



## MADERA OFFICE

328 Madera Avenue  
Madera, CA 93637-5465  
(559) 675-7879 Ext 212  
(559) 675-0639 FAX  
[rnvargas@ucdavis.edu](mailto:rnvargas@ucdavis.edu)  
[cemadera@ucdavis.edu](mailto:cemadera@ucdavis.edu)

## MERCED OFFICE

2145 Wardrobe Avenue  
Merced, CA 95340-6496  
209-385-7403

### IN THIS ISSUE:

- < **Wheat Stripe Rust**
- < **National Alfalfa Symposium**
- < **Small Grains Variety Studies**

## WHEAT STRIPE RUST

Wheat stripe rust still remains a serious concern even though infestations were much lower this past season than the 2003 season. The following are results of a wheat fungicide study conducted during this past year in Madera County.

### Introduction

Wheat stripe rusts caused by the fungi, *Puccinia striiformis f. sp. tritici*, has been an increasing problem with devastating yield losses occurring in 2003. Yield losses from 50 to 70 percent were common in that year. In 2004 wheat growers responded to the 2003 seasons stripe rust epidemic by reducing acreages of susceptible varieties and increasing acreage of the few available resistant varieties. Summit and Blanca Grande, two resistant varieties, acreage increased dramatically.

Control strategies for stripe rust include the use of resistant varieties and the use of foliar fungicides. If foliar fungicides are used, the application timing depends upon when the initial infection occurs and the manufactures labeled suggested timing. The objective is to protect the flag leaf from infection.

### Study Objective

The evaluation of various fungicides registered and non-registered, for the control of wheat stripe rust and their effects on yield.

### Materials, Methods and Results

A uniform stand of Yecoro Rojo wheat, highly infested with stripe rust, was divided into 10 by 24' plots and replicated four times in a randomized complete block design. On March 12, 2004 fungicide treatments were applied to wheat at a Feekes growth stage of 10 (heads fully developed and can be easily seen in the swollen section of the leaf sheath below the flag leaf). The fungicide treatments included: Cuprofix MZ Disperss, Penncozeb 75 DF, Headline, Quadris, Tilt and Stratego. All

treatments received 1% COC. Treatments were applied with a CO<sub>2</sub> backpack sprayer delivering 20 gallons of spray solution per acre through 8002 flat fan nozzles at 40 PSI. Stripe rust control was evaluated on April 16 and harvest occurred on June 9.

Ratings for stripe rust control indicated no significant difference between Headline at the 9 oz. rate, Quadris and Stratego, at both rates and Tilt. Tilt at 4 oz. product provided the best control (rating 1.8 ) with Headline at 6 oz./ providing lesser control (rating 5.3); significantly less than the 9 oz.. rate of Headline. Cuprofix MZ Disperss and Penncozeb 75 DF

exhibited unacceptable control (ratings of 7.3 and 6.0), which was significantly the same as the untreated control.

Results for yield followed the same trend as control. Best yields, ranging from 4490 to 4010 pounds per acre were achieved with Headline at the 9 oz.. rate, Quadris, Tilt and Stratego. Cuprafix MZ Disperss and Penncozeb 75 DF yielded the least at 2810 and 3370 pounds respectively. They were not significantly different from the untreated control at 2900 pounds per acre.

### Wheat Fungicide Study - 2004

Treatment	Rate/Acre		Yield	Test Wt.	Stripe Rust
	ai	Product	(lbs./acre)	(lbs./bu)	(4/6 Rating)
1. Cuprofix MZ Disperss	2.1	4 lb.	2810 (10)	59.2 (9)	7.3 (10)
2. Penncozeb 75DF	1.5	2 lb.	3370 (8)	59.6 (7)	6.0 (8)
3. Headline	0.098	6 oz.	3790 (7)	59.4 (8)	5.3 (7)
4. Headline	0.15	9 oz.	4010 (6)	59.9 (6)	2.8 (5)
5. Quadris	0.098	6 oz.	4150 (4)	61.2 (2)	2.5 (4)
6. Quadris	0.13	8 oz.	4300 (3)	61.7 (1)	2.8 (5)
7. Tilt	0.112	4 oz.	4380 (2)	60.8 (3)	1.8 (1)
8. Stratego	0.13	8 oz.	4020 (5)	60.1 (5)	2.0 (2)
9. Stratego	0.16	10 oz.	4490 (1)	60.7 (4)	2.3 (3)
10. UTC			2900 (9)	59.1 (10)	7.0 (9)
MEAN			3820	60.2	4.0
CV			11.6	1.5	21.5
LSD			640	-	1.2

\*All Treatments received a crop oil concentrate at 1%

Numbers in parentheses indicate relative rank in column

Rate scale (area of flag-1 leaf affected): 1 = 0-3%, 2 = 4-14%, 3 = 15-29%, 4 = 30-49%, 5 = 50-69%, 6 = 70-84%, 7 = 85-95%, 8 = 96-100%

**SMALL GRAIN VARIETY STUDIES - 2004**

The following information are summaries of the wheat and barley regional variety studies for the San Joaquin Valley showing stripe rust tolerance rating and yields for commercial cultivars. Details of individual studies will be available upon request.

Charts - Numbers in parentheses indicates relative rank in column.

**2004 AND 2002-2004 DURUM WHEAT YIELD SUMMARY (LBS/ACRE)**

Entry Name	San Joaquin Valley		
	2004 (3 Loc)	2003-04 (6 Loc/Yr)	2002-04 (9 Loc/Yr)
819 BRAVADUR	3990 (29)	4820 (11)	–
878 DURAKING	5550 (3)	5680 (4)	6120 (4)
947 KOFA	4150 (27)	4580 (15)	5200 (12)
951 KRONOS	4510 (19)	4980 (7)	5290 (10)
983 RIA	4240 (26)	4730 (13)	5150 (13)
1024 MOHAWK	4470 (21)	5070 (6)	5690 (5)
1166 CROWN	5230 (8)	6000 (3)	6200 (3)
1179 MATT	4340 (25)	4900 (9)	5250 (11)
1210 PLATINUM	5490 (4)	6280 (2)	6520 (2)
1211 TOPPER	4670 (15)	5160 (5)	5630 (6)
1215 ORITA	4480 (20)	4790 (12)	5440 (8)
1253 CANDURA	4140 (28)	4690 (14)	5070 (14)
1375 ORO	5920 (1)	6430 (1)	6570 (1)

## 2004 DURUM WHEAT DISEASE AND LODGING (HARVEST) SUMMARY

Entry Name	Stripe Rust				
CULTIVARS	Mean (4 Loc)	UC Davis	Madera	Kings	Kern
819 BRAVADUR	2.3 (9)	1.5	2.5	2.0	3.0
878 DURAKING	2.3 (9)	2.5	2.0	2.5	2.0
947 KOFA	5.7 (29)	6.0	3.3	6.8	6.8
951 KRONOS	3.4 (20)	3.5	1.3	4.0	4.8
983 RIA	4.3 (27)	5.0	2.5	5.3	4.5
1024 MOHAWK	3.8 (23)	4.3	2.5	4.0	4.5
1166 CROWN	1.4 (3)	1.8	1.0	1.0	1.8
1179 MATT	2.7 (14)	2.0	1.0	3.0	4.8
1210 PLATINUM	1.5 (5)	2.0	1.0	1.0	2.0
1211 TOPPER	2.9 (18)	2.8	1.5	3.0	4.5
1215 ORITA	4.0 (26)	3.8	2.8	4.8	4.8
1253 CANDURA	3.9 (25)	4.5	2.0	4.8	4.3
1375 ORO	1.2 (2)	1.3	1.0	1.0	1.5

## 2004 AND 2002-2004 WHEAT YIELD SUMMARY (LBS/ACRE)

Entry Name	San Joaquin Valley		
CULTIVARS	2004 (3 Loc)	2003-04 (6 Loc/Yr)	2002-04 (9 Loc/Yr)
20 ANZA	3740 (36)	4060 (15)	4840 (8)
112 YECORA ROJO	2810 (39)	2750 (17)	3930 (11)
638 SERRA	4130 (33)	4180 (14)	4720 (10)
788 EXPRESS	4620 (29)	4860 (12)	5360 (7)
827 CAVALIER	2750 (40)	2480 (18)	3880 (12)
1130 STANDER	5310 (12)	5890 (5)	6190 (4)
1154 STELLAR	5430 (7)	--	-
1155 SUMMIT	5940 (2)	6610 (1)	6800 (1)
1156 BLANCA GRANDE	5500 (5)	6000 (3)	6380 (3)
1258 BETH HASHITA	4920 (26)	5480 (9)	5630 (6)
1361 CLEAR WHITE	4760 (27)	5370 (11)	5720 (5)
1413 WINCAL 14	4360 (31)	4570 (13)	-

## 2004 WHEAT STRIPE RUST

Entry Name		Stripe Rust					
CULTIVARS		Mean (8 Loc)	UC Davis	Sac-SJ Delta	Madera	Kings	Kern
20	ANZA	5.9 (26)	6.5	5.0	5.0	5.3	6.8
112	YECORA ROJO	7.8 (29)	8.0	8.0	6.8	8.0	8.0
638	SERRA	4.3 (24)	5.5	4.8	3.8	6.0	5.0
788	EXPRESS	3.0 (22)	3.5	4.5	2.3	5.0	3.3
827	CAVALIER	7.9 (30)	8.0	8.0	7.0	8.0	8.0
1130	STANDER	4.7 (25)	4.3	4.3	3.8	6.5	6.0
1154	STELLAR	2.3 (19)	1.5	4.5	1.0	2.5	5.5
1155	SUMMIT	1.2 (9)	1.3	1.8	1.0	1.0	1.5
1156	BLANCA GRANDE	1.1 (7)	1.0	1.0	1.0	1.5	1.3
1258	BETH HASHITA	1.3 (11)	1.8	2.3	1.0	1.0	1.3
1361	CLEAR WHITE	2.2 (18)	2.8	2.8	1.0	3.5	3.5
1413	WINCAL 14	2.1 (17)	3.3	2.8	2.0	2.0	2.0

## 2004 BARLEY DISEASE AND LODGING SUMMARY

Entry Name		Stripe Rust	BYDV	Lodging (Harvest)
CULTIVARS		Madera	Madera	Madera
603	UC 603	1.0 (1)	1.0 (1)	3.5 (7)
816	MAX	4.0 (28)	1.0 (1)	1.8 (3)
885	PATTI	1.0 (1)	1.8 (26)	2.8 (5)
933	UC 933	1.0 (1)	1.0 (1)	6.3 (21)
937	UC 937	2.4 (21)	1.0 (1)	8.0 (28)
951	MELTAN	1.0 (1)	4.0 (28)	6.5 (22)
969	UC 969	1.0 (1)	1.0 (1)	4.8 (10)
1085	COMMANDER	2.0 (26)	1.3 (24)	1.3 (1)
1137	TRADITION	2.0 (26)	1.0 (1)	6.0 (19)

**2002-2004 BARLEY YIELD SUMMARY, SAN JOAQUIN VALLEY (LBS/ACRE)**

Entry Name	Mean	Madera		
		2004	2003	2002
<b>CULTIVARS</b>	<b>(6 Loc/Yr)</b>			
603 UC 603	5160 (0)	5670 (5)	5890 (9)	4720 (10)
816 MAX	5530 (7)	5890 (3)	4920 (8)	7120 (1)
885 PATTI	6040 (3)	6110 (2)	6160 (5)	6060 (4)
933 UC 933	5560 (6)	5700 (4)	6380 (2)	5820 (7)
937 UC 937	5300 (8)	4060 (10)	5520 (7)	6160 (3)
951 MELTAN	3240 (11)	3640 (11)	3860 (11)	3230 (11)
969 UC 969	4870 (10)	5250 (9)	4480 (10)	5020 (9)
1085 COMMANDER	5940 (4)	6670 (1)	6120 (6)	6060 (5)

Sincerely,

Ron Vargas  
Farm Advisor



For special assistance regarding our programs, please contact us.

NONPROFIT ORG  
US POSTAGE  
PAID  
PERMIT NO. 13  
MADERA CA 93638

UNIVERSITY OF CALIFORNIA  
COOPERATIVE EXTENSION  
MADERA COUNTY  
328 MADERA AVE  
MADERA CA 93637-5465