

## UW Extension Western Wisconsin Foliar Fungicide Trials on Soybeans 2006-07

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Foliar fungicide use on soybeans was evaluated using on-farm trials during the 2006 and 2007 growing season. The trials were conducted in Buffalo, La Crosse, Monroe and Trempealeau Counties.

### Purpose

The purpose of the trials was to evaluate foliar fungicide's impact on soybean yield and how often the use of a fungicide resulted in a significant economic yield increase. In 2006 all trials evaluated only Quadris. In 2007 all trials included Quadris and three of the four locations also evaluated Headline.

### Method

Quadris was applied at 6 oz. per acre with 1% COC at a minimum of 20 gallons per acre. Headline was applied at 6 oz/ acre with NIS also at a minimum of 20 gallons per acre. Fungicides were applied at soybean growth stage of R3, and plots were visually evaluated for disease pressure at R6. One 2007 location was replicated twice due to field size constraints, all other locations were replicated three times. Yield date was collected using weigh wagons at all locations.

### Results

#### 2007 Trial Results by Location

Statistical analysis completed by location only, not across locations.

	Locations and Row Spacing			
	Monroe 7"	Monroe 30"	La Crosse <sup>b</sup>	Buffalo
Treatment	Yield <sup>a</sup>	Yield <sup>a</sup>	Yield <sup>a</sup>	Yield <sup>a</sup>
Untreated	32.7 a	40.2 b	49.8 a	51.4 a
Quadris	35.8 a	40.4 b	51.0 a	53.2 a
Headline	35.2 a	46.3 a	56.9 a	-

<sup>a</sup>Means within a column followed by the same letter are not significantly different (P=0.05, Duncan's Multiple Range Test)

<sup>b</sup>Location only had 2 replications

#### 2006 Trial Results by Location

Statistical analysis completed by location only, not across locations.

	Locations and Row Spacing				
	La Crosse	Trempealeau 30"	Monroe 15"	Monroe 30"	Monroe 7"
Treatment	Yield <sup>a</sup>	Yield <sup>a</sup>	Yield <sup>a</sup>	Yield <sup>a</sup>	Yield <sup>a</sup>
Untreated	55.0 a	52.3 a	48.8 a	48.6 b	52.0 a
Quadris	57.5 a	55.2 a	50.9 a	50.6 a	53.4 a

<sup>a</sup>Means within a column followed by the same letter are not significantly different (P=0.05, Duncan's Multiple Range Test)

Visual foliar disease ratings conducted at R6 at all locations were very low. They ranged from 1% to a maximum of 7% across locations. There were no differences in disease ratings between treatments at any location. Brown leaf spot and downy mildew were the two most prevalent diseases.

Two out of the nine locations had statistically significant yield differences between treatments. Only one of the two statistically different locations had enough yield difference between treatments, even at current prices (in the \$9.00/ bushel area), to economically justify use of the fungicide.

While some of the locations have numerical yield differences, close to 5 bushels/acre between treatments, they are not statistically significant due to large yield differences of the replications within treatments, which suggests that other factors were having larger impacts on the yield than the fungicide treatment.

### **Summary**

The results from these western Wisconsin trials during the 2006 and 2007 growing seasons did not show a predictable or consistent yield advantage to justify using foliar fungicides on soybeans.

There is still a lot to be learned about using foliar fungicides on soybeans. A critical piece of information that is needed for use of foliar fungicides on soybeans is determining what criteria (environmental or plant traits) could be evaluated that would allow for improved predictability of economic yield response.

We would like to thank the cooperating farmers, custom applicators, and seed dealers for their willingness to help conduct these trials.