

# Effects of ESN<sup>®</sup> on Corn Yields in Arkansas

## STUDY DESCRIPTION

An Arkansas study demonstrates how ESN can increase yields in irrigated corn 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 corn yields and improved N-use efficiency.

Corn plants need N throughout the growing season. Most N uptake by a corn plant takes place in the period of about 40-80 days after planting and continues up to 120 days after planting. ESN may be used to meet this long season demand.

## RESULTS SUMMARY

In this Arkansas study, ESN and ESN blends with urea incorporated before planting produced greater yields than urea alone.

## TRIAL DETAIL

- *Conducted in Colt, AR by Dr. Morteza Mozzaffari, Univ. of AR.*
- *Soil Type = Silt 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)

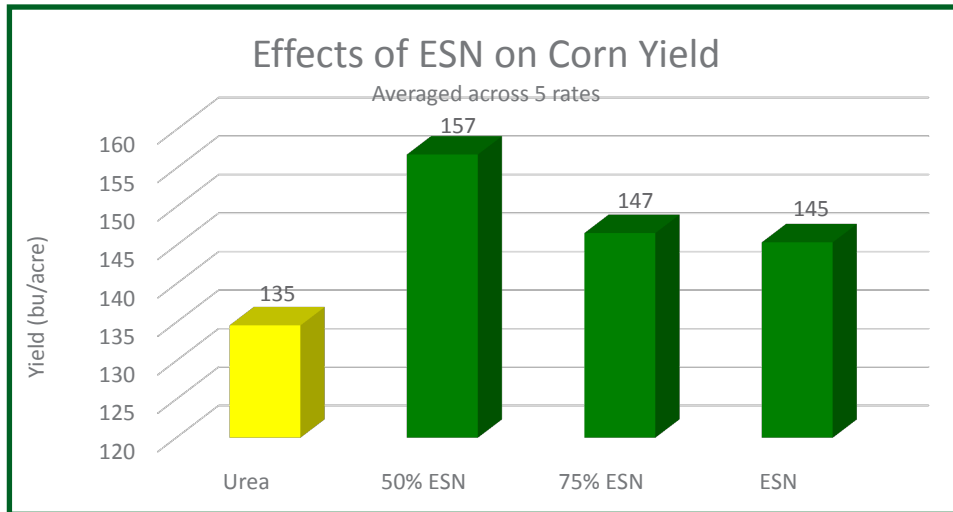
**Nutrien**<sup>™</sup>

# FERTILIZER TREATMENTS

Fertilizer Treatment	Comments
Urea	Untreated
50% ESN	50% ESN + 50% urea
75% ESN	75% ESN + 25% urea
100% ESN	100% ESN

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

## SUPPORTING DATA



2013 study conducted by Dr. Morteza Mozaffari, University of AR, Colt, AR. Treatments applied pre-plant incorporated 24 hours prior to planting.

**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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