Field Evaluation of Pre-Plant Nitrogen and Sulphur Fertilization in Winter Rye

EXPERIMENT INFO

Planted: 10/20/2024

Variety: Brasetto

Population: 65 lbs/acre

Row Width: 7.5”

Spring N application
Date: 04/30/2025
Rate: 25 GPA High NRG-N

Prev. Crop: Soybeans

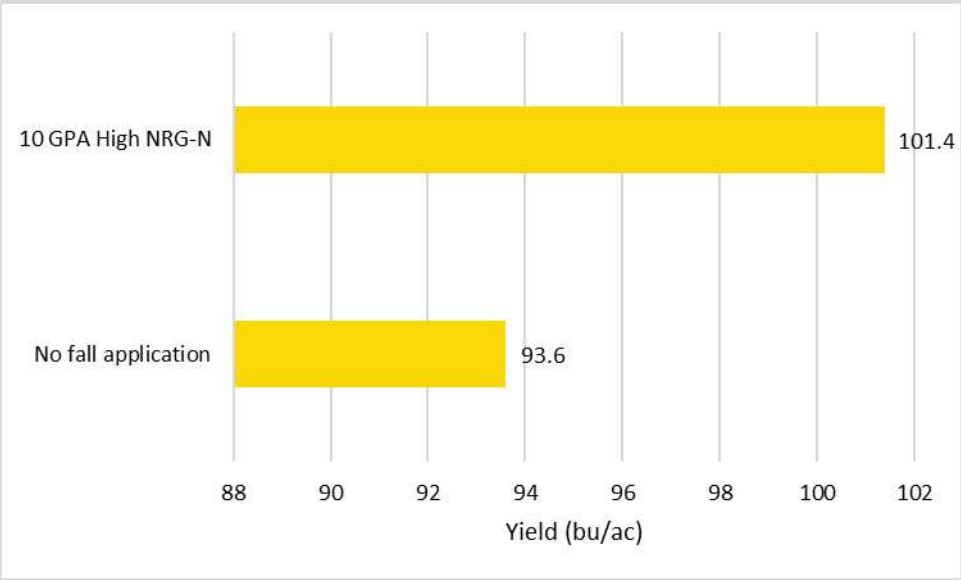
Plot Size: 30’ x 280’

Replications: 3

Harvested: 06/08/2025

Soil data
pH: 6.8 – 7.6
CEC: 5.9 – 9.3
% OM: 0.9 – 3.3
P (Bray): 104 - 216 ppm
% K: 1.4 – 5.3
% Mg: 5.8 – 17.3
Ca: 950 - 1610 ppm

Nitrogen and sulphur are two essential nutrients for winter rye. Nitrogen is a key component of chlorophyll and proteins, making it vital for photosynthesis, vegetative growth, and overall biomass production. Adequate nitrogen supply promotes vigorous tillering and improves grain yield. Sulphur is important for the formation of certain amino acids and enzymes that support protein synthesis and metabolic processes in the plant. Sulphur also enhances nitrogen use efficiency, allowing winter rye to better use available nitrogen in the soil. Because these nutrients work closely together in plant metabolism, balanced nitrogen and sulphur management is important for maintaining healthy winter rye growth and maximizing yield and grain quality.



Treatment	Products	Total lbs/ac sulphur (including the spring application of High NRG-N)
1	No fall application	12.5
2	10 GPA High NRG-N on Oct. 20, 2024	17.5

The combination of fall and spring applications of High NRG-N yielded an **additional 7.8 bushels/acre** over the single spring application.