

Effects of ESN[®] on Cotton Yields in Virginia



STUDY DESCRIPTION

A Virginia study demonstrates how ESN can increase yields in dryland cotton production. ESN protects nitrogen (N) from loss inside its unique protective coating and supplies N to the crop when it is needed. The result is increased cotton yields and improved N-use efficiency.

Cotton plants need N throughout the growing season. Most N uptake by a cotton plant takes place in the period of about 40-80 days after planting and continues up to 140 days after planting. ESN may be used to meet this long season demand.

In this Virginia study, ESN applied to the surface of the soil at lay-by yielded higher than a blend of AMS and urea.

RESULTS SUMMARY

- ESN when used in a blend with either 50% or 25% AMS produced higher yields compared to a blend of AMS and urea.
- 75% ESN blended with 25% AMS yielded 102 lbs. lint/acre more than the AMS urea blend.

TRIAL DETAIL

- *Conducted in Suffolk, VA by Dr. Hunter Frame, Virginia Tech*
- *Soil type — Eunola loamy fine sand*
- *Previous crop — Corn*
- *Four replications/treatment*
- *All plots received 20 lbs. N at planting*
- *Fertilizer applications made at 4th leaf*
- *Rates for sidedress applications were a total of 60 lbs. N/ac*



Want To Know More?

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

www.SmartNitrogen.com

FERTILIZER TREATMENTS

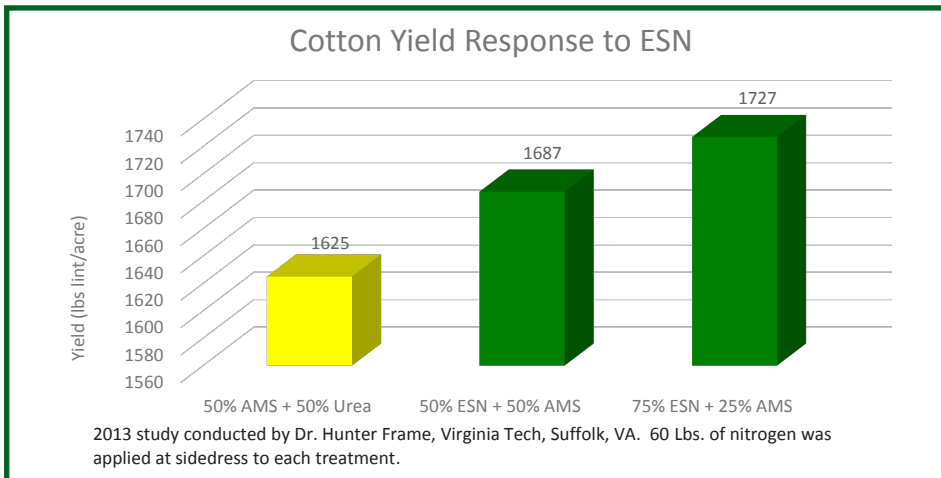
Fertilizer Treatment	Comments
75% ESN plus 25% AMS	75% ESN blended with 25% AMS
50% ESN plus 50% AMS	50% ESN blended with 50% AMS
50% AMS plus 50% urea	50% AMS blended with 50% urea

ESN = Environmentally Smart Nitrogen (44-0-0)

AMS = Ammonium Sulphate (21-0-0-24S)

Urea (46-0-0)

SUPPORTING DATA



Treatment	Lint Yield lbs/ acre	Lint Percent %	Fiber Quality			
			Micronaire	Length in.	Strength g/tex	Uniformity %
50% Ammonium Sulfate + 50% Urea	1625	39.9 b¶	5.1	1.12	30.1	84.2
50% ESN + 50% Ammonium Sulfate	1687	40.4 ab	5.1	1.12	29.8	84.6
75% ESN + 25% Ammonium Sulfate	1727	40.7 a	5.0	1.13	30.8	84.6
ANOVA Pr > F	0.1749	0.0577	0.834	0.6557	0.5335	0.3447

Values with the same letter are not significantly different at $\alpha = 0.1$.

ESN®

ESN Technology Goes Beyond Traditional Nitrogen

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

How ESN Technology Works

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

Nitrogen release thru the polymer coating is controlled by two of the factors in crop growth: soil moisture and temperature. Moisture creates an N solution inside the coating, and the solution moves through the coating at a rate controlled by soil temperature. Nitrogen supply is, therefore, more closely matched with crop demand.

ESN is backed by over 600 crop years of testing by independent, third party researchers. The data is proof of performance for a unique product.

