Biocatalyst Technology

Basis® XC

Biocatalyst treatment for granular fertilisers

Release more nutrition, Expect more results

Get More from Every Granular Fertiliser Application

Make your granular fertiliser more efficient and maximise crop yield potential with Basis® XC. Basis® XC is a fertiliser biocatalyst that is specifically formulated for impregnation on granular fertilisers. It contains concentrated biochemistry that lets growers get more out of their applied P, K and trace element fertilisers by increasing nutrient availability and enhancing root growth and function. Use Basis® XC to make your fertiliser investment and nutrients go further.

Maximise Nutrient Availability and Uptake

By accelerating the breakdown of treated granular fertiliser, Basis® XC makes nutrients more available for plant uptake and utilisation, leading to increased plant and root growth, along with improved yield potential. Progressive growers incorporate Basis®XC into their farm plans and often see better yield responses and increased fertiliser efficiency each season.

Basis® XC is effective across a broad range of plant and soil types and can be easily incorporated into any production practice that uses granular fertiliser, without requiring an extra pass across the paddock.

Basis® XC

BENEFITS:

- Increases the availability of applied nutrients for more efficient utilisation of macronutrients and micronutrients in granular fertilisers
- Improves seedling vigour for more even crop establishment
- Increases early biomass & dry matter
- Optimises crop yield potential

Features

- Contains a diverse range of beneficial biochemistries including enzymes, proteins, and organic acids
- Accelerates fertiliser granule breakdown
- Concentrated formula for use at low rates
- Compatible with granular N, P, & K fertilisers, ammonium sulphate, gypsum and pelletised lime

Other

Application Rate: 2L/MT

Specific Gravity: 1.0

pH: 8.0

Colour: Light brown

Compatibility: Highly compatible; however, avoid mixing with oil-based or highly acidic products

Storage: Store out of direct sunlight in a cool environment

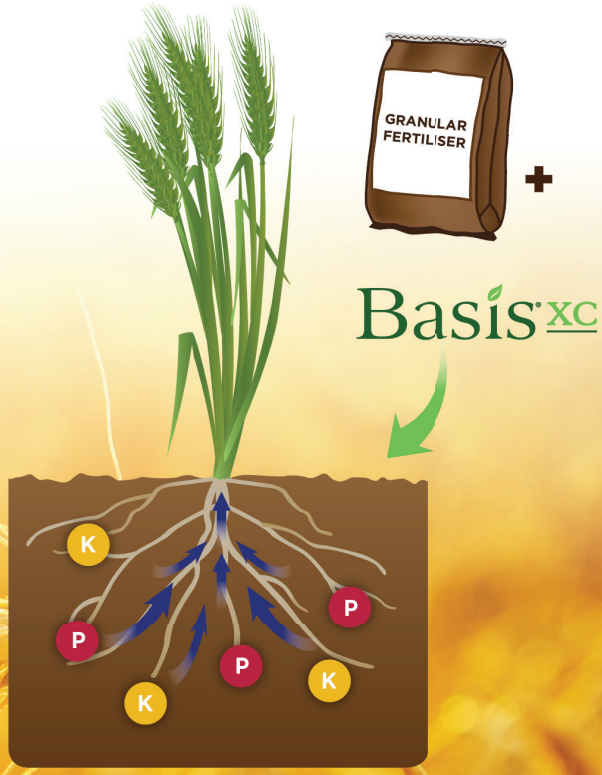
Contains: Primarily concentrated biochemistry, some viable microorganisms including *Bacillus* species

Note: Formulated for direct application onto fertiliser granules

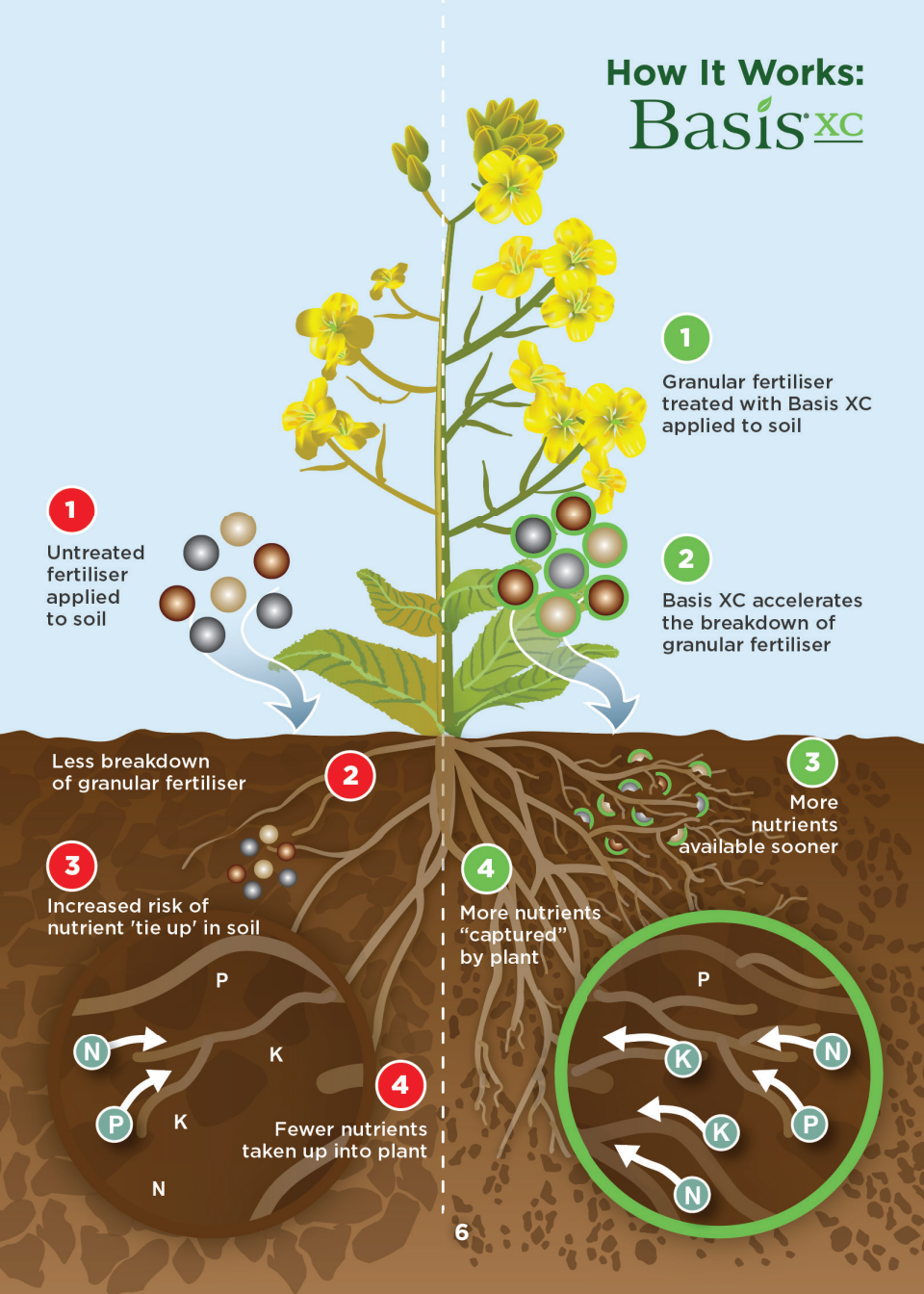
Concentrated Biochemistry Unlocks Applied Nutrients

Basis® XC changes the way that granular fertiliser interacts with the soil. By "unlocking" applied nutrients, it makes them available more quickly, to maximise uptake by plant roots.

By accelerating the breakdown of treated granular fertilisers, Basis® XC enhances the availability of nutrients for plant uptake and utilisation. This can lead to increased plant growth, increased root growth and improved yield potential.



How It Works: Basis® XC

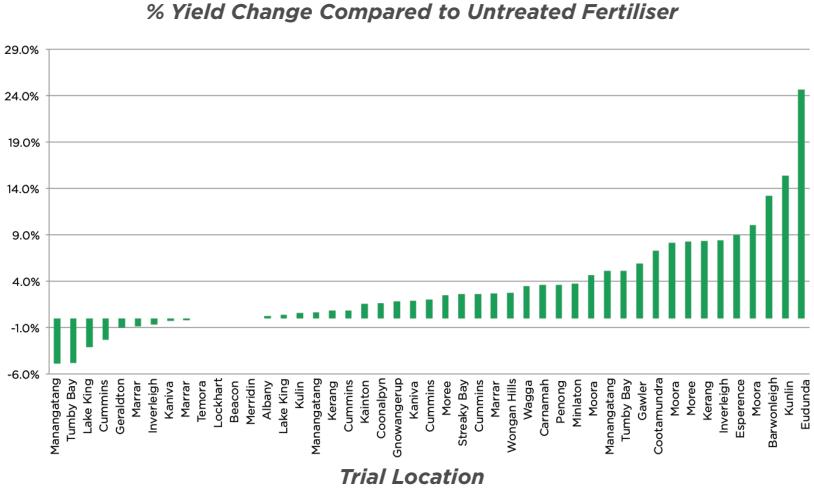


Cropping Performance

In 2016, Loveland Agri Products conducted 47 Basis® XC small-plot trials and large-scale demonstrations across several Australian winter crop broadacre regions to compare various starter fertilisers co-applied with Basis® XC at standard grower rates. Overall, there was an average yield improvement of 3.3%. The average wheat yield increase (30 trials) was 126 kg/ha, the average canola yield increase (8 trials) was 84 kg/ha, and the average barley yield increase (6 trials) was 75 kg/ha.

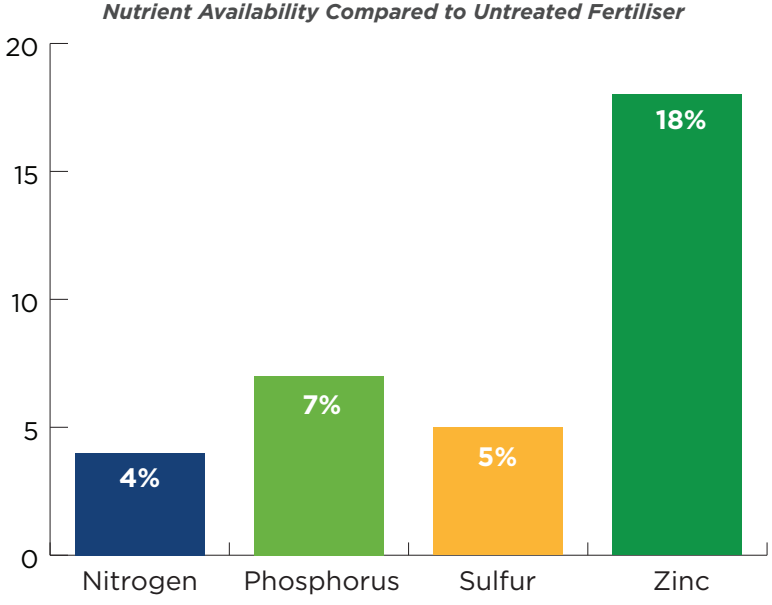
Percent Yield Change with Basis® XC-Treated Fertiliser

Summary of 47 trials conducted in 2016



Basis® XC contains concentrated biochemistry that has been shown to improve the availability of nutrients from granular fertilisers, leading to improved nutrient uptake and higher fertiliser efficiency. This is demonstrated in the tissue test results of a strip-till corn trial conducted at a Loveland Products research station in the United States. Basis® XC was applied at 2L/tonne to a compound fertiliser (12:17:00:10 Zn1%) and compared to untreated fertiliser. Nutrient levels in the corn tissue trended higher where Basis® XC had been applied.

Percent Increase in Corn Tissue Nutrient Levels with Basis® XC-Treated Fertiliser vs Untreated (5 Plot Average)

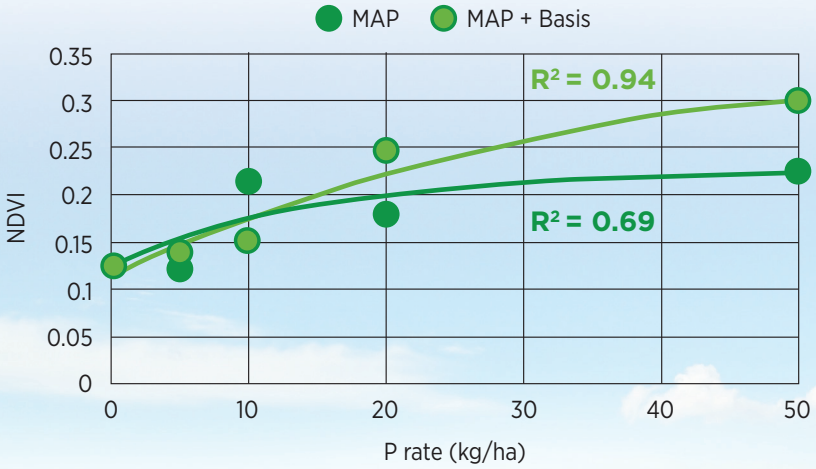


**Plots compared various rates of 12:17:00:10 Zn1% with and without Basis® XC.*

By accelerating fertiliser breakdown to release applied nutrients, Basis® XC can improve early shoot growth, as demonstrated by NDVI measurements of trials evaluating Basis® XC on different rates of phosphorus fertiliser. More plant biomass in a young crop is a sign of better plant establishment, and indicates that the crop is set up to perform better during the season.

Improvement in Early Shoot Growth with Basis® XC on MAP

Trial conducted by Agronomy Solutions, 2018
Basis® XC applied on different rates of MAP fertiliser; treated and untreated fertiliser applied at planting



Similarly, by increasing nutrient availability and promoting the mineralisation of nutrients in treated fertiliser, Basis® XC can improve root growth, as demonstrated by visual observation of root systems in Basis® XC trials. A more vigorous and extensive root system facilitates greater nutrient uptake and water interception by the crop.

Improvement in Root Growth with Basis® XC on MAP

On-farm trial conducted by Nutrien Ag Solutions Callington, SA, in wheat, 2017; Basis® XC applied at 2L/tonne on MAP fertiliser

MAP MAP + Basis XC

Pasture Performance

A replicated pasture trial conducted by Nutrien Ag Solutions Yass in 2016 evaluated the application of Basis® technology on single superphosphate (SSP, 00:09:00:11). In the trial, Basis® treatment increased dry matter production in the "feed gap" period of late winter in the cool climate of the Southern Tablelands, NSW. Basis® also improved fertiliser efficiency, with Basis®-treated SSP at the lower rate of 100kg/ha creating more biomass than SSP alone at 125kg/ha.

Increase in Dry Matter Production with Basis® on SSP

Treatment	Applied Rate	DM 1st Cut 29-8-16 Kg/ha	DM 2nd Cut 3-11-16 Kg/ha	Total DM Kg/ha
Untreated	–	250.4 *b*	1911.42 *a*	2161.82
SSP	100 kg	416.0 *ab*	2032.54 *a*	2448.54
SSP	125 kg	486.5 *ab*	2037.97 *a*	2524.47
SSP + Basis®	**100 kg + 4L/t**	**647.8 *a***	**2000.55 *a***	**2648.35**

Note: Original (unconcentrated) Basis® formulation was used in this trial.
DM 29-8-16: LSD (P=0.05%) - 298.27; CV - 40.63.
DM 3-11-16: LSD (P=0.05%) - 251; CV - 7.52.

Basis® XC has also proven beneficial when applied to high analysis phosphorus fertilisers under newly sown pasture. In a replicated trial conducted by Pasture First Research Australia in Gippsland, VIC (2017), Basis® XC applied at 2L/tonne on DAP (18:20:00:02) drilled at 100kg/ha significantly increased dry matter compared to DAP alone.

Increase in Dry Matter Production with Basis® on DAP

Treatment	Applied Rate	DM 1st Cut 7-6-2017 Kg/ha	DM 2nd Cut 2-8-2017 Kg/ha	Total DM Kg/ha
Untreated	–	236.3 *c*	577.7 *b*	814.0 *c*
DAP	100 kg	407.7 *b*	783.7 *a*	1191.3 *b*
DAP + Basis® XC	**100 kg + 2L/t**	**533.3 a**	**922.3 a**	**1456.0 a**
Standard Error:	-	67.19	91.26	132.56

Note: Values sharing a letter in the same column were statistically significantly different from each other (P<0.05).

Basis® XC

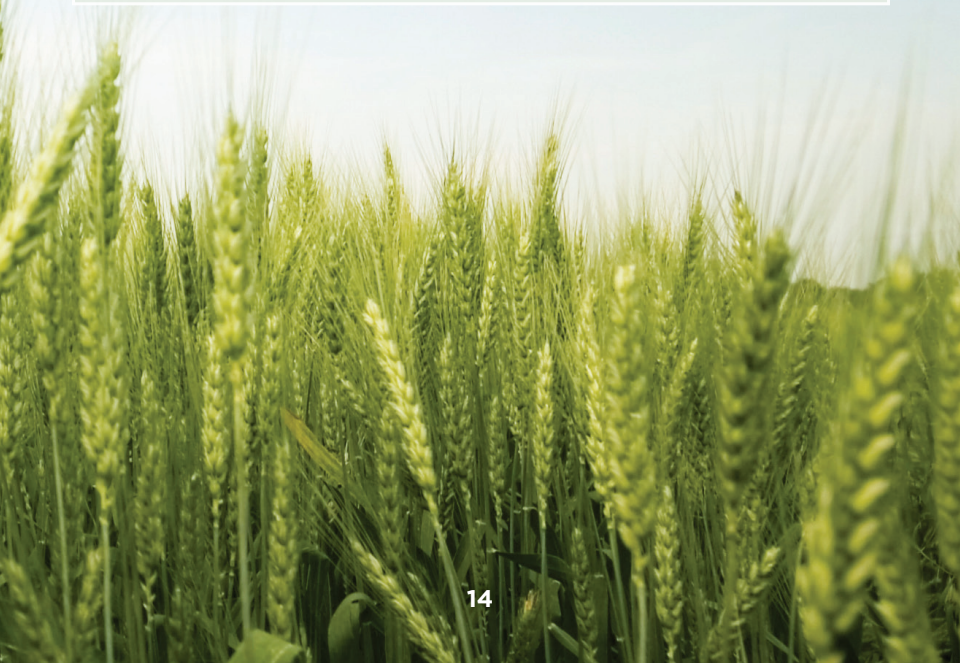
At a Glance	
Application	• Granular fertiliser treatment
Target nutrients	• Broad spectrum
Key functioning components	• Concentrated biochemistry
Primary mode of action	• Increases mineralisation & availability of nutrients within granular fertiliser
Recommended rate	• Apply onto granular fertilisers at 2 litres per tonne

Basis® XC

Fertilizer Biocatalyst Technology

Biocatalyst
Technology

Basis® XC is a biocatalyst for granular fertilisers that increases nutrient availability and promotes nutrient mineralisation.



Contact Your Local Nutrien Ag Solutions Agronomist

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lovelandagriproducts.com.au