

# Effects of ESN<sup>®</sup> on Irrigated Soybean Yields in Mississippi



## STUDY DESCRIPTION

A Mississippi study demonstrates how ESN can increase yields in irrigated soybean production. ESN can provide additional nitrogen to soybean plants during flowering and pod set, resulting in higher yields. 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 soybean yields and improved N-use efficiency.

Soybean plants need N throughout the growing season. Most N needed by the plant is produced through nodules on the roots, however, under high yield situations, this may not be sufficient N for optimum yields. By applying ESN just prior to bloom, additional N will be supplied during the peak demand period.

In this Mississippi study, ESN yielded higher than untreated plots by an average of 4 bushels/acre.

## RESULTS SUMMARY

When applied pre-bloom, ESN treated plots yielded an average of 2 bu/ac higher than untreated plots. ESN had no effect on yield when applied at planting.

## TRIAL DETAIL

- *Conducted in Stoneville, MS by Dr. Trent Irby, MS State Univ.*
- *Soil Type = Clay loam*
- *Previous Crop = Cotton*
- *Four Replications/treatment*

**ESN**<sup>®</sup>  
SmartNitrogen

### 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)

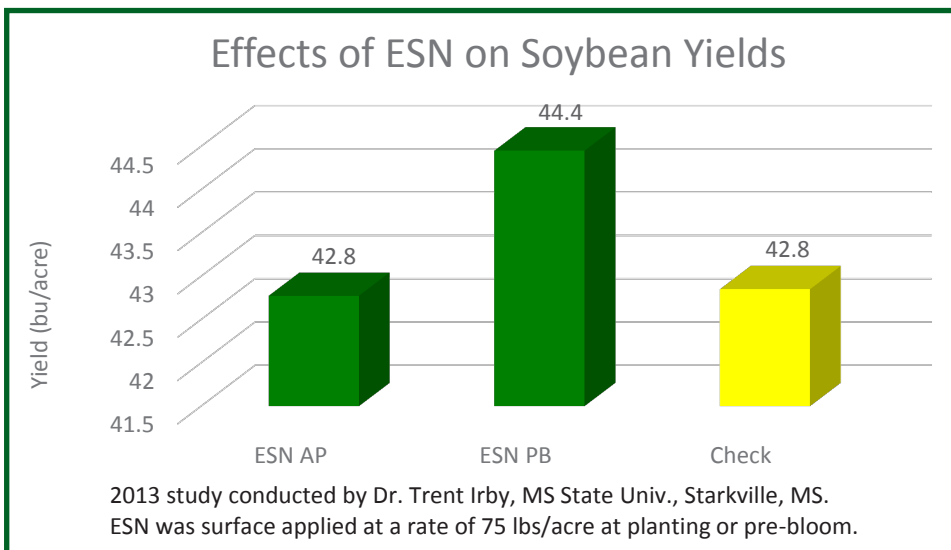
**Nutrien**<sup>™</sup>

## FERTILIZER TREATMENTS

Fertilizer Treatment	Comments
Check	Untreated
ESN at 75# N/ac at planting	100% ESN
ESN at 75# N/ac pre-plant	100% ESN

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.

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