

## 2003 WHEAT FOLIAR FUNGICIDE TEST MORGANFIELD, UNION COUNTY, KY

Don Hershman, Department of Plant Pathology

### OBJECTIVE:

To compare disease control efficacy among selected foliar fungicide treatments.

### INTRODUCTION:

Foliar and head fungal diseases commonly reduce wheat yields in Kentucky, but the amount of damage done varies considerably from year to year. Foliar fungicides have been successfully used as a disease management tool since the late 1980's. As new chemistries become available, it is important to determine how they compare with standard fungicide treatments.

### MATERIALS AND METHODS:

The study was conducted on the McElroy Farm near Morgantown in Union County, Kentucky. The soft red winter wheat variety, Coker 9653, was planted by the farmer on October 16, 2002. Wheat was planted into disced corn stubble. The seeding rate, insect and weed control, and nitrogen fertility were aimed at producing high-yielding wheat.

About Feeke's stage 7, plots measuring 3.5-ft-wide by 10-ft-long, were cut out with a lawnmower. There was a 3-ft open border surrounding each plot. Eleven foliar fungicide treatments, each replicated five times, following a randomized complete-block design, were applied on May 3 when the crop was at full head emergence (Feeke's stage 10.5). Fungicide treatments were applied in 20 gallons of water per acre at 40 psi. Treatments were applied using a

hand-held, CO<sup>2</sup>-powered backpack sprayer; the spray boom was equipped with XR TeeJet 8001 flat-fan nozzles. The plots were sprayed late afternoon and the conditions at the time of application were calm and 65F. There were no symptoms of any disease at the time treatments were applied. Subsequently, plots were rated on June 3 for leaf blotch complex, caused by mixed infections of *Septoria tritici* and *Stagonospora nodorum*, and Fusarium head blight, caused by *Fusarium graminearum*. Entire plots were harvested with a Hege small plot combine on June 25. Yields were calculated based on 13.5% moisture and 60 lbs/bu test weight.

### RESULTS AND DISCUSSION:

Overall disease conditions were very light. All fungicide treatments except CGA-64250/Azoxystrobin 200SE-H applied at the 13.7fl oz/A rate without Induce, had significantly lower leaf blotch complex ratings compared with the check. However, fungicide treatments were not significantly different from each other. It is very likely that the lack of discrimination among treatments was due to low overall disease pressure. No treatment performed better than the check for FHB index, yield, or test weight. No phytotoxicity was observed in the test.

### CONCLUSION:

Low levels of disease may occur without significantly reducing crop yield. Applying foliar fungicides under these conditions will result in a net economic loss to the producer.

**Table 1.** Performance of various foliar fungicides against leaf blotch complex and Fusarium head blight, 2003.

Treatment	Rate product/acre	Disease ratings*		Yield (bu/a)	Test Wt. (lbs/bu)
		Leaf blotch	FHB DX		
Non-treated	-	3.4a**	3.8a	91.0a	59.4a
Tilt 3.6 E + Induce	4.0 fl oz 0.125% v/v	2.6b	3.1a	87.3a	59.8a
Folicur 3.6F + Induce	4.0 fl oz 0.125% v/v	2.5b	3.3a	92.4a	59.4a
CGA-64250/ Azoxystrobin 200 SE-H + Induce	10.3 fl oz 0.125% v/v	2.3b	2.7a	87.0a	60.1a
CGA-64250/ Azoxystrobin 200 SE-H + Induce	13.7 fl oz 0.125% v/v	2.3 b	3.8a	90.0a	59.4a
CGA 64250/ Azoxystrobin 200 SE-H	13.7 fl oz	2.8ab	4.9a	82.7a	59.4a
Stratego 250 EC + Induce	10.0 fl oz 0.125% v/v	2.3b	3.6a	88.2a	59.6a
Quadris 2.08 F + Induce	6.2 fl oz 0.125% v/v	2.3b	3.7a	92.0a	59.4a
Headline 250 EC + Induce	6.2 fl oz 0.125% v/v	2.2b	3.6a	81.7a	59.4a
Headline 250 EC + Induce	9.0 fl oz 0.125% v/v	1.9b	3.5a	93.4a	59.4a
Folicur 3.6 F + JAU 6476 480 SC + Induce	4.0 fl oz 3.6 fl oz 0.125% v/v	2.1b	2.8a	94.2a	59.9a

\*Leaf blotch rated on 1- 5 scale were 1 is no disease and 5 is 25% or more diseased tissue on the flag leaf. A rating of 3 signifies no disease on the F, 10% or less disease on F-1 and > 25% involvement on F-2 leaf. FHB DX is Fusarium head blight index (= incidence severity/100) \*\*Means followed by a common letter are not significantly different (P = 0.05, Student- Newman Keuls).