Evaluating Fungicide Applications on Corn and Wheat

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Study Topics

- Recently fungicide use has become more widespread on irrigated wheat and corn crops as well as on dryland corn and wheat acres in Western Kansas.
- In 2007, large yield advantages were shown on dryland wheat where fungicide was applied.
- The cost of fungicide applications is significant and many questions exist that need addressed as we determine how best to manage fungicide use.
  - Do fungicides pay even in years when pressure is not observed to be high enough for an “official” recommendation of application?
  - Can we identify problems early enough that applications can be made in a timely fashion on a “field by field” basis?

Project Setup

- This study will look at fungicide applications in the 2008 season when pressure was not identified to be significant enough to warrant application
- Fungicide applications on Kastens farm were made on targeted irrigated and dryland corn and wheat fields.
- Fungicide applications on Vulgamore Farm were made on targeted irrigated and dryland corn and wheat fields
- All applications were done aerially.

Project Setup –Example Field

SE/4 12-4-33 in Rawlins County, KS

Kastens Inc. Farms -Herndon, KS
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Yellow box shows approximately where we want the Quilt applied

Project Setup –Fungicide Application

- Application Wheat
- Kastens Farm

Date: 5/28/08
Quilt: 14 oz/ac
H2O: 2 gal/ac

Per acre cost: $23.60
Assume:
$5.00 bu wheat

- Application Corn
- Kastens Farm

Date: 7/30/08
Quilt: 14 oz/ac
H2O: 1 gal/ac
XRN: 1 gal/ac

Per acre cost: $31.00
Assume:
$4.00 bu corn

- Application Corn
- Vulgamore Farm

Date: 7/30/08
Quilt: 14 oz/ac
H2O: 1 gal/ac
XRN: 1 gal/ac

Per acre cost: $31.00

Results

			2.16			$	(4.66)
Test	Bioforge (bu/ac)	Control (bu/ac)	Adv. Bioforge (bu/ac)	Pttest pval	Pttest confidence	Net Return @ $4.00 Corn	
1	143.10	147.17	-4.07	0.00	99.5%	$	(29.56)
2	147.71	144.41	3.30	0.07	93.1%	$	(0.06)
3	148.82	141.35	7.46	0.00	100.0%	$	16.57
4	148.56	146.64	1.92	0.09	90.6%	$	(5.58)

Conclusions

- Over the whole test plot, I averaged a $4.66 loss.
- Two of the test plots had results that were significant at a $p<0.05$ level, unfortunately they went in opposite directions.
- Of the 4 plots, plot three showed the only significant gain in bushels as well as the only positive net return.
- Basically this test is very inconclusive other than to say that it might have increased yields, but not enough to cover costs.
- Why? Perhaps drought wasn't a limiting factor on this field this year. With yields between 141 bu/ac and 148 bu/ac across the whole plot with a 97 day corn planted at 15.5 k/ac, perhaps there just wasn't much upward yield potential left in each plant?


Questions, Comments, Suggestions