 30 years of dairying. The normal urea had rain the night it was applied and it gave it's normal response, but the Black Urea™ applied the next day did not get any rain for over two weeks after we applied it and it is still green and growing after almost six weeks while the normal urea area has already died off. Rye grass should be finished this time of year (November) but it still going. It will fit great into my dairy, the whole industry for that matter".

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**Crop and Location:** Dry land Wheat – "Cashmere Vale", Wee Waa

**Application:** Ground spread in crop, June 2004, 60kgs/ha

**Trial Conditions:** A commercial (400ha) trial of Black Urea™ to determine any economic difference over granular urea when applied at the same rates (60kgs/ha).

**Soil Conditions:** A red basalt soil with a neutral pH and a CEC of 36. Two small rain events through the season with a wetter than normal harvest.

**Result:** Average yields of granular urea: 3.0 t/ha, protein 12.3%  
Average yield of Black Urea™: 3.2 t/ha, protein 13.1%  
**Economic advantage of BU : nett \$24/ha**

**Growers Comments:** "The Black Urea™ was reasonably effective, the wheat had excellent average yields and quality was much more consistent than past seasons and I will definitely use next season if good moisture is present".

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**Crop and Location:** Dry land Wheat crop – “Dimby Downs”, Quirindi

**Application Date:** Aerial spread in crop August 2004, 100kgs/ha

**Trial Conditions:** To investigate an economic advantage of Black Urea™ when applied in crop in addition to basal fertiliser application. Previous years and local experience have shown in crop applications of urea do not provide an economical return. Total crop received 220kg of granular urea pre-plant. 70 ha received additional 100kgs/ha Black Urea™ at four leaf stage and compared to control strips.

**Soil Type / Weather:** A black clay Vertosol soil with a 8.4 pH and a CEC of 56. Two good rain events through the season with a wetter than normal harvest.

**Result:**

Granular only yield:	4.0 t/ha
Granular + Black Urea yield:	5.0 t/ha
Additional cost of Black Urea™:	\$48.20/ha (incl. appl. costs).
<b>Return on investment:</b>	<b>\$111.80/ha</b>

**Growers Comments:** “Very pleased with the results and keen to use again!”

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**Crop and Location:** Dryland Oats – “Inverary” Currabubula

**Application:** Ground spread in crop, July 2004, 60kgs/ha

**Trial Conditions:** To investigate advantages in Oat production for grazing and grain by using Black Urea™ on 375ha.

**Soil Conditions:** Grey / Black self mulching clay-Vertosol with a 8.3 pH and a CEC of 58. Two good rain events through the season with a very wet harvest that effected grain yield results.

**Result:** The beef cattle that grazed on the crop had **improved average weight gain by 8%** compared to past oat cropped grazing. Recovery after grazing showed significantly more vigorous and consistent growth than past seasons, with **grain yielding 12% higher** than district average.

**Growers Comments:** “The crop looked very impressive, during most of the growing season it was consistently 6 inches higher and greener, with the visual difference apparent during most of the season”.

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**Crop and Location:** Irrigated Corn - "Goodgerwirri", Caroona

**Application:** Side dress, December 2004, 160kgs/ha

**Trial Conditions:** In order to evaluate any economic benefit of Black Urea on Corn compared to granular urea. Black Urea was applied to 90ha at 20% less the historical rate of granular urea (200kgs/ha).

**Soil Conditions:** Black self mulching clay-Vertosol with an 8.5 pH and a CEC of 64. High rainfall in December and January with a dry harvest.

**Result:** Granular Urea av. yield: 11.5 t/ha @ 142kgs per \$1.00 spent  
Black Urea™ av. yield: 12.3 t/ha @ 149kgs per \$1.00 spent  
**The additional 0.8t/ha netted the grower an increase of \$284/ha**

**Growers Comments:** "The Black Urea™ worked extremely well and will definitely continue to use it".

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**Crop and Location:** Dry Land Barley - "Goodgerwirri", Caroona

**Application:** Ground spread in crop, August 2004, 80kgs/ha

**Trial Conditions:** In order to evaluate any economic benefit of Black Urea on barley compared to granular urea. Black Urea was applied to 50ha at 20% less the historical rate of granular urea (100kgs/ha).

**Soil Conditions:** Black self mulching clay-Vertosol with an 8.3 pH and a CEC of 59. High rainfall in December and January with a dry harvest.

**Result:** Granular Urea av. yield: 4.8 t/ha @ 118kgs per \$1.00 spent  
Black Urea™ av. yield: 5.2 t/ha @ 126kgs per \$1.00 spent  
**The additional 0.4t/ha netted the grower an increase of \$56/ha**

**Growers Comments:** "The Black Urea™ worked well here in the Barley and will keep using it".

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