

Control of stripe rust of spring barley with foliar fungicides, 2002.

Susceptible 'Step toe' and moderately susceptible 'Farmington' spring wheat cultivars were planted at Pullman, WA on 30 April 02. Fungicides were applied as fl oz of active ingredient in water on 25 June (late boot stage for Farmington and early heading stage for Step toe). Eight fungicide treatments were used. All treatments were applied once, except for the fungicide treatment A13705 SC 200 at the rate of 1.3 fl oz/A, which was applied a second time on 20 July at milk stage. A randomized block design was used with four replications for each treatment. Plots were 71.38 sq ft. Data on stripe rust severity (percent foliage with stripe rust) were recorded on 19 July at milk stage for Farmington and soft dough stage for Step toe. Yields were determined from plots harvested in September when kernels were naturally dry. Analysis of variance was used to analyze the rust and yield data.

Stripe rust severity on Farmington was 1% and on Step toe was 5% on 25 June when the fungicides were applied. Stripe rust in non-treated control plots of Step toe developed to 90% and of Farmington to 30% by milk to soft dough stages on 19 July. All fungicide treatments effectively reduced stripe rust severity. Percentage grain yield increases were 10 to 31% for susceptible Step toe and 3 to 15% for moderately susceptible Farmington. These increases were significant for Quadris and A13705 SC 200 applied at all rates on Step toe; only A13705 SC 200 applied at the rates of 2.6 and 1.3 fl oz provided significant yield increase on Farmington.

Treatment ^z	Stripe rust (%) ^y		Yield ^x		
	July 19 Milk to dough		Mean (lb/A)	Increase (%)	
Step toe					
A13705 SC 200 (1.96).....	6	a	5017	a	31
A13705 SC 200 (2.6).....	3	a	5020	a	31
A13705 SC 200 (1.30).....	17	a	4966	a	30
Quadris SC 250 (2.19).....	9	a	4679	a b	22
Folicur 3.6F (1.63).....	63	b	4455	b c	16
Stratego EC 250 (2.38).....	10	a	4395	b c	15
Tilt 3.6 EC 428 (0.81).....	75	b c	4192	c	10
Non-Treated Control.....	90	c	3825	c d	
LSD ($P \leq 0.05$).....	17		465		
Farmington					
A13705 SC 200 (2.6).....	0	a	5698	a	15
A13705 SC 200 (1.30).....	0	a	5484	a b	10
Tilt 3.6 EC 428 (0.81).....	0	a	5384	a b c	8
Quadris SC 250 (2.19).....	0	a	5267	a b c	6
A13705 SC 200 (1.96).....	0	a	5216	a b c	5
Folicur 3.6F (1.63).....	0	a	5100	b c	3
Stratego EC 250 (2.38).....	0	a	5096	b c	3
Non-Treated Control.....	20	b	4971	c	
LSD ($P \leq 0.05$).....	7		498		

^z Treatments were applied at late boot (Farmington) to early heading (Step toe) stages on 25 June as fl oz of active ingredient in water at 20 gal/A at the rates indicated in parentheses. Only treatment A13705 SC 200 at 2.6 fl oz was applied a second time at milk (Farmington) to dough (Step toe) stages on 20 July.

^y Rust data were means of four replications for each treatment; rust means for each cultivar followed by the same letter are not significantly different.

^x Yield data were means of four replications of 71.38 sq ft each. Yield means for each cultivar followed by the same letter are not significantly different.