

2008

Soybean Variety by Fungicide Demonstration at the Northwest Research Farm

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Recommended Citation

Kassel, Paul C., "Soybean Variety by Fungicide Demonstration at the Northwest Research Farm" (2008). *Iowa State Research Farm Progress Reports*. 791.

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Abstract

There is interest in research on the use of fungicides on soybeans with the recent discovery of Asian soybean rust. Fungicides are also being evaluated for their potential yield enhancement in the absence of leaf diseases. This experiment was designed to evaluate the effectiveness of Headline fungicide on four different soybean varieties. The varieties that were chosen for this experiment were chosen for their yield potential. These varieties would be considered an offensive type variety

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Soybean Variety by Fungicide Demonstration at the Northwest Research Farm

Paul Kassel, extension field agronomist

Introduction

There is interest in research on the use of fungicides on soybeans with the recent discovery of Asian soybean rust. Fungicides are also being evaluated for their potential yield enhancement in the absence of leaf diseases.

This experiment was designed to evaluate the effectiveness of Headline fungicide on four different soybean varieties. The varieties that were chosen for this experiment were chosen for their yield potential. These varieties would be considered an offensive type variety.

Materials and Methods

The varieties that were planted in this experiment were Asgrow AG2403, Pioneer 92M32, Northrup King S23-Z3, and Kruger 223+RR. The planting date was May 16 and the planting rate was 160,000 seeds/acre. Headline fungicide (6.0 oz/a) was applied on July 20, 2007 with 8002 flat nozzles at 50 psi and 20 gallons/acre. The soybeans were at the R3 stage of development (early pod development stage).

Results and Discussion

There were very low levels of leaf disease in this experiment. Some brown spot and bacterial blight were present, but at very low levels.

Soybean aphids were treated with 7.0 oz/a of Asana on August 3. Fall observations showed very little difference in maturity difference among treatments.

There was a 5.4 bushel/acre yield benefit to the Headline fungicide treatment in 2007 when averaged over all four varieties. The yield level of the varieties ranged from 51.2 to 60.7 bushel/acre in 2007 without fungicide treatment.

There was a 2.9 bushel/acre yield benefit to the Headline fungicide treatment in 2006 when averaged over all four varieties. The yield level of the varieties ranged from 60.9 to 62.6 bushels/acre in 2006 without fungicide treatment.

This data shows that soybean yields were increased with Headline fungicide with low levels of soybean leaf disease. There was more benefit from Headline in 2007, possibly because of slightly greater leaf disease in 2007. Each variety responded similarly to Headline each year of the experiment.

Acknowledgements

Appreciation is extended to Ryan Rusk of the Northwest Research Farm and Mark Storr of BASF for his assistance with this study.

Table 1. 2007 yields of soybeans with and without Headline fungicide.

Variety	Headline	Replications				Avg.
		I	II	III	IV	
-----bushels/acre@13%-----						
Asgrow	Yes	68.3	52.2	65.5	61.7	61.1
AG2403	No	60.2	46.0	62.2	58.4	56.7
Pioneer	Yes	64.9	57.4	65.4	66.1	63.5
92M32	No	60.7	57.1	61.5	63.3	60.7
Northrup King	Yes	64.8	49.9	66.9	65.6	61.8
S23-Z3	No	58.0	47.9	62.6	61.9	57.6
Kruger	Yes	60.9	55.0	67.8	62.0	61.4
223+RR	No	57.5	53.3	62.9	61.1	51.2

Table 2. 2006 and 2007 yields of soybeans with and without Headline fungicide.

Variety	Headline	2006	2007	Avg.
		---bushels/acre @13%---		
Asgrow	Yes	64.8	61.1	63.0
AG2403	No	62.5	56.7	59.6
Pioneer	Yes	64.8	63.5	64.2
92M32	No	62.6	60.7	61.7
Northrup King	Yes	64.7	61.8	63.3
S23-Z3	No	60.9	57.6	59.3
Kruger	Yes	65.4	61.4	63.4
223+RR	No	61.8	51.2	56.5