



Grow With Confidence

CONTACT:

Best Practices #03: Optimum Nitrogen Management

Corn-on-corn typically requires higher nitrogen fertilizer rates—for example, 30-50 additional pounds/acre. Nitrogen can be applied in several different ways, and fall applications are shown to help in residue breakdown. Experience shows that applying multiple forms of nitrogen, at different times, is optimal.

Example #1

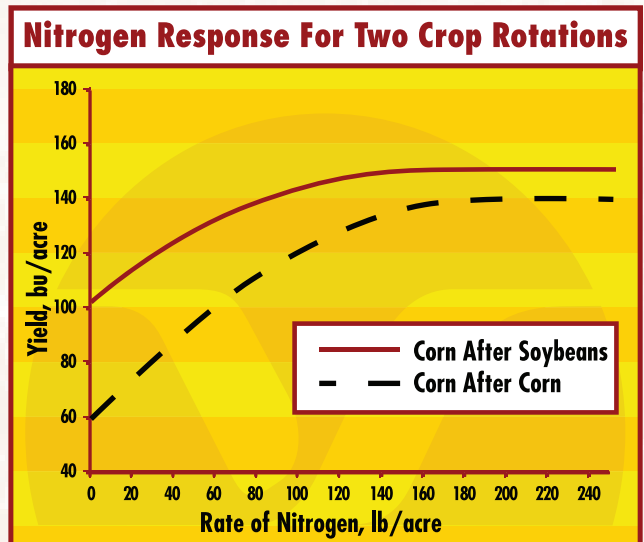
- i) Fall application of anhydrous (2/3 of total) plus N-Serve®
- ii) Followed by 28% nitrogen (1/3 of total) applied pre-emergent (post plant or incorporated)

Example #2

- i) 28% nitrogen applied PPI or pre-emergent (2/3 of total)
- ii) Followed by 1/3 of total nitrogen side-dressed on 12"-24" tall corn (28% or anhydrous)

Example #3

- i) Fall anhydrous + N-Serve®
- ii) Starter fertilizer (10-34-0-Zn) at planting, 28% pre-emergent



1999-2003 University of Illinois

Also consider:

Combining 10 gallons of 28% with a fall herbicide application also has derived benefits. The nitrogen helps fuel microbial activity, breaking down the corn residue into basic elements (nitrogen, phosphorus, potassium and carbon).



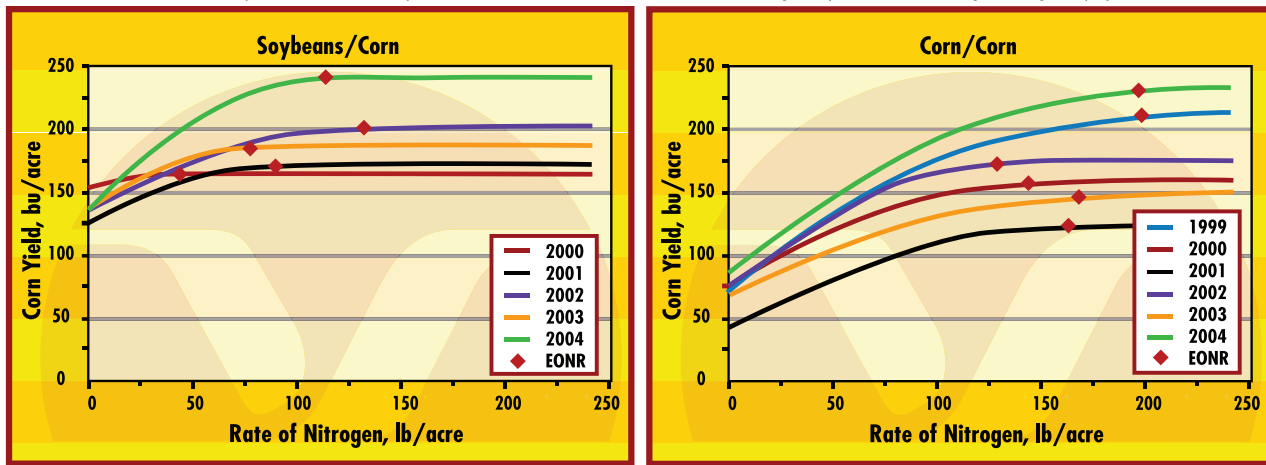


Also check out:

Iowa State University's online Corn Nitrogen Rate Calculator (<http://extension.agron.iastate.edu/soilfertility/nRate.aspx>) provides guidelines for nitrogen application across certain Midwest regions.

VARIATION IN EONR (0.10 PRICE RATIO) AND CORN YIELD IN DIFFERENT YEARS FOR SC AND CC

EONR = Economic optimum N rate; the point where the last increment of N returns a grain yield increase large enough to pay for that N.



Variation in EONR (0.10 price ratio) and corn yield in different years for SC and CC at the same site locations, Ames, Iowa.
 *Concepts and Rationale for Regional Nitrogen Rate Guidelines for Corn, Iowa State University, University Extension, M2015, April 2006

Bottom Line: Multiple application, variable forms of nitrogen optimize corn-on-corn production. Expect to increase nitrogen by 30-50 lbs/acre over conventional bean/corn rotation. Check with your fertility and seed consultants for optimal nitrogen rates.

