

search

Subscribe to Crop News

Archives

2014

2013

2012

2011

2010

2009

2008

Previous Years

ISU Crop Resources

Extension Field Agronomists

Crop & Soils Info

Pesticide Applicator Training

Agronomy Extension

Entomology Extension

Plant Pathology Extension

Ag and Biosystems Engineering Extension

Agribusiness Education Program

Iowa Grain Quality Initiative

College of Agriculture and Life Sciences

ISU Extension

# Integrated Crop Management NEWS

-  PRINT STORY
-  EMAIL STORY
-  ADD TO DELICIOUS
-  ATOM FEED
-  FOLLOW ON TWITTER

## Effect of Foliar Fungicides on Corn Yields in Iowa in 2012

By Alison Robertson and John Shriver, Department of Plant Pathology and Microbiology

Every year we evaluate foliar fungicides on corn at several locations across Iowa for disease management and yield response. In 2012, we tested foliar fungicides at six Iowa State University Research and Demonstration Farms: southwest (Lewis), southeast (Crawfordsville), north (Kanawha), northwest (Sutherland), northeast (Nashua) and the agronomy farm (Ames). Fungicides were applied at either growth stage V5, R1, R2 or both V5 and R1. Table 1 lists the fungicide products and treatments evaluated at each location.

Table 1. Fungicide treatments evaluated at six locations in Iowa in 2012.

	Agron <sup>2</sup>	NERF	NRF	NWRF	SERF	SWRF
Unsprayed check	X	X	X	X	X	X
Headline (6 oz/acre) @ V5	X	X	X	X	X	X
Headline AMP (10 oz/acre) @ R1	X	X	X	X	X	X
Headline (6 oz/acre) @ V5 with herbicide plus Headline AMP (10 oz/acre) @ R1	X	X	X	X	X	X
Headline AMP (10 oz/acre) @ R2	X	X	X	X	X	X
StrategoYLD (4 oz/acre) @ V5	X	X	X	X	X	X
StrategoYLD (4 oz/acre) @ R1	X	X	X	X	X	X
StrategoYLD (2 oz/acre) @ V5 plus StrategoYLD (4 oz/acre) @ R1	X	X	X	X	X	X
StrategoYLD (4 oz/acre) @ R2	X	X	X	X	X	X
Quadris (6 oz/acre) @ V5	X	X	X	X	X	X
Quilt Xcel (10.5 oz/acre) @ R1	X	X	X	X	X	X
Quadris (6 oz/acre) @ V5 plus Quilt Xcel (10.5 oz/acre) @ R1	X	X	X	X	X	X
Quilt Xcel (10.5 oz/acre) @ R2	X	X	X	X	X	X
Domark (4 oz/A) @ R1	X	X	X	X	X	X
Domark (4 oz/A) at R2	X	X	X	X	X	X
Priaxor (4 oz/acre) @ V5	X	X	X	X	X	X
Priaxor (4 oz/acre) @ V5 plus Headline AMP (10 oz/acre) @ R1	X	X	X	X	X	X
Proline (5oz/acre) @R1	X	X	X	X	X	X
Evito (2oz/ac) @ V5	X	X	X	X	X	NT <sup>2</sup>
Evito-T (5 oz/ac) @ R1	X	X	X	X	X	NT

<sup>1</sup> Agron = Agronomy Farm, Ames; NERF = Northeast Research Farm; NRF = Northern Research Farm; NWRF = Northwest Research Farm; SERF = Southeast Research Farm; SWRF = Southwest Research Farm

<sup>2</sup>NT = not tested

The 2012 growing season was characterized by extremely hot and dry conditions. Very low foliar disease occurred in all trials and consequently disease severity was not assessed. A windstorm caused severe lodging at the northern and northeastern research farms. Standability and ear rot severity (percent ear with mold) were assessed within 48 hours of harvest at each location. Standability was assessed as the percent of plants lodged in a section of row in the middle of the plot. Ear rot severity was negligible to low (southwest research farm). There were no effects ( $P < 0.1$ ) of fungicide on standability or ear rot.

The mean yield response of corn to a fungicide application across all locations was 5.7 bu/A and 54 percent of the treatments yielded more than 4 bu/acre compared to the untreated control, although no statistical differences in yield between the untreated control and a fungicide application were detected ( $P < 0.1$ ) for any treatment at any location. Fungicide responses varied widely among and within locations. Mean yield response for each treatment timing at each location is shown in Table 2.

**Table 2. Mean yield response of corn to a foliar fungicide application applied at either V5, R1, R2 or both V5 and R1 at six locations in Iowa in 2012.**

	Agronomy <sup>1</sup>	NERF	NRF	NWRF	SERF	SWRF	Overall
V5	18.4 (5)	17.2 (5)	10.4 (5)	-2.9 (5)	-6.5 (5)	-10.0 (4)	4.9 (29)
R1	16.8 (6)	13.3 (6)	4.9 (6)	10.4 (6)	-7.1 (6)	-6.1 (5)	5.5 (35)
V5+R1	8.9 (4)	14.9 (4)	13.1 (4)	11.2 (4)	-5.6 (4)	-7.1 (4)	6.2 (24)
R2	25.9 (4)	10.9 (4)	4.2 (4)	4.5 (4)	-1.6 (4)	-6.9 (4)	6.2 (24)

<sup>1</sup> Agronomy = Agronomy Farm, Ames; NERF = Northeast Research Farm; NRF = Northern Research Farm; NWRF = Northwest Research Farm; SERF = Southeast Research Farm; SWRF = Southwest Research Farm

<sup>2</sup> Yield response in bu/A

<sup>3</sup> Number of treatments

<sup>4</sup> Not tested

In general, fungicides resulted in more of a positive effect on yield at the northern locations than the southern locations. The mean yield response of an application of fungicide at V5 (4.9 bu/A) was lower than that of an application during the reproductive growth stages (5.5 and 6.2 bu/A for R1 and R2 applications, respectively). A double application of fungicide at V5 and R1 resulted in a similar yield response across all locations to one application at growth stage R2 (both 6.2 bu/A).

## Acknowledgements

We would like to acknowledge Bayer CropScience and Valent for partial funding for these trials. Furthermore, we are grateful to the staff at all of the ISU Research and Demonstration Farms for managing and harvesting the trials.

*Alison Robertson is an associate professor in the plant pathology and microbiology department with extension and research responsibilities; contact her at [alisonr@iastate.edu](mailto:alisonr@iastate.edu) or phone 515-294-6708. John Shriver is a research associate in plant pathology and microbiology. He can be reached at 515-294-3639 or [jshriver@iastate.edu](mailto:jshriver@iastate.edu).*

---

This article was published originally on 5/28/2013. The information contained within the article may or may not be up to date depending on when you are accessing the information.

---

Links to this material are strongly encouraged. This article may be republished without further permission if it is published as written and includes credit to the author, Integrated Crop Management News and Iowa State University Extension. Prior permission from the author is required if this article is republished in any other manner.