

Control of stripe rust of spring wheat with foliar fungicides, 2001.

Susceptible spring wheat cultivar 'Fielder' was planted at Pullman Site 1 on 11 April, at Pullman Site 2 on 19 April, and at Mount Vernon, WA on 24 April 2001. The spring wheat cultivar 'Alpowa' with moderate high-temperature, adult-plant resistance was planted at Pullman Site 1 on the same day as Fielder. Fungicides were applied as oz of active ingredient in water on 29 June (heading stage) at Pullman Site 1, on 2 July (heading stage) at Pullman Site 2, and on 10 June (jointing stage) at Mount Vernon. A randomized block design was used with four replications for each treatment. Plots were 145 sq ft at the two Pullman sites and 133 sq. ft at Mount Vernon. Data on rust severity (percent of foliage with stripe rust) were recorded just before applying fungicides for each location and 20 or 30 days after the applications on 19 July (soft dough stage) at Pullman Site 1, on 1 August (soft dough stage) at Pullman Site 2, and on 10 July (milk stage) at Mount Vernon. Yields were determined from plots harvested during August or September when kernels were naturally dry. Analysis of variance was used to analyze the rust and yield data. The treatments for each cultivar were ranked using the Duncan's Multiple Range Test.

Stripe rust severities on Fielder were 2 - 3% at both Pullman Site 1 on 29 June and Pullman Site 2 on 2 July, and 9 - 13% at Mount Vernon on 20 June when the fungicides were applied. Stripe rust severities on Alpowa were 9 - 15% at Pullman Site 1 on 29 June when the fungicides were applied. Stripe rust in non-treated control plots of Fielder developed by the soft dough stage to more than 90% at Pullman Site 1 and more than 80% at Pullman Site 2. Non-treated Alpowa plots developed 38% stripe rust at Pullman Site 1 by the soft dough stage. Folicur, Tilt, Quadris, Stratego, and combinations of Quadris and Tilt effectively reduced stripe rust.

Treatment ^a	Stripe rust (%) ^b		Yield ^c	
	June 29 Heading	July 19 Soft dough	Mean (bu/A)	Increase (%)

Fielder at Pullman Site 1

Tilt 3.6EC (1.8)	2 a	0 a	81 a	39
Stratego 250EC (2.6)	3 a	3 a	80 a	37
Quadris 2.09SC + Agridex COC (1.6)	3 a	0 a	80 a	37
Folicur 3.6F 38.7 + Induce (1.8)	2 a	0 a	77 a	31
Non-Treated Control	3 a	92 b	58 b	

Alpowa at Pullman Site 1

Tilt 3.6EC (1.8)	12 a	0 a	88 a	29
Stratego 250EC (2.6)	15 a	0 a	85 a	24
Quadris 2.09SC + Agridex COC (1.6)	9 a	0 a	84 a	23
Folicur 3.6F 38.7 + Induce (1.8)	12 a	0 a	79 a b	17
Non-Treated Control	11 a	38 b	68 b	

Treatment ^a	Stripe rust (%) ^b		Yield ^c	
	July 2	August 1	Mean	Increase
	Heading	Soft dough	(bu/A)	(%)

Fielder at Pullman Site 2

Folicur 3.6F (1.8)	2 a	1 a	76 a	23
Quadris 2.08SC (1.6)	2 a	1 a	72 a	16
Tilt 3.6 EC (1.8)	2 a	2 a	74 a	20
Quadris 2.08SC (0.7) + Tilt 3.6EC (1.8)	2 a	1 a	72 a	17
Quadris 2.08SC (0.9) + Tilt 3.6EC (1.8)	2 a	1 a	80 a	27
Quadris 2.08SC (1.1) + Tilt 3.6EC (1.8)	2 a	1 a	75 a	22
Non-Treated Control	2 a	86 b	62 b	

Fielder at Mount Vernon

	June 20	July 10		
	Jointing	Milk		
Folicur 3.6F (1.8)	10 a	0 a	98 a	65
Quadris 2.08SC (1.6)	10 a	0 a	87 a	46
Tilt 3.6 EC (1.8)	9 a	0 a	77 a	30
Quadris 2.08SC (0.7) + Tilt 3.6EC (1.8)	10 a	0 a	101 a	69
Quadris 2.08SC (0.9) + Tilt 3.6EC (1.8)	12 a	2 a	83 a	40
Quadris 2.08SC (1.1) + Tilt 3.6EC (1.8)	10 a	0 a	92 a	54
Non-Treated Control	13 a	33 b	60 b	

^a Treatments were applied at the heading stage at both Pullman Site 1 on 29 June and Pullman Site 2 on 2 July and at the jointing stage on 20 June at Mount Vernon as oz of active ingredient in water at 20 gal/A at the rates indicated in parentheses. At Pullman Site 1, Folicur was applied with Induce at 0.06% v/v and Quadris was applied with Agridex COC at 1% v/v.

^b Rust data were means of four replications for each treatment; rust means for each cultivar followed by the same letter are not significantly different, Duncan's Multiple Range Test ($P = 0.05$).

^c Yield data were means of four replications of 145 sq ft each at the two Pullman sites and 133 sq ft each at the Mount Vernon site. Yield means for each cultivar followed by the same letter are not significantly different, Duncan's Multiple Range Test ($P = 0.05$).