

NOxShield®

Fertiliser Additives



Use

With any nitrogen fertiliser, including organic manures, to allow the full season's nitrogen requirement to be applied at one time, while reducing leaching losses and greenhouse gas emissions

Crops

Most agricultural crops

Pack Size

10L, 600L IBC, 1000L IBC

Function of NOxShield®

The management of nitrogen is critical to achieve optimum crop yield and gross margin. NOxShield is formulated with a nitrification inhibitor which controls the release of nitrate nitrogen; increasing yields, reducing application costs and simplifying nitrogen management of the crop. By controlling the release of nitrate into the soil solution, NOxShield can reduce losses of the potent greenhouse gas nitrous oxide into the atmosphere by up to 70%, thereby significantly reducing the CO₂e per tonne of crop production (carbon footprint) while optimising output.

Cereals: The unique formulation of NOxShield allows the grower to reduce the number of nitrogen applications or to apply all of the nitrogen in just one dose, saving on additional application costs.

Potatoes: The controlled release of nitrogen following use of NOxShield reduces nitrate leaching losses ensuring that the potato crop can utilise more of the nitrogen applied.

Organic Manures: Much of the available nitrogen applied with slurries in the autumn and winter is lost through leaching and volatilization to the atmosphere and water courses. Across livestock systems, a common estimate is that 5-20% of the total slurry N applied may be lost through nitrate leaching, with the highest losses occurring when slurry is applied to bare soils, or on light sandy soils. NOxShield reduces these losses, ensuring that valuable nitrogen is available to the crop.

The bacteriostatic action of the nitrification inhibitor in NOxShield, dicyandiamide, works selectively on *Nitrosomonas europaea* controlling the oxidation of ammonium to nitrate. By keeping the nitrogen in the ammonium form which is less prone to leaching, nitrogen losses can be kept to a bare minimum. Dicyandiamide is broken down as soil temperature increases. NOxShield therefore releases more nitrogen as the crop requires it. When applied with slurry, NOxShield can stabilise the nitrogen until the crop can use it.

Composition

Dicyandiamide 30% w/w

◆ Directions for Use

NOxShield is a nitrification inhibitor formulation containing Dicyandiamide (DCD) fully solubilised that slows down conversion of ammonium (NH_4^+) into nitrate (NO_3^-) with a bacteriostatic effect on *Nitrosomonas* bacteria.

Applicable on all crops according to good fertiliser practices, and local nitrogen regulations. NOxShield can be used in a mixture with OMEX Nitroflo and Multiflo liquid nitrogen fertilisers.

Recommended use rate of NOxShield:

Liquid Fertiliser: 3.5 to 10L/m³

Manure and other organic fertilisers: 1.7 to 3.4 L/100 kg N as ammonia. For greatest efficacy the rate should be based on an accurate analysis of the material used, but the table below gives usage rates based on typical manure analyses and the 1.7 litre per 100 kg ammonia rate:

Manure Type	Typical Total Ammonium Nitrogen (UAN) per m ³	NoXShield ml/m ³
Cattle Slurry 2% DM	0.48	8.2
Cattle Slurry 6% DM	0.78	13.3
Cattle Slurry 10% DM	1.08	18.4
Pig Slurry 2% DM	0.90	15.3
Pig Slurry 4% DM	1.08	18.4
Pig Slurry 6% DM	1.32	22.4
Anaerobic Digestate	2.00 - 7.00	34-119

◆ Mixing Advice

Liquid Fertiliser: Add the required dose of NOxShield through the mixing hopper or by pouring into the top of the sprayer while filling with fertiliser and agitate thoroughly before application

Slurries and AD: Mix in to the holding tank or lagoon 24-48 hours before application and agitate thoroughly to ensure homogenisation. Do not recirculate treated AD back in to the digester.