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Northwest Iowa On-Farm Research

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Abstract
Production agriculture is constantly changing. The need for farm based research to supply a producer with unbiased information that helps them in their management decisions is at an all time high. To meet this need, Iowa State University Extension, Iowa State Research and Demonstration Farms, and the Northwest Iowa Experimental Association formed a new program in 2005 known as the Northwest Iowa On-Farm Research Project. The result is practical production based research for the farmers of Northwest Iowa conducted by the farmers of Northwest Iowa. The project focus is to conduct on-farm research with NW Iowa producers. The projects are designed to answer crop production questions using randomized, triple replicated studies that will give representative,statistically analyzed data for comparison in a simple, informative, and practical approach.

Disciplines
Agricultural Science | Agriculture

Northwest Iowa On-Farm Research

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Introduction

Production agriculture is constantly changing. The need for farm based research to supply a producer with unbiased information that helps them in their management decisions is at an all time high. To meet this need, Iowa State University Extension, Iowa State Research and Demonstration Farms, and the Northwest Iowa Experimental Association formed a new program in 2005 known as the Northwest Iowa On-Farm Research Project. The result is practical production based research for the farmers of Northwest Iowa conducted by the farmers of Northwest Iowa. The project focus is to conduct on-farm research with NW Iowa producers. The projects are designed to answer crop production questions using randomized, triple replicated studies that will give representative, statistically analyzed data for comparison in a simple, informative, and practical approach.

Materials and Methods

Conventional farm equipment is used to implement, apply, and collect data for the experiment. A weigh wagon or yield monitor from a combine were effective data collection tools. The design of the project is to compare three, side-by-side field length strips that would give quality representation of each strip and allow statistical analysis of the data. In cases where a liquid treatment is being applied, buffer strips of 2 to 4 rows were used to eliminate drift of non-treated plots.

Results and Discussion

There were 16 cooperators in 2006, conducting 30 separate trials. Trials included several soybean planting population comparisons (results found in another article in this report), soybean fungicide trials, corn trait comparisons, seed treatment response trials, tillage comparisons, rotation effects on corn rootworm populations, speed of planting comparisons, and a look at different nitrogen management practices. More results are published on the web page: http://ofr.ag.iastate.edu/.

There were eight locations using four fungicides that compared soybean yields with and without soybean fungicides (Table 1). There was no difference in yields at the six locations. Two locations had a yield increase where Headline was applied at 6 oz/acre. Four locations compared soybean yields with and without soybean seed treatments/inoculants (Table 2). Four different seed treatments were used. There was no difference in yields due to seed treatments/inoculants.

There were two tillage comparisons. No yield differences were detected (Table 3). There were two corn rootworm studies. In one trial the Bt corn with ⅔ rate of Aztec yielded less than the other two treatments (Table 4). Corn planting speeds were compared at three locations (Table 5). There were no differences detected.

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Table 1. Comparisons of soybean fungicides in Northwest Iowa.[1]

Treatment	Yield (bu/acre)		
Headline (6 oz/ac)	Treated	Check	
Lyon 1	68.5	67.9	NS
Lyon 2 (5 reps)	70.6	66.8	**
Osceola 1	59.0	57.6	**
Sioux 1	76.6	77.0	NS
Buena Vista 1*	59.6	58.7	NS
Quadris (6 oz/ac)			
Osceola 2	54.1	53.6	NS
Domark (5oz/ac)			
Buena Vista 1 (6 reps)	66.6	66.5	NS
Uppercut (4 oz/ac)			
Buena Vista 1	65.0	63.0	NS

[1]Each location replicated three times, unless noted. All yields adjusted to 13% moisture.
*Headline applied at 5 oz/acre rate.
**=statistically different, P<0.05.
NS=not statistically different, P>0.05.

Table 2. Seed treatment/inoculant trials.[1]

Treatment	Yield (bu/acre)		
Sioux 1	Treated	Check	
With CrusierMaxx	70.4	68.1	NS
Lyon 3			
With Rootastic	61.4	60.7	NS
Osceola 1			
With NOD+	51.1	49.4	NS
Osceola 2			
With Warden	54.8	53.4	NS

[1]All yields adjusted to 13% moisture.
NS=not statistically different, P>0.05.

Table 3. Tillage comparisons.[1]

Sioux 1 (corn)[2]

Treatment	Yield (bu/ac)
No-till	141.3
Conventional tillage	140.4

Buena Vista 1 (soybeans)[3]

Treatment	Yield (bu/ac)
No-till	61.0
Spring disk	61.3
Fall disk rip	63.9

[1]There were no statistical differences between yields within the location, P>0.05.
[2]Yields adjusted to 15.5% moisture.
[3]Experiment replicated six times. Yields adjusted to 13% moisture.

Table 4. Corn rootworm studies.[1]

Lyon 1

Treatment	Yield[2]
Bt CRW	148.7[a]
Bt no insecticide	146.0[a]
Bt with ⅔ rate Aztec	135.1[b]

Buena Vista [3]

Treatment	Yield[2]
Conventional	154.9
Conventional with ⅔ rate Aztec	144.1
Conventional with RW gene	140.6

[1]All yields adjusted to 15.5% moisture.
[2]Means with different superscript differ, P<0.05.
[3]Yields did not differ, P>0.05.

Table 5. Corn planting speed.[1]

Lyon 6

Treatment	Yield
6 mph	203.8
7 mph	209.6
8 mph	207.5

Lyon 7

Treatment	Yield
5.5 mph	192.4
7.5 mph	191.5

Buena Vista 3

Treatment	Yield
5 mph	221.0
7 mph	217.3

[1]There were no statistical differences between yields within the location, P>0.05. All yields adjusted to 15.5% moisture.