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Northwest Iowa On-Farm Research

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Abstract

Northwest Iowa On-Farm Research is now in its second year of conducting field scale triple replicated trials. Replication allows for statistical analysis of results. Ideas for on-farm research come from the farmer-cooperators and the field agronomist. This project localizes research in northwest Iowa, to help farmers answer some of their impending questions that relate to their farming practices, and to validate small plot farm research on a whole-field basis.

Keywords

Agronomy

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences

Northwest Iowa On-Farm Research

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fungicide applications was common in northwest Iowa.

Introduction

Northwest Iowa On-Farm Research is now in its second year of conducting field scale triple replicated trials. Replication allows for statistical analysis of results. Ideas for on-farm research come from the farmer-cooperators and the field agronomist. This project localizes research in northwest Iowa, to help farmers answer some of their impending questions that relate to their farming practices, and to validate small plot farm research on a whole-field basis.

In 2007, 38 projects were conducted with 19 cooperators from Sioux, Lyon, Osceola, and Buena Vista counties. Results from all of the projects are located at <http://ofr.ag.iastate.edu>. These comparisons included: SCN trial, soybean plant population, Vistive and non-Vistive soybean comparison, tillage comparisons, and corn row spacing comparison.

This article focuses on one set of experiments, the application of Headline fungicide on corn. Companies have promoted that better plant health will lead to a yield increase when these plants have a fungicide applied at the VT (tasseling) stage of growth or shortly thereafter. Protection from disease, such as gray leaf spot and common rust, is a key part of that claim. In these comparisons, producers wanted to document whether a profitable yield result from

Materials and Methods

Conventional farm equipment was used to plant and harvest the experiments. Data was collected either by a yield monitor or weigh wagon. Plots were randomized by block, comparing fungicide treated plots with a non-treated control. In each study, a minimum of 100 rows of border was implemented. Headline was aerially applied at a rate of 6 oz/acre. Application was done at the VT or R1 stage.

Results and Discussion

Cooperators from Lyon, Osceola, and Buena Vista counties participated in corn fungicide trials. Table 1 details yield and replication average for each treatment. Four of the five trials did not show a positive response to application. Lyon 3 and Osceola 1 were evaluated for disease pressure prior to application and little to no disease pressure was detected. All comparisons were performed under conventional tillage. Osceola and Buena Vista were on 30 in. rows and each of the Lyon county trials were applied to 20 in. rows.

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Table 1. Comparisons of corn fungicides in Northwest Iowa.¹

Treatment	Yield (bu/acre)		
	Treated	Check	
Headline (6 oz/ac)			
Lyon 1	183.4	190.8	NS
Lyon 2	191.0	182.5	**
Lyon 3	181.7	180.3	NS
Lyon 4	101.1	93.8	NS
Osceola 1	189.4	189.4	NS
Buena Vista 1	194.5	195.5	NS

¹Each location replicated three times, unless noted.

All yields adjusted to 15.5% moisture.

** = statistically different, $P < 0.05$.

NS = not statistically different, $P > 0.05$.