ESN® SmartNitrogen

A *SMARTER* SOURCE OF NITROGEN, A *SMARTER* WAY TO GROW®

Facts From the Field

ESN® Demonstrates Superior Performance Under Dry Conditions

How Do Drought and Flood Conditions Affect the Release of Nitrogen From ESN?

Water is part of the release mechanism needed to dissolve the urea inside the ESN coating. But it does not regulate the rate of release except when the soil becomes dry enough to limit the process. This occurs near the plant's permanent wilting point . Above that, as long as the fertilizer is in good contact with the soil, there is little or no difference in the release rate with differences in soil moisture. At this point, soil temperature is the primary regulating factor.

In other words, the release rate will be similar in saturated soil to that in unsaturated conditions. This is one of the benefits of ESN. While conventional fertilizers and even inhibitors may be affected by excess moisture, ESN continues to protect nitrogen (N) in very wet conditions as well as in dry conditions. We would typically describe the release of ESN to occur over about 50 to 80 days; temperature and moisture can alter the timing of its release. We expect about 80% release of N within about 60 days of spring application.

How Do Temperature and Moisture Level Impact the Speed of Release of ESN?

Temperature and moisture can affect the timing of ESN release – moisture has little impact on the rate of release as long as there is adequate moisture to maintain the growing process. If ESN is incorporated into the soil and there is sufficient moisture to grow a crop, there is little impact by moisture. Moisture only becomes a concern when ESN is surface applied and not incorporated in areas with limited or infrequent rainfall.

2015 ESN Canola Study With Mackenzie Applied Research Association (MARA), Fort Vermilion, AB, Demonstrates ESN's Superior Performance Under Dry Conditions.

The study focused on yield and oil content comparisons of various enhanced efficiency fertilizers. ESN took the lead in both higher yields and oil content. Treatments were band applied unless otherwise noted.

The Northern Peace area went through a one-in-100-year drought. Fort Vermillion only received two inches of rainfall from May 1 to July 31, with 67% of it coming in the month of July.

ESN SMART NITROGEN

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

HOW CAN WE HELP?

To make ESN a part of your nitrogen management program, contact an authorized retailer or ESN representative.

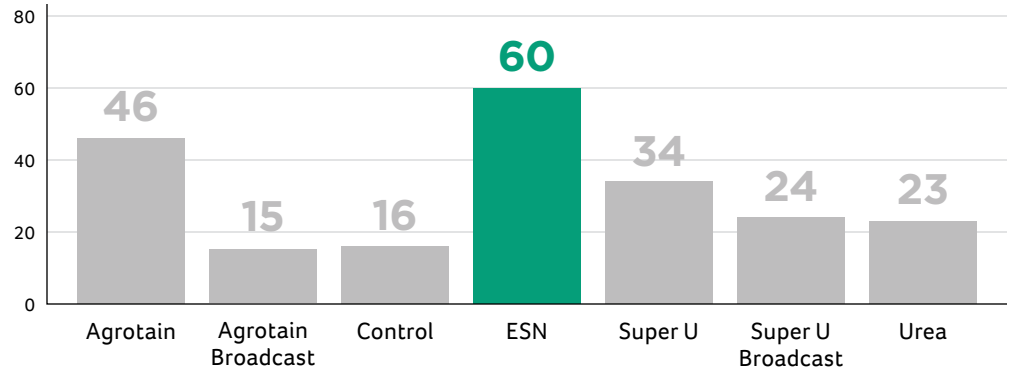
FOR MORE INFORMATION:

www.SmartNitrogen.com

ESN REPRESENTATIVE:

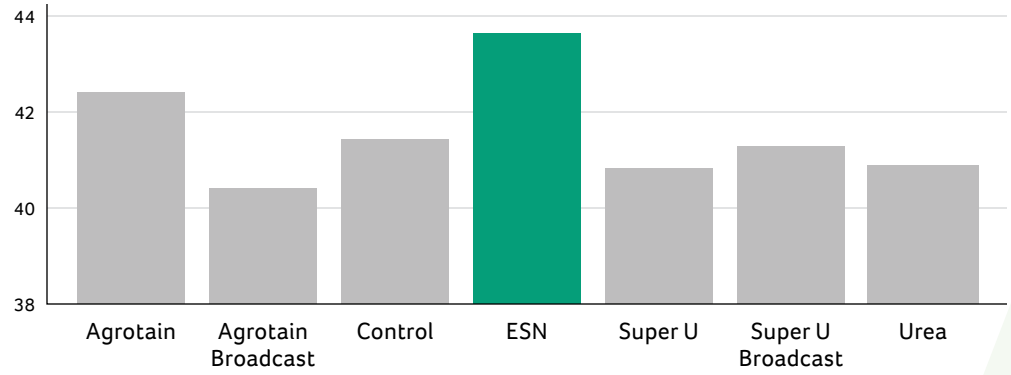
ESN® SmartNitrogen

Yield



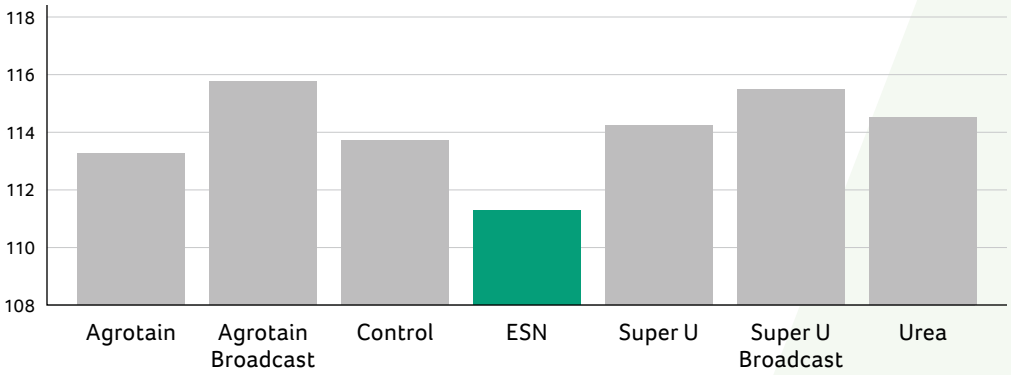
In dry conditions, ESN demonstrates the highest yields.

Oil %



Samples were measured for oil, and ESN again was the highest, which correlates to having less green seed in a sample.

Days to Maturity



Using ESN will extend the growing season, but as demonstrated, ESN had the shortest days to maturity. Unlike the other treatments, ESN holds back some of the N creating less vegetation, which means less water is needed to support the plant.

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

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