

Effects of ESN[®] on Cotton Yields in North Carolina



STUDY DESCRIPTION

A North Carolina 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 North Carolina study, ESN applied to the surface of the soil at lay-by yielded higher than UAN injected into the soil at the 3-4 leaf timing, and yielded as well as or better than UAN injected into the soil at the 7-8 leaf stage or a split application.

RESULTS SUMMARY

- ESN produced higher yields compared to a corresponding application of 28-0-0-5
- ESN produced higher or the same yield compared to late sidedress applications or split N applications

TRIAL DETAIL

- *Conducted in Plymouth, NC by Dr. Sandy Stewart, NCSU*
- *Soil Type = Clay loam*
- *Previous Crop = Corn*
- *Four Replications/treatment*
- *All plots received 100 or 130 lbs. N/acre at sidedress*
- *Fertilizer Applications made at 3-4 leaf, 7-8 leaf, or a split application at 3-4 leaf followed by 7-8 leaf*



Want To Know More?

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

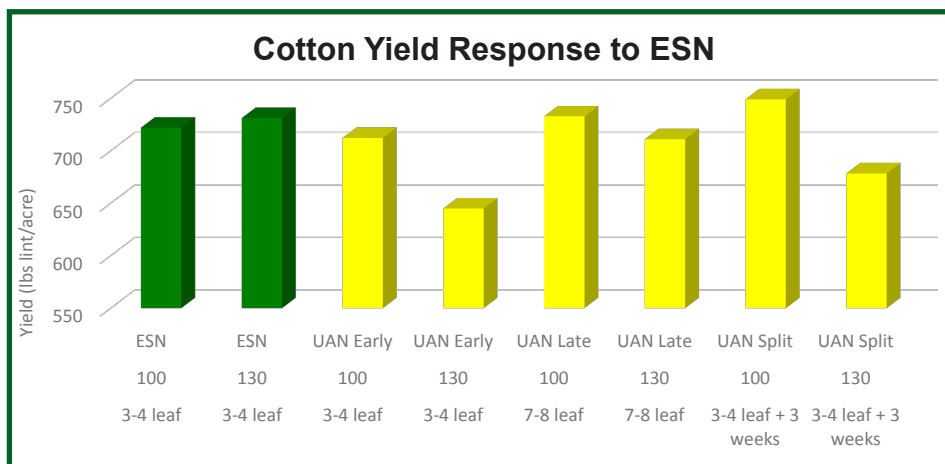
www.SmartNitrogen.com

FERTILIZER TREATMENTS

Fertilizer Treatment	Comments
ESN 100% - 100 lbs N/ac – 3-4 leaf	100% ESN
ESN 100% - 130 lbs N/ac – 3-4 leaf	100% ESN
28-0-0-5 – 100 lbs N /ac – 3-4 leaf	UAN Solution
28-0-0-5 – 130 lbs N /ac – 3-4 leaf	UAN Solution
28-0-0-5 – 100 lbs N /ac – 7-8 leaf	UAN Solution
28-0-0-5 – 130 lbs N /ac – 7-8 leaf	UAN Solution
28-0-0-5 – 100 lbs N /ac – 3-4 leaf + 7-8 leaf	UAN Solution
28-0-0-5 – 130 lbs N /ac – 3-4 leaf + 7-8 leaf	UAN Solution

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

SUPPORTING DATA



2013 study conducted by Dr. Sandy Stewart, NCSU, Plymouth, NC.

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.

ESN[®]
SmartNitrogen