

2009

Northwest Iowa On-Farm Research

Joel L. DeJong

Iowa State University, jldejong@iastate.edu

Joshua L. Sievers

Iowa State University, sieversj@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/farms_reports



Part of the [Agricultural Science Commons](#), and the [Agriculture Commons](#)

Recommended Citation

DeJong, Joel L. and Sievers, Joshua L., "Northwest Iowa On-Farm Research" (2009). *Iowa State Research Farm Progress Reports*. 605.
http://lib.dr.iastate.edu/farms_reports/605

This report is brought to you for free and open access by Iowa State University Digital Repository. It has been accepted for inclusion in Iowa State Research Farm Progress Reports by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

Northwest Iowa On-Farm Research

Abstract

Northwest Iowa On-Farm Research is in its third year of conducting field scale, triple replicated trials. Replication allows for statistical analysis of results, which are shared. Ideas for on-farm research generally come from the farmer-cooperators or from the local field agronomist. The project was established to localize research in northwest Iowa to help farmers answer some of their crop production questions, and to validate small plot research on a whole-field basis.

Disciplines

Agricultural Science | Agriculture

Northwest Iowa On-Farm Research

Joel DeJong, field agronomist
Josh Sievers, agricultural specialist

Introduction

Northwest Iowa On-Farm Research is in its third year of conducting field scale, triple replicated trials. Replication allows for statistical analysis of results, which are shared. Ideas for on-farm research generally come from the farmer-cooperators or from the local field agronomist. The project was established to localize research in northwest Iowa to help farmers answer some of their crop production questions, and to validate small plot research on a whole-field basis.

In 2008, 42 projects were conducted with 25 cooperators from Sioux, Lyon, Osceola, Sac, 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, soybean row width, soybean foliar fungicide, corn rootworm corn with and without insecticide, and corn population comparison.

In this article we will focus 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 growth) stage through R2 (blister). Protection from disease is a key part of that claim, such as gray leaf spot and common rust. In these comparisons, producers wanted to document if a profitable yield result from fungicide applications was common in NW Iowa.

Materials and Methods

Conventional farm equipment was used to plant and harvest the experiments. Data was

collected either by a yield monitor or a weigh wagon. Plots were randomized by block, comparing fungicide treated plots with a non-treated control. Headline was applied at a rate of 6 oz/acre. A minimum of 100 rows of border was implemented in aerial application or 16 row border for ground application. A John Deere 6000 high clearance sprayer was used to apply fungicide at the noted locations. Ground application used 15 gallons of water/acre at 40 psi. Aerial applications used three gallons of water/acre with .5 pint of Superb HC as a surfactant.

Results and Discussion

Cooperators from Sioux, Lyon, Osceola, and Buena Vista counties participated in corn fungicide trials. Table 1 details yield average for each treatment by location. Two of the nine trials showed a statistical response to application of fungicide. All locations were evaluated for disease pressure prior to application and little to no disease pressure was detected. All comparisons were done under conventional tillage, except Osceola 3, which was a no-till site. Lyon 1 was the only trial studied on 20-in. row spacing; others were conducted on 30-in. rows. Statistic analysis was not performed on the three side-by-side comparisons due to lack of replication.

Acknowledgements

We would like to thank Steve Agar, Dean Meyer, Jim Hultgren, Ryan Odens, Russ Glade, Brian Kemp, and Larry Warner for their cooperation in on-farm research. We also thank Mark Storr of BASF for donation of products for these and other Headline trials.

For more information contact Joel DeJong jldelong@iastate.edu or Josh Sievers sieversj@iastate.edu.

Table 1. Comparisons of Headline fungicide on corn in Northwest Iowa.

Location	Rotation	Application	Stage	Yield (bu/acre)		Difference	
				Treated	Check		
Lyon 1	(corn-corn)	aerial	VT	232.4	235.2	- 2.8	NS
Lyon 2	(corn-corn)	ground	VT	212.9	210.5	2.4	NS
¹ Lyon 3	(corn-corn)	aerial	R1	229.2	226.6	2.6	–
² Lyon 4	(corn-soybean)	aerial	R1	255.5	264.2	- 8.7	–
Osceola 1	(corn-soybean)	ground	R2	236.0	215.0	21.0	**
Osecola 2	(corn-soybean)	ground	R1	198.4	200.7	-2.3	NS
Osceola 3	(corn-corn)	ground	VT	165.8	156.3	9.5	**
Sioux 1	(corn-soybean)	aerial	R2	234.4	233.6	0.8	NS
¹ BV 1	(corn-soybean)	aerial	R1	200.3	204.2	-3.9	–

¹Location side-by-side replicated.

²Location is two side-by-side replications.

All yields adjusted to 15.5% moisture.

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

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