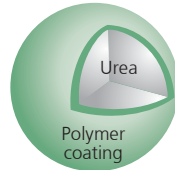


How ESN technology works

Coated nitrogen granules

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

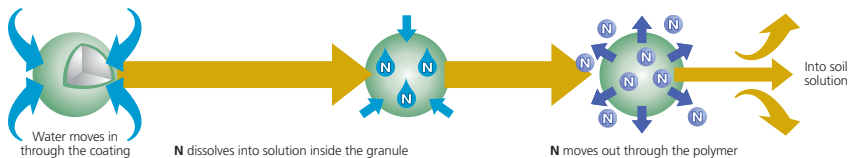


Temperature controlled release

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 400 crop years of testing by independent, third party researchers. The data is proof of performance for a unique product.



NOTE: Nothing contained in this document is a guarantee of performance, yield, quality or other benefit resulting from using ESN. The benefits of ESN contained herein are based on average results observed over time in scientific studies conducted under controlled conditions. Actual benefits will vary over time and depending on local conditions.

For more information about ESN technology visit SmartNitrogen.com or call **888-757-0072**. To contact the field representative in your area go to AgriumAT.com/AgContacts.



Agrium Advanced Technologies (AAT) is a strategic business unit of Agrium Inc. AAT produces and markets controlled-release nutrients, micronutrients and plant protection products for sale to the agricultural, professional turf and ornamental markets primarily in North America.

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Potatoes



ESN technology goes beyond traditional nitrogen

- Maximize N use efficiency
- Maximize marketable yield
- Increase quality
- Wider application window; improved convenience and ease of use
- Reduce number of N applications
- Safe for the environment, government purchase incentives may apply
- Backed by independent research

ESN technology for potatoes

Potatoes require high N rates, and timing is critical. The crop consumes 60 to 80% of its total N needs during tuber initiation and tuber bulking. ESN technology controls the N supply until the growing plants need it most. Additionally, it virtually eliminates N loss to the environment. Using ESN technology is a smarter way to grow.

ESN technology, yield and quality

Research has shown that increased yield is a result of ESN technology protecting N from being lost to the environment. ESN maximizes N efficiency, compared with similar N treatments from urea or UAN. From increased yield to increased quality to reduced N applications, research in various US and Canadian locations has shown that ESN makes potatoes better.

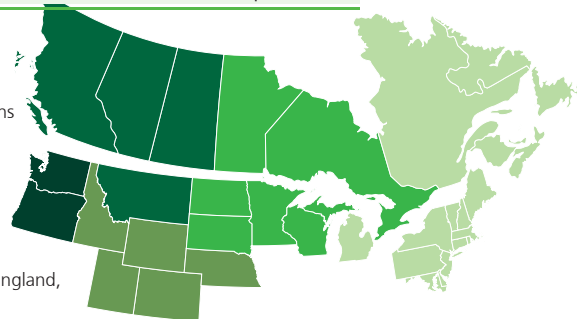
Benefit	Average range	High
Increase in marketable yield (bu/acre)	5-10%	30%
Increase in % of #1s	Up to 10%	25%
Reduced N applications	1-10	n/a

Historical results based on existing data.

ESN use recommendations

Geography	Intermediate (Full-Season) ESN Use	Determinate (Short-Season) ESN Use
Area 1	75% of N as ESN at emergence	80-100% of N at planting, in most cases, further N is not required
Area 2	100% of N as ESN at emergence	80-100% of N at planting, in most cases, further N is not required
Area 3	100% of N as ESN at planting	80-100% of N at planting, with 50-60% of blend as ESN, in most cases, further N is not required
Area 4	100% of N as ESN at emergence	80-100% of N at planting, in most cases, further N is not required
Area 5	100% of N as ESN at emergence	80-100% of N at planting, in most cases, further N is not required

- Area 1** Pacific Northwest (OR, WA)
- Area 2** Mountain States and Central Great Plains (ID, UT, WY, CO, NE)
- Area 3** Northwest Great Plains and W. Canada (MT, BC, AB, SK)
- Area 4** North Central US Central Canada (WI, MN, ND, SD, MB, W, ON)
- Area 5** Northeast US and Eastern Canada (MI, NY, PA, Mid-Atlantic States, New England, Eastern Ontario, QC, Maritimes)



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.

Safe for the environment

ESN virtually eliminates N loss, providing significant benefits to the environment. In the US, National NRCS and local EQIP programs offer grower incentives for the use of ESN. To find out more, visit www.AgriumAT.com/nrcs.

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 www.SmartNitrogen.com.



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

