



Knowledge grows

YaraVita™ GRAMITREL

highly formulated suspension
concentrate rich in key nutrients



YaraVita™ GRAMITREL™

High Spec

YaraVita™ GRAMITREL is a highly formulated suspension concentrate containing key nutrients:

15% w/v = 150 g/l magnesium (Mg)
25% w/v = 250 g/l magnesium oxide (MgO)
15% w/v = 150 g/l manganese (Mn)
5.0% w/v = 50 g/l copper (Cu)
8.0 % w/v = 80 g/l zinc (Zn)



Mg Cu Mn Zn Key nutrients for foliar application to optimise yield in cereals

Correct grain development

- Cu role in lignification enables pollen release increasing fertilization and reducing the incidence of 'blind grain'
- Optimum zinc status during seed set can result in a increased grain number and size

Cu Zn

Good plant structure

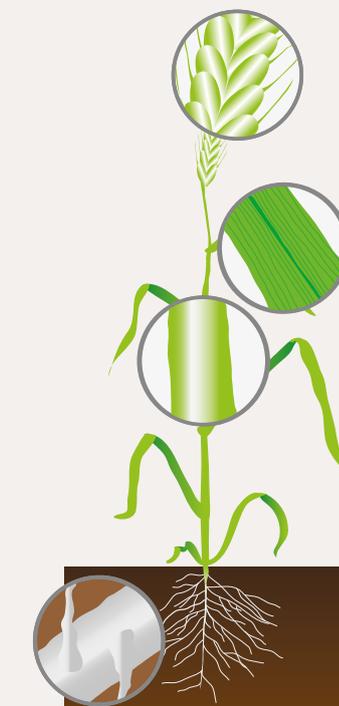
- Optimum Cu promotes lignification, decreasing the susceptibility of lodging, particularly with high N supply
- Optimum Zn promotes auxin levels, which results in optimum canopy development

Cu Zn

Green leaves

- Mg is a key component of chlorophyll, optimum supply drives photosynthetic activity in the leaf
- Mn and Zn play key roles in the production of chlorophyll and photosynthesis

Mg Mn Zn



Healthy roots

- Optimum Mn ensures high lignin content in the roots which increases resistance to root infecting pathogens

Mn

YaraVita™ GRAMITREL is rich in key nutrients and very tank mixable:

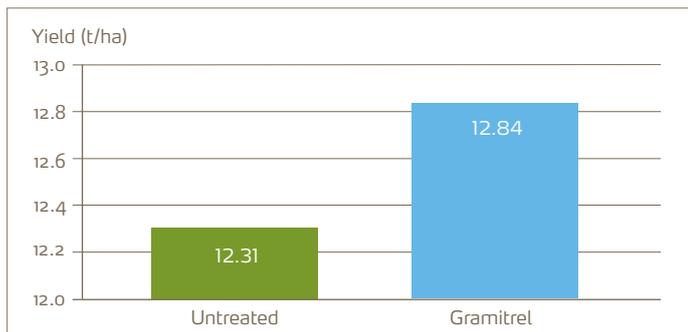
- Easy to use flowable
- Immediately dispersed no dissolving necessary
- Exceptional tank mixability
- Very rainfast
- Very safe
- Very effective
- Available in 10 litre pack



Trials information - Consistent yield benefit over control and farm standard

Trial DE-112-F, conducted in Germany by Agratest on a wheat test crop.

YaraVita GRAMITREL was applied at 3 l/ha at GS 31.

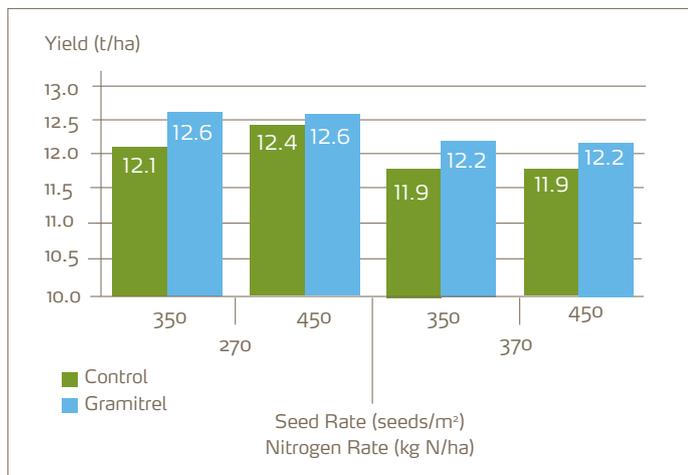


The average yield increase from applying GRAMITREL was 0.3 t/ha.

Return on investment ratio of 3:1

Winter Wheat Gramitrel Trial

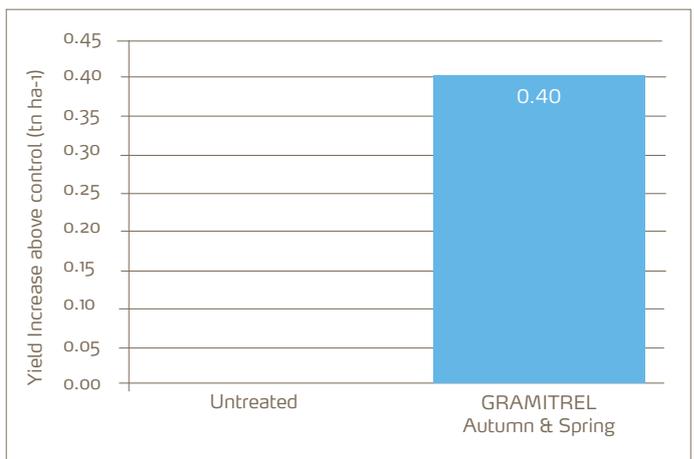
The trial was carried out by KWS at their site in Cambridgeshire on two soil N rates and two seed rates. GRAMITREL applied at T2 to the variety Cordiale to look at boosting yield/protein.



The average yield increase from applying Gramitrel was 0.3 t/ha.

Return on investment ratio of 3:1

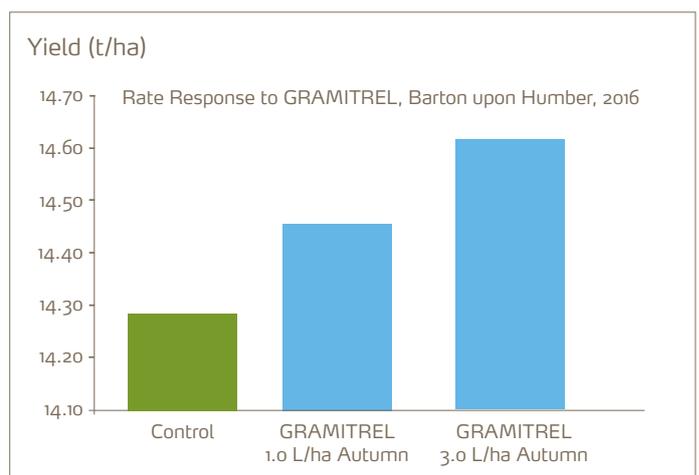
Winter Wheat YaraVita GRAMITREL Trial (2 sites UK, 2015)



Return on investment ratio of 2.5:1

Winter Wheat trials - Barton upon Humber. Autumn applied. Up to 0.34 tonne per hectare extra yield over control.

Trial - Autumn response to YaraVita GRAMITREL.



Extra 0.34 tonnes per hectare over control, shows importance of early autumn GRAMITREL application to maximise yield potential in 2016 applied at 3 litre/ha.

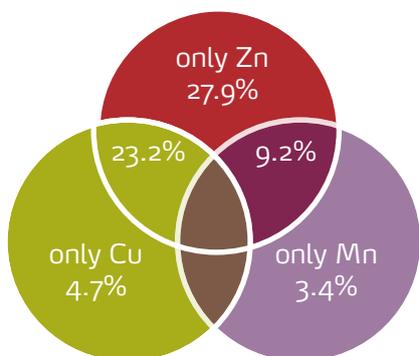
Autumn applied. GS 14

Extra yield 0.34 tn/ha @ £135/tn milling wheat = £45.90/ha.
Cost of YaraVita GRAMITREL applied at 3 litre/ha = £18/ha.
Cost benefit 255% autumn applied. Plus farmer testimonial of the value of a healthier and cleaner crop going into the winter.

Leaf Samples Venn Diagram for Wheat (Winter) from 1/1/2017 to 10/7/2017, UK

- 79% of 596 samples have had a least one nutrient deficient
- 43.1 of samples have more than one nutrient deficient

69.8% of samples deficient in Zn

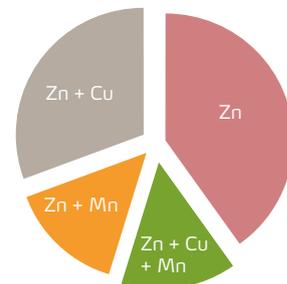


38.6% of samples deficient in Cu

23.3% of samples deficient in Mn

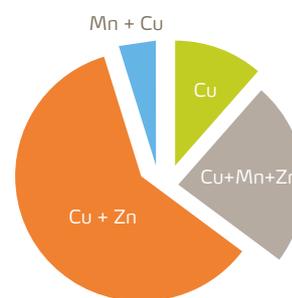
Zn

- For every 100 samples deficient in Zn,
 - 40 are deficient in Zn alone.
 - 14 are deficient in Zn + Cu + Mn
 - 46 are deficient in Zn and either Cu, or Mn



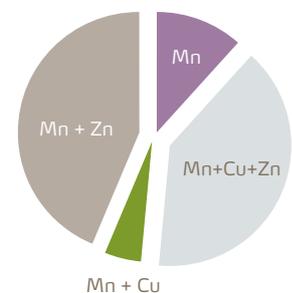
Cu

- For every 100 samples deficient in Cu,
 - 12 are deficient in Cu alone.
 - 25 are deficient in Zn + Cu + Mn
 - 63 are deficient in Cu and either Zn, or Mn



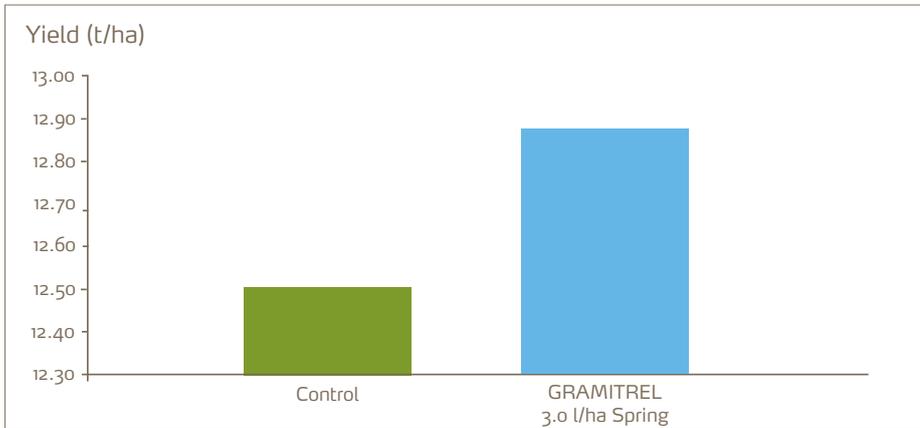
Mn

- For every 100 samples deficient in Mn,
 - 14 are deficient in Mn alone.
 - 41 are deficient in Mn + Cu + Zn
 - 45 are deficient in Mn and either Cu, or Zn



Winter Wheat trials in Low Mowthorpe.
Spring applied.
Up to 0.37 tonne per hectare extra yield over control.

Rate Response to Gramitrel, Low Mowthorpe.



Spring applied. GS 30.

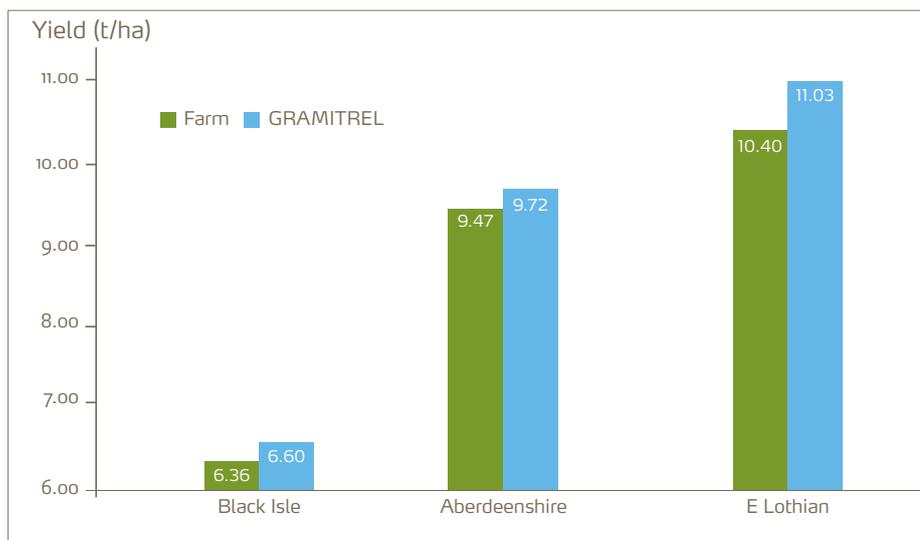
Extra yield 0.37 t/ha @ £135/tn milling wheat = £49.95/ha

Cost of YaraVita Gramitrel applied at 3 litre/ha = £18/ha.

Cost benefit 277% spring applied.

Spring Barley trials in Scotland.
Up to 0.6 tonnes per hectare increased yield
over farm practice.

Spring Barley Gramitrel Trial Results t/ha



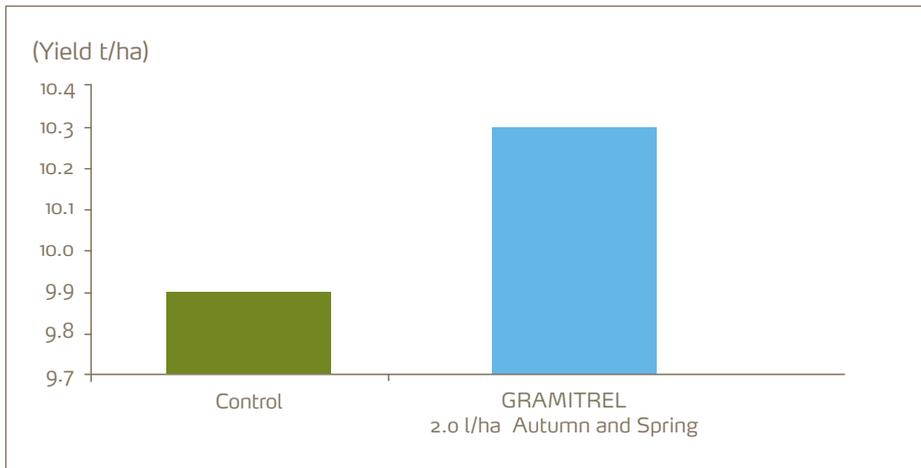
Winter Wheat Trial 2017

Extra yield 0.41 tn/ha @ £146/tn

Milling wheat = £59.86/ha.

Cost of YaraVita GRAMITREL applied at 2 x 2 litre/ha = £24/ha.

Return on investment ratio benefit 2.5:1.



Farmer testimonial Grantham, Lincolnshire.

“We applied a straight application of GRAMITREL in the Autumn, that was followed up in the spring with the first T0 fungicide and a growth regulator in the tankmix at the same time.

When we were looking in the spring at T0 at the Santiago, being a known variety for Yellow Rust. My agronomist was telling me that crops he was looking after were bad for disease, we inspected our crop and we had a lovely clean green leaf, no disease pigment at all and no blemishes on the leaf, the crop was extremely healthy. The only difference in the field was the application of GRAMITREL, it was spectacularly good.

The field treated with GRAMITREL has done impressively well, we’ve achieved 13.44 tonnes in the area measured with the combine, which has smashed anything we’ve ever done before.”



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