

Field Trial Report

2011 On-Farm Fungicide Response Study



Investigators –Del Voight,
John Bray, Alyssa Collins,
and Greg Roth Penn
State Extension

FIELD INFORMATION

Soil type, seed variety and management practices: Variable according to grower

Participating growers: 5 Counties represented: Berks, Franklin, Lancaster, Lebanon, York

Design: Randomized Complete Block 6 replications

TREATMENTS EVALUATED

1. Untreated

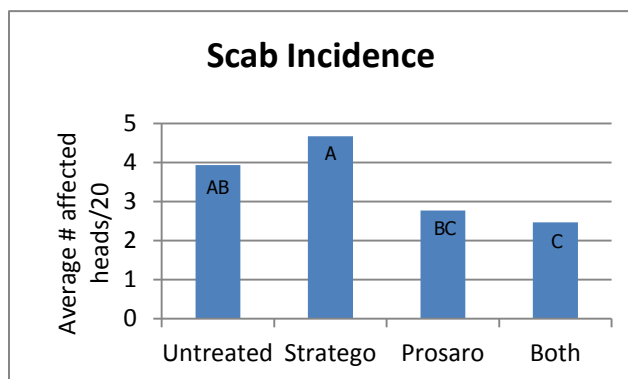
2. Stratego® 10oz/A applied at GS7-8

3. Prosaro® 8.2oz/A applied at GS 9-10.5

4. Stratego® 10oz/A applied at GS7-8, followed by Prosaro® 8.2oz/A applied at GS 9-10.5

Level of disease was evaluated at four selected farms. Each plot was rated for Fusarium head blight incidence, Stagnospora glume blotch incidence, and combined leaf disease severity. Predominant foliar diseases observed included Septoria leaf blotch, leaf rust and powdery mildew. Select samples were analyzed for deoxynivalenol content by Cumberland Valley Analytical Services. Data were analyzed using Tukey's Studentized Range Test in the GLM procedure with SAS software. Treatments bearing the same letter are not significantly different.

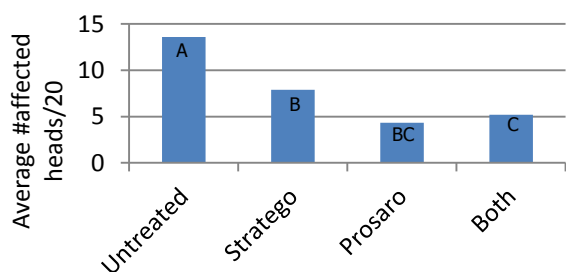
RESULTS



Treatments containing Prosaro significantly lowered the incidence of head scab. The highest levels of scab occurred in the untreated and Stratego-only treatments.

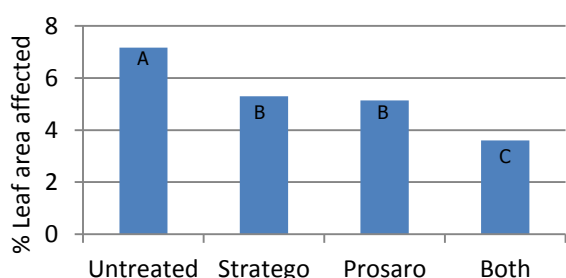
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Glume Blotch Incidence



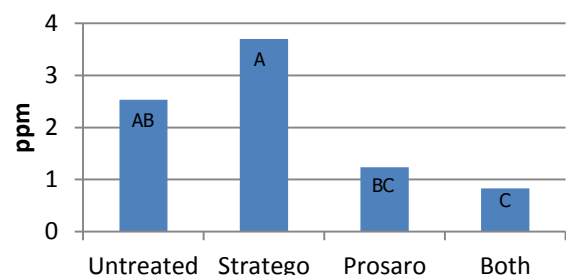
Treatments containing Prosaro also significantly reduced glume blotch levels as compared to the untreated control.

Leaf Disease Severity



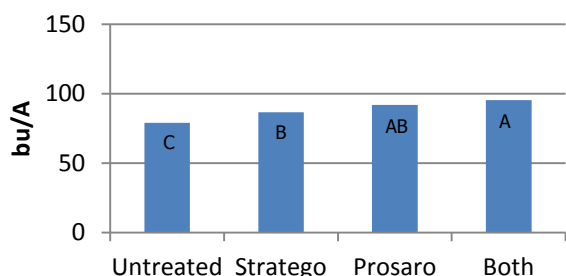
Leaf diseases were reduced to the greatest extent by the combined Stratego/Prosaro treatment. The Stratego-only and Prosaro-only treatments also reduced leaf disease compared to the untreated control, but to a lesser extent.

DON level



Vomitoxin levels were highest in the Stratego-only and untreated plots, followed by Prosaro. Toxin levels were significantly reduced by the Stratego/Prosaro treatment compared to the untreated control.

Yield



The greatest yield was achieved by the Stratego/Prosaro treatment, followed by the Prosaro-only treatment. The Stratego-only treatment was not significantly different from the Prosaro-only treatment, but was significantly greater than the untreated control.

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2011 Small Plot Fungicide Response Study



Investigator – Alyssa Collins, Penn State Southeast Agricultural Research & Extension Center

FIELD INFORMATION

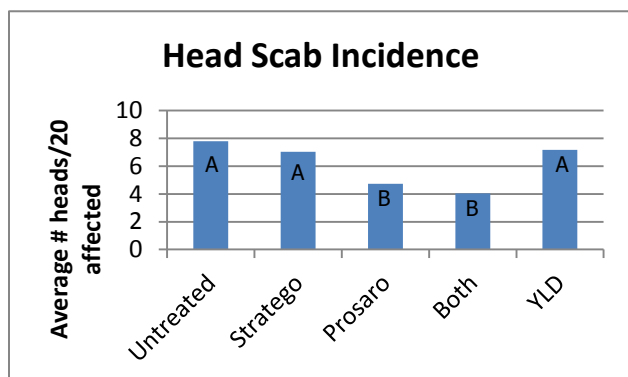
Soil Type: Hagerstown silt loam		Seed: H50 EX00050 Maryland Wheat	
Rate: 2.5 bu/A	Planted: 10/22/10	Sprayed: 4/26/11, UAN @ 40lbs/A and Harmony, .5 oz/A	
Plot size: 20' x 100', 15' combine head		Treatments applied on May 6 and May 23, 2011	
Design: Randomized Complete Block		5 replications	

TREATMENTS EVALUATED

1. Untreated
2. Stratego® 10oz/A applied at GS7-8
3. Prosaro® 8.2oz/A applied at GS 9-10.5
4. Stratego® 10oz/A applied at GS7-8, followed by Prosaro® 8.2oz/A applied at GS 9-10.5
5. Stratego® YLD 4oz/A, applied at GS 7-8

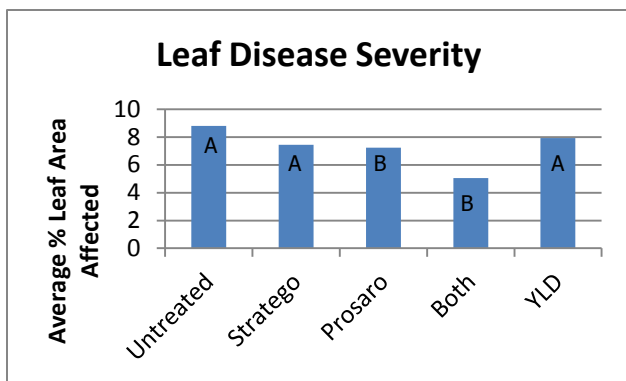
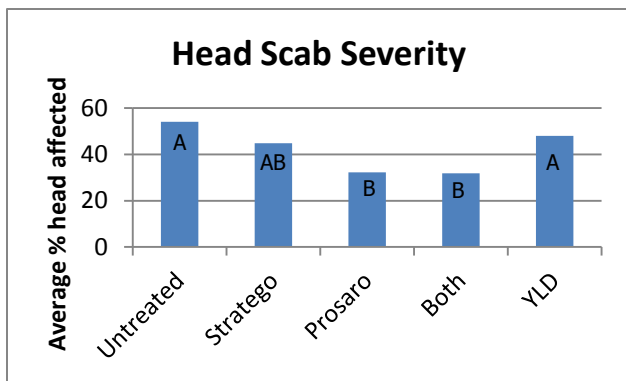
Each plot was rated for Fusarium head blight incidence and severity, and combined leaf disease severity. The predominant foliar disease observed was Septoria leaf blotch. Samples from three replications were analyzed for deoxynivalenol content by Cumberland Valley Analytical Services. Data were analyzed using Tukey's Studentized Range Test in the GLM procedure with SAS software. Treatments bearing the same letter are not significantly different.

RESULTS

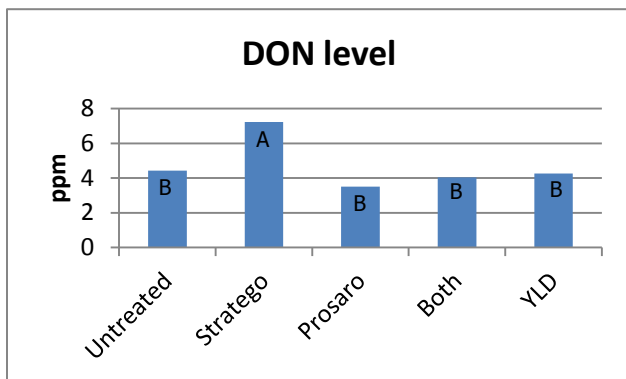


Treatments containing Prosaro showed significantly less scab than all other treatments. The other fungicide treatments did not differ significantly from the untreated control.

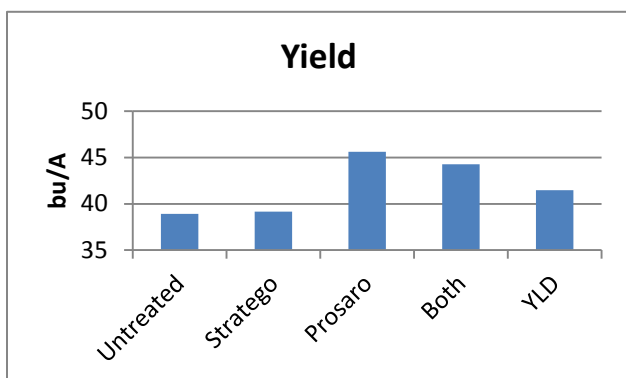
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Leaf disease was controlled to the greatest extent by the Stratego/Prosaro treatment. Prosaro-only, Stratego-only and Stratego YLD showed significantly less leaf disease than the untreated control.



Toxin levels were significantly higher in the Stratego-only treatment than all other treatments.



Yield did not differ significantly among treatments.

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CONCLUSIONS

Results from the 2011 on-farm trial and small plot study reflect previous studies in Pennsylvania as well as in other states. Disease levels varied greatly from site to site, but overall, head disease incidence was reduced by treatments containing Prosaro. Prosaro also appeared to provide additional control of late-season leaf diseases in this study.

While not significantly different than the untreated control in the on-farm samples, the highest toxin levels were observed in the Stratego-only treatment in both studies. This corresponds to previous work in which QoI fungicides were found to increase the production of toxins in heads infected by *F. graminearum*.

Yield was greatest in plots treated with the Stratego/Prosaro, followed by Prosaro, and then Stratego. These were all significantly greater than the untreated control.

Reported by: Alyssa Collins, Director, Southeast Agricultural Research & Extension Center
collins@psu.edu

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