Instinct™

Optinyte™ technology
NITROGEN STABILIZER

Technical Information Sheet

Instinct™ - maximise yield and minimise loss with an enhanced nitrogen stabiliser.

Key facts

Active Ingredient:	300 g/litre nitrapyrin
Pack Size:	10 litres
Formulation:	Capsule Solution (CS) (Microencapsulation)
Recommended Dose:	1.7 litres/ha
Maximum Dose:	Do not apply more than a total of 3.4 l/ha Instinct per year. (125 days must elapse between applications).
Application Timing:	Can be applied spring and autumn. Flexible – pre and post planting, best applied as close to main fertiliser application as possible.
Water Volumes:	100-300 litres water/ha
Spray Quality:	Medium as defined by BCPC
Nozzles:	All conventional nozzles

Key benefits

- Optimises yield potential of crops fertilised with ammonium containing fertilisers (such as slurry, digestate, UAN, AN, urea, etc.).
- Keeps more ammonium in soil for longer.
- Reduces nitrogen escape into the environment.
- Regulates nitrate availability to crops.
- Compatible with a range of crop inputs such as herbicides, fungicides, liquid fertilisers.
- Only one rate, regardless of when applied.
- Usually applied with a crop sprayer.
- May be applied with slurry.
- Must be incorporated within 10 days by either 12 mm of rain or mechanical incorporation.
- Can be applied to potatoes, sugar beet, maize, cereals, oilseed rape, grass or land intended for these crops
- When using Instinct, farmers and the environment will benefit from:
- At least 8 more weeks of nitrogen availability in the soil.
- 50% less greenhouse gas emissions.
- 45 % less nitrogen leaching.
- 28% greater nitrogen-in soil-retention.
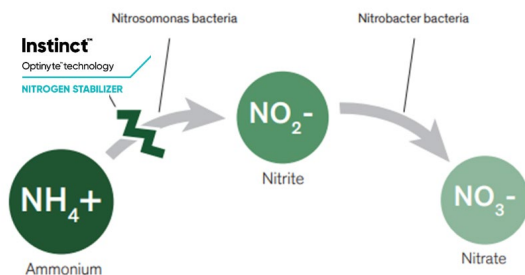- Optimised nitrogen use and yield potential .
- Improved root structure.

Mode of action
How Optinyte technology works

Instinct, containing Optinyte technology works by stabilising ammonium (NH4+) . It slows down the process that converts ammonium to nitrite. This process can be slowed down for 8-12 weeks. This keeps more ammonium in the soil, for longer. Ammonium is not vulnerable to leaching from soil with rainfall, nor will it be converted to nitrous oxide in waterlogged soils. As more nitrogen is retained in the soil for longer, the yield potential of a crop is optimised, and environmental footprint reduced.
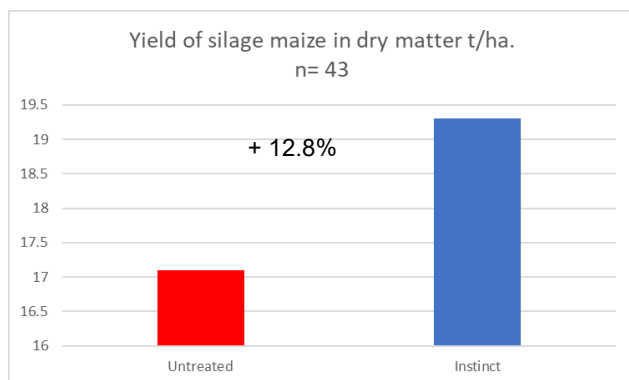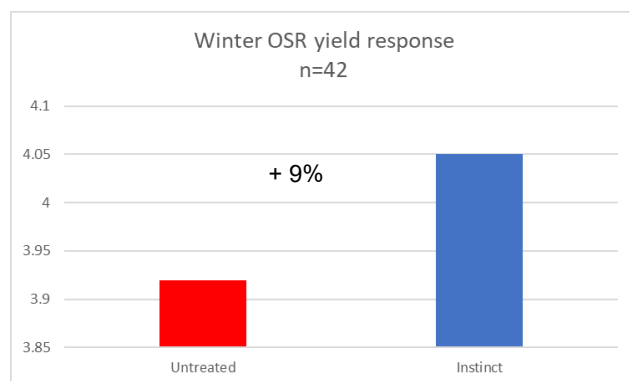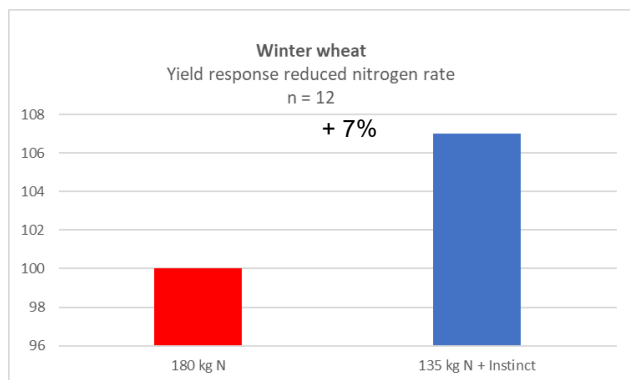

The results of a trial in maize demonstrates how Instinct keeps more nitrogen in the soil for longer. Instinct retains more nitrogen in the upper layers of soil for longer, where it is more accessible to a developing crop.

CORTEVA agriscience™
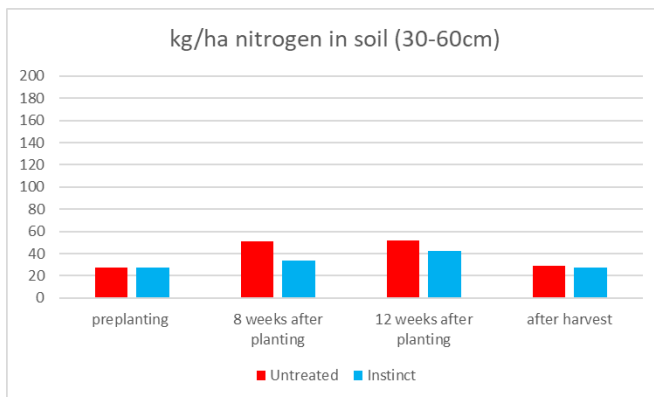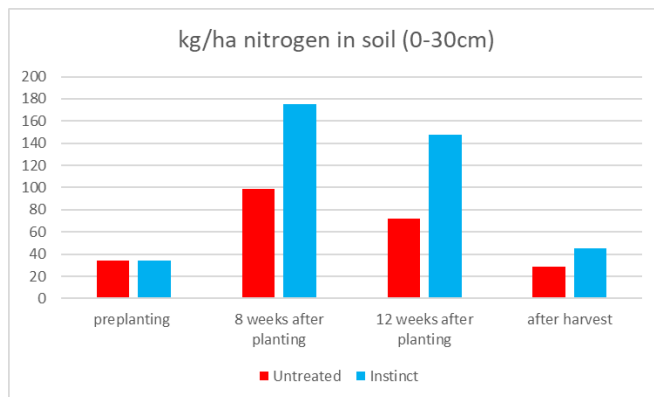
Instinct provides yield optimisation and nitrogen management flexibility through an increase in nitrogen use efficiency :

- Keep the nitrogen rate the same and push for yield.
- Reduce the nitrogen rate and maintain yield.
- Reduce the number of applications and save on cost and workload.
- Make the most of your nitrogen application when residual soil nitrogen levels are low.
- Apply more nitrogen earlier in the year to get your crops off to a good start.

Winter OSR yield response
n=42

Yield of silage maize in dry matter t/ha.
n= 43

Winter wheat
Yield response reduced nitrogen rate
n = 12

Best use advice

- Best results seen when used on light soils prone to leaching, and heavy soils prone to water-logging.
- Can be applied before, or with, or after a fertiliser application.
- Optimal performance is when Instinct is applied early in the season, within a few days of the main fertiliser applications.
- In cool conditions bacterial inhibition may last 10-12 weeks, in warm soils 8-10 weeks.
- If applied as a foliar application and not to the soil and incorporated, 12 mm of rain is required within 10 days of the Instinct application for optimum performance.
- Instinct is compatible with a wide variety of crop protection products. For a full tank-mix list please visit the website: https://www.corteva.co.uk/products-and-solutions/nitrogen-management/instinct.html

PROTECT THE ENVIRONMENT
Reduce nitrate and GHG losses

GREATER PRODUCTIVITY
Maximise yield

IMPROVED EFFICIENCY
Keep nitrogen in the root zone

Application with fertilisers

Instinct can be applied with all nitrogen fertilisers containing ammonium, such as

- Slurry
- Biogas digestate
- UAN (such as 28%, 30% or 32%)
- Urea
- Ammonium nitrate
- Calcium ammonium nitrate

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