

# Effects of ESN® on Cotton Yields in Arkansas



## STUDY DESCRIPTION

An Arkansas study demonstrates how ESN can increase yields in irrigated 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 Arkansas study, nitrogen was incorporated pre-plant to supply all N needs for the growing season.

## RESULTS SUMMARY

Averaged across 5 rates, ESN blended with 25 or 50% urea yielded higher than urea alone when applied pre-plant. 75% ESN plus 25% urea was the highest yielding treatment.

## TRIAL DETAIL

- *Conducted in Marianna, AR by Dr. Morteza Mozaffari, Univ. of AR.*
- *Soil Type = Silt loam*
- *Previous Crop = Corn*
- *Four Replications/treatment*
- *All N applied pre-plant incorporated*



### Want To Know More?

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

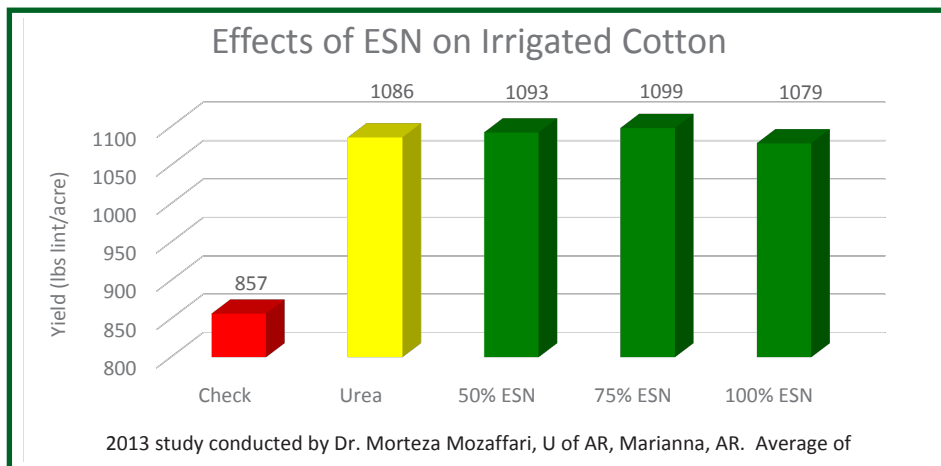
[www.SmartNitrogen.com](http://www.SmartNitrogen.com)

## FERTILIZER TREATMENTS

Fertilizer Treatment	Comments
ESN 100%	100% ESN
75% ESN + 25% urea	75% ESN
50% ESN + 50% urea	50% ESN
Urea	Grower Standard
Check	No N

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

## SUPPORTING DATA



**ESN<sup>®</sup>**

### 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<sup>®</sup>**  
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