Tnue Smartfert®
Total Nutrient Use Efficiency

Maize
Tnue CRM Technology

Tnue Smartfert® ensures readily available nitrogen to meet maize growth demand.

Scientific and field trials highlight Tnue Smartfert® control release characteristics which improve nutrient use efficiency. Maize growers can benefit.

Maximise nutrient use efficiency and crop yields, minimise side dressing.

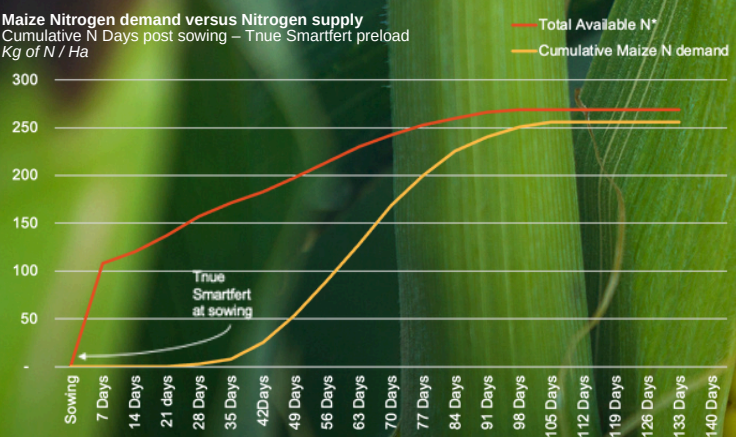
Tnue Smartfert Benefits to Maize Growers

Enhanced nutrient use efficiency by delivering nutrients when the plant demands them. More to the plant mean reduced N losses.

All side dressing nitrogen in the maize assessments are applied using dual fertiliser planters with application at time of sowing the crop.

Applying Tnue Smartfert needs to be as close to sowing time as possible and if possible, the fertiliser covered with soil to provide added protection and coverage for osmotic pressure.

Maize Nitrogen demand versus Nitrogen supply
Cumulative N Days post sowing – Tnue Smartfert preload
Kg of N / Ha



NOTES:
**170kg N/ha applied from Smartfert in the base & DAP at planting*
100kg N/ha soil available N assumed

Tnue Smartfert®

6% ON AVERAGE
Increased Crop Yield

Multiple field trials with Tnue Smartfert versus urea on sweet corn in Hawkes Bay demonstrate Tnue Smartfert outperforms. Other field trials in the Waikato, Northland and Bay of Plenty confirm similar results with Tnue Smartfert on maize.

The release of the N which is encapsulated by the control release membrane (CRM) in Tnue Smartfert, is controlled by the membrane that is applied. The release of the N is then triggered by the soil temperature. The warmer the soil the faster the release.

Tnue's Smartfert control-release-membrane ensures the nitrogen remains in the soil within the main feeding root zone.

LESS LOSSES: LEACHING AND EMISSIONS

Urea applied nitrogen in heavy rainfall events, e.g. on the peatlands, will leach the urea nitrogen further into the soil profile away from the main plant roots zone. While it is known that maize roots can catch up to deeper leached nitrogen the profile compromises the plant's ability to utilize all the nitrogen, specifically:

- Anerobic waterlogged soils will cause denitrification and the nitrogen converting to nitrous oxide then emitted to the atmosphere
- Nitrogen leaching away from the main feeding roots of the plant is not utilised
- Nitrogen leaching into the water table of peatlands and being lost through denitrification and converting to nitrous oxide

Lands prone to heavy rain events which lift the water table to a point where the soil water holding capacity is saturated resulting in anerobic soil conditions. With Tnue Smartfert control-release there is less ammonia in the soil. Therefore, in heavy rain events there is less soil nitrogen to convert to nitrous oxide resulting in less losses of nitrogen.

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AMAZING RESULTS WITH TNUE SMARTFERT

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