ESN SmartNitrogen

How ESN Technology Works

Coated Nitrogen Granules

ESN technology uses a flexible, polymer coating to encapsulate an N granule. The coating protects the N from loss mechanisms, releasing it when the crop needs it most.

Temperature Controlled-Release

The unique polymer coating releases N based on the two requirements for crop growth: moisture and temperature. Moisture creates an N solution inside the coating, and the solution moves through the coating at a rate based on soil temperature. The movement and rate match the N demand of the growing crop.

Backed by Independent Research

ESN is backed by over 800 crop years of testing by independent, third-party researchers. The data is proof of performance for a unique product.

POLYMER COATED GRANULE | COATING PROTECTS N FROM LOSS MECHANISMS | MEMBRANE ALLOWS WATER TO DIFFUSE IN | GRANULE RELEASES N AT A PREDICTABLE RATE

Learn more about the industry's leading environmentally smart nitrogen at smartnitrogen.com

Nutrien

Cotton

ESN SmartNitrogen

- Enhances nitrogen use efficiency
- Improves crop yield and quality
- Provides convenience through ease of use
- Environmentally responsible

ESN Technology for Cotton

A single application of ESN controlled-release nitrogen feeds crops throughout the growing season. Plants get the nitrogen (N) they need, when they need it most — and you get improved N efficiency.

ESN technology controls the N supply until your cotton crop needs it. Additionally, it significantly reduces N loss to the environment. Using ESN technology is a smarter way to grow.

ESN Technology and Increased Yield

ESN's controlled-release nitrogen provides flexibility in application timing. It can be used to enhance nitrogen use efficiency and crop performance.

Unmatched Seed Safety

Applied at rates up to three times higher than conventional fertilizers, ESN won't harm growing seedlings.

Maximizing your cotton crop performance

Reduced Lodging

Excessive available nitrogen (N) early in the growing season can sometimes overstimulate vegetative growth in grain crops resulting in lodging. ESN's controlled nitrogen supply provides N when it is needed, avoids early season excesses and may reduce the lodging caused by excessive N supply.

Other Benefits of ESN Technology

WIDER APPLICATION WINDOW

ESN provides a wider application window in both the spring and the fall, allowing you to apply fertilizer on your schedule.

CONVENIENT TO USE AND APPLY

ESN is compatible with no-till operations and is easy to blend. It will not set up in storage and therefore has a longer shelf life.

ENVIRONMENTALLY RESPONSIBLE

ESN significantly reduces N loss, providing substantial benefits to the environment. In the U.S., the national NRCS and local EQIP programs offer grower incentives for the use of ESN.

ESN is the only controlled-release nitrogen designed for agriculture that delivers a significant return on investment through increased nitrogen efficiency.

Application Timing and Handling

ESN is generally applied at rates similar to conventional N fertilizers. Field location, weather conditions, timing of N demand and potential for N loss are all factors to consider in determining application timing.

ESN was developed and extensively tested to resist the effects of normal handling. Excessive handling can affect the coating and N release.

For more application timing and handling recommendations, talk to your local retailer, ESN representative or visit **smartnitrogen.com**.