



A New Generation in Smart Nitrogen

ESN

Controlled Release Fertilizer

A smarter source of nitrogen. A smarter way to grow.



forages

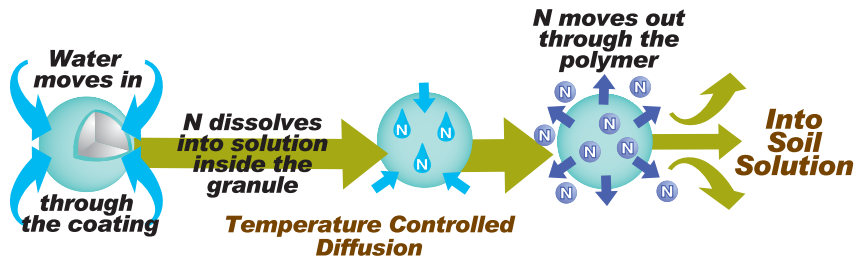
ESN is an Affordable Controlled Release Nitrogen Fertilizer from Agrium.

Fitting ESN into your Forage Fertility Program

- No matter what the spring weather, using ESN ensures the N is there when plant growth begins.
- Reduced N loss can result in increased yield potential and better forage quality from the same N application.
- In northern tier states, ESN can be applied in the fall to meet spring green-up N demand because ESN is stable in the soil.
- Using ESN can allow you to fertilize for multiple forage harvests with only one spring or fall application. Reduced applications save time and money.
- Using ESN allows you to control N supply to meet grass production goals. By blending ESN with other N sources, you can have N available immediately in the spring and throughout the growing season.
- For spring applications on cool-season grasses, blend ESN with sufficient amounts of other soluble N sources to meet early N demand.
- For earlier applications, warmer geographies, or if less early growth is desired increase ESN percentage in the blend (about 75-80% of the N from ESN).
- For later applications, colder climates, or if more early growth is desired, about 40-60% ESN should be sufficient.
- For export timothy, the longer N release allows the plants to remain green longer resulting in improved quality, higher grades, greater profitability.
- For forage seed crops, ESN will provide N later in the growth cycle to maintain photosynthesis and increase seed production.

Predictable Nitrogen Release

A patented flexible, micro-thin polymer membrane coating over the Nitrogen (N) granule results in a predictable N release. The unique membrane allows water to diffuse into the granule, dissolving the N within. The N solution remains encapsulated in the granule until it is released by diffusion through the membrane.



Advantages of Controlled Release Nitrogen

Reduce Nitrogen Loss

Nitrogen in the soil is subject to losses through denitrification, leaching below the root zone and gassing off to the atmosphere before the plant roots can absorb it. These losses can reduce economic efficiency of the applied fertilizer and may pose an environmental risk. Research shows that ESN improves nitrogen use efficiency and environmental safety by protecting nitrogen from loss, until soil conditions are favourable for plant uptake.

Matching Nitrogen Release to Plant Uptake

The N release rate of ESN is governed by soil temperature and soil moisture, which also determine plant growth and nutrient demand. The rate at which water moves through the coating into the granule is slow in cold soils and increases as the soil warms. This matches N supply with the pattern of plant growth. ESN provides a steady N supply for the growing plant's N demand.

Low Volatility for Surface Broadcast Applications

Ammonium nitrate has long been a popular N fertilizer for grasslands because of low volatility. As ammonium nitrate becomes less available and more expensive, forage growers are considering alternatives. ESN minimizes volatile loss of ammonia while providing steady N supply to the crop. Research shows negligible ammonia loss from surface applications of ESN. ESN will also not burn foliage, even at high N rates.

Better Quality Forage

ESN's controlled release provides an extended N supply to the crop. Greater N supply as the crop approaches harvest means higher protein forage and better feed value. This adds up to greater productivity per acre from livestock and more profit.



Agronomists		ESN Sales Representatives		Agronomy Info. Line
Ray Dowbenko (403) 225 7174 1-800-661-6757 13131 Lake Fraser Dr. SE Calgary, Alberta, Canada T2J 7E8	Alan Blaylock (303) 804-4479 4582 S. Ulster Street Suite 1700 Denver, Colorado, USA 80237	Cedar Rapids, Iowa Mark Mangin (303) 588-8333	DeWitt, Michigan B.J. Bilas (517) 669-5499	800-661-NPKS (6757) USA and Canada 877-265-0405 USA
		Breese, Illinois John Niemeyer (618) 526-7728	Hillsboro, North Dakota Andy Steinberger (701) 436-3930	email: esn@agriumat.com www.AgriumAT.com