

TABLE XMC0932. STRIPE RUST INFECTION TYPE (IT) AND SEVERITY (%) ON CULTIVARS AND LINES IN THE SPRING EXTENSION DISEASE NURSERY (EXP32) (COORDINATED BY STEVE GUY AS SPRING WHEAT VARIETY TRIAL NURSERIES) AT SPILLMAN (LOC 1), PLANT PATH FARM (LOC 3) AND WHITLOW (LOC 4) FARMS NEAR PULLMAN, MT VERNON (LOC 5); WALLA WALLA (LOC 6); AND LIND (LOC 7)*, WA WHEN RECORDED AT THE INDICATED DATES AND STAGES OF PLANT GROWTH IN 2009 UNDER NATURAL INFECTION.

ENTRY #	Variety ID #	Class	VARIETY name	2009 Plot	LOC1	LOC2	LOC4	LOC5		LOC6	LOC6
					7/21/09	7/22/09	7/15/09	6/10/09	7/9/09	6/19/09	6/30/09
					Milk	S. dough	Milk	Stem elong.	S. dough	L. flowering	Milk
					IT %	IT %	IT %	IT %	IT %	IT %	IT %
SOFT NURSERY	(S check)	SOFT NURSERY	LEMHI	1	8 70	8 100	8 100	8 80	8 80	8 60	8 60
1	PI 566596	SWH	ALPOWA	2	3 10	3 10	3 20	7 50	2 20	3 40	2 15
2	PI 607839	SWH	ZAK	3	8 70	8 100	8 80	8 20	8 30	8 40	8 40
3	PI 634865	SWH	LOUISE	4	2 5	2 20	2 1	5 30	2 20	2 10	0 0
4	PI 506352	SWH	WAKANZ	5	2 5	3 40	2 5	7 30	2 20	3 30	2 5
5	BZ698-031	SWH	NICK	6	8 5	8 100	8 20	8 5	8 30	0 0	2 5
6	BZ604-002	SWH	BZ604-002	7	8 20	8 100	8 70	3 5	2 20	8 20	8 5
7	WA008008	SWH	WHIT	8	3 10	3 20	3 10	2 5	2 20	5 10	0 0
8	WA008039	SWH	WA008039	9	3 1	3 30	2 5	2 10	2 20	2 2	2 2
9	WA008039	SWH	WA008039HF	10	2 5	3 30	2 5	2 5	2 20	3 5	2 5
10	WA008041	SWH	WA008041	11	2 2	2 1	2 1	2 5	2 10	0 0	0 0
11	WA008108	SWH	WA008108	12	3 5	3 30	3 5	8 20	2 20	2 2	2 5
12	WA008090	SWH	WA008090	13	2 5	3 10	2 5	3 10	2 10	2 2	0 0
13	WA008089	SWH	WA008089	14	2 10	3 10	2 5	3 10	2 20	3 20	2 5
14	WA008058	SWH	WA008058	15	2 10	2 30	2 5	2 5	2 10	3 10	8 50
15	WA008059	SWH	WA008059	16	2 10	2 30	2 1	2 1	2 10	3 20	8 50
16	WA008104	SWH	WA008104	17	2 5	3 10	3 1	2 5	2 10	5 30	3 5
17	WA008112	SWH	WA008112	18	2 5	2 10	2 5	3 15	2 10	2 10	2 5
18	WA008106	SWS	WA008106	19	2 2	3 20	3 1	7 5	6 30	2 2	2 2
19	PI 620631	SWH	ALTURAS	20	2,8 1	2 10	2 1	8 10	2 10	0 0	0 0
	(S check)		LEMHI	21	8 70	8 100	8 100	8 80	8 80	8 80	8 60
20	IDO642	SWH	CATALDO	22	2 5	3 20	5 5	8 5	2 5	8 5	0 0
21	PI 630983	WHCB	EDEN	23	3 5	3 30	3 5	8 10	2 20	8 20	3 15
22	WA008047	WHCB	WA008047	24	2 2	2 5	2 1	2 5	2 10	0 0	3 5
23	PI 630983	WHCB	EDEN (HSR)	25	2 5	3 20	3 5	8 10	8 30	8 20	8 15
24	WA008047	WHCB	WA008047 (HSR)	26	2 1	2 5	2 1	3 5	2 20	0 0	2 5
HARD NURSERY	(S check)	HARD NURSERY	LEMHI	27	8 70	8 100	8 100	8 80	8 80	8 80	8 80
1	PI 601814	HRS	SCARLET	28	8 5	8 40	8 30	8 20	8 30	5 20	8 30
2	PI 632857	HRS	HOLLIS	29	8 20	8 20	8 10	2 5	2 10	0 0	2 2
3	PI 617073	HRS	TARA 2002	30	8 20	8 20	8 50	3 10	2 20	0 0	3 5
4	WA007954	HRS	KELSE	31	3 10	3 10	5 20	3 10	2 30	8 10	2 5

ENTRY #	Variety ID #	Class	VARIETY name	2009 Plot	LOC1	LOC2	LOC4	LOC5		LOC6	LOC6
					7/21/09	7/22/09	7/15/09	6/10/09	7/9/09	6/19/09	6/30/09
					Milk	S. dough	Milk	Stem elong.	S. dough	L. flowering	Milk
					IT %	IT %	IT %	IT %	IT %	IT %	IT %
5	WA008027	HRS	WA008027	32	2 10	2 10	5 20	2 5	2 10	2 2	0 0
6	WA008072	HRS	WA008072	33	2 20	2 20	3 5	3 5	2 10	0 0	0 0
7	WA008074	HRS	WA008074	34	2 20	2 20	2 1	2 5	2 10	0 0	2 5
8	WA008075	HRS	WA008075	35	3 5	3 5	5 10	2 5	2 20	0 0	0 0
9	WA008076	HRS	WA008076	36	3 2	3 2	3 1	5 10	6 10	0 0	2 5
10	PI 603040	HRS	JEFFERSON	37	8 5	8 5	8 5	3 10	8 30	0 0	0 0
11	PI 642362	HRS	UI WINCHESTER	38	2 10	2 10	2 5	2 10	2 10	0 0	0 0
12	WESTBRED	HRS	WESTBRED 926	39	2 10	2 10	8 5	8 5	8 20	0 0	0 0
13	PI 613585	HRS	HANK	40	8 20	8 20	8 60	8 5	8 30	8 10	0 0
	(S check)		LEMHI	41	8 70	8 80	8 100	8 80	8 80	8 80	8 60
14	BZ9M03-104	HRS	JEDD	42	8 30	8 30	8 20	8 10	8 80	2 2	0 0
15	ACS52610	HRS	VOLT	43	2 1	2 1	2 1	2 5	1 5	0 0	0 0
16	NPBHR70	HRS	NPBHR70	44	3 10	3 10	3 5	8 10	8 30	2 2	2 5
17	LASSIK	HRS	LASSIK	45	2 2	2 2	2 2	2 5	1 5	0 0	2 2
18	T0001052	HRS	BUCK PRONTO	46	3 5	3 5	2 1	8 5	8 10	0 0	2 2
19	BULLSEYE	HRS	BULLSEYE	47	3 10	3 10	3 10	8 10	8 10	8 10	2 5
20	OR4990114	HRS	OR4990114	48	8 10	8 10	3 20	8 5	6 20	8 5	8 5
21	PI 617072	HDWH	MACON	49	8 30	8 30	8 30	8 40	8 20	8 10	8 30
22	PI 634866	HDWH	OTIS	50	5 20	5 20	3 10	8 20	2 20	5 10	2 2
23	WA008078	HDWH	WA008078	51	8 30	8 30	8 20	5 20	8 30	8 5	0 0
24	WA008079	HDWH	WA008079	52	3 30	3 30	3 30	8 10	8 30	5 5	0 0
25	WA008100	HDWH	WA008100	53	3 2	3 2	2 1	2 10	8 10	0 0	0 0
26	WA008101	HDWH	WA008101	54	2 10	2 10	2 10	8 5	2 20	0 0	0 0
27	PI 631481	HDWH	BLANCA GRANDE	55	2 10	2 10	2 1	8 5	2 5	3 2	0 0
28	RSI10348W	HDWH	RSI10348W	56	3 10	3 10	5 20	8 10	2 10	0 0	0 0
29	UC 1361	HDWH	CLEAR WHITE	57	3 1	3 1	3 10	8 10	2 5	0 0	0 0
30	BZ903-445V	HDWH	BZ903-445WP	58	3 5	3 5	3 30	2 10	2 5	0 0	0 0
IRRIGATED ENTR	(S check)	IRRIGATED ENT	LEMHI	59	8 70	8 70	8 100	8 80	8 80	8 80	8 80
31	DA900-229	HRS	SOLANO	60	2 5	2 5	2 5	3 10	2 5	3 20	2 5
	(S check)		LEMHI	61	8 90	8 90	8 100	8 80	8 60	8 80	8 60
32	EXPRESSO	HRS	EXPRESSO	62	2 1	2 1	2 1	2 10	1 5	2 1	2 2
33	95WV10616	HRS	CABERNET	63	2 10	3 5	2 10	2 10	1 5	2 1	2 2
34	02W50076	HRS	LARIAT	64	2 1	2 1	2 1	2 5	1 5	2 1	2 2
35	02W50603	HRS	RSI50603	65	3 5	2 5	3 5	8 10	8 5	3 5	2 2
36	WA008008	SWH	WHIT	66	3 10	3 5	3 10	8 10	2 30	3 5	2 2

ENTRY #	Variety ID #	Class	VARIETY name	2009 Plot	LOC1		LOC2		LOC4		LOC5		LOC6		LOC6			
					7/21/09		7/22/09		7/15/09		6/10/09		7/9/09		6/19/09		6/30/09	
					Milk		S. dough		Milk		Stem elong.		S. dough		L. flowering		Milk	
					IT	%	IT	%	IT	%	IT	%	IT	%	IT	%	IT	%
	(S check)		LEMHI	67	8	100	8	80	8	100	8	80	8	80	8	60		
	(S check)		LEMHI	68	8	100	8	80	8	100	8	80	8	60	8	80		
	(S check)		LEMHI	69	8	100	8	80	8	100	8	80	8	80	8	60		
	(Barley Fill)		STEPTOE	70	0	0	0	0	0	0	8	10	8	50	0	0		

* No rust was observed in Lind (LOC 07).

** Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT or connected with "-" for entries containing plants with continuous ITs. Entries with a high IT in the first note, but a low IT in the second note may indicate that they have high-temperature, adult-plant (HTAP) resistance.

TABLE XMC0932GH. STRIPE RUST INFECTION TYPE (IT) ON ENTRIES IN 2009 SPRING EXTENSION DISEASE (VARIETAL TRIAL) NURSERY (EXP32) (COORDINATED BY STEPHEN GUY) TESTED WITH SELECTED STRIPE RUST RACES IN CONTROLLED GREENHOUSE TESTS FOR SEEDLING TESTS, DIURNAL TEMPERATURES GRADUALLY CHANGING FROM 4°C AT 2:00AM TO 20°C AT 2:00PM WERE USED AND IT WAS FOR 10-17 PLANTS, AND FOR ADULT-PLANT TESTS, DIURNAL TEMPERATURES GRADUALLY CHANGING FROM 10°C AT 2:00AM TO 30°C AT 2:00PM WERE USED AND IT WAS FOR INDIVIDUAL PLANTS.

NOTE: BECAUSE CHEMICAL TREATED SEEDS WERE NOT SUITABLE FOR GREENHOUSE TESTS, SEEDS HARVESTED FROM THE 2009 NURSERY ON WHITLOW FARM WERE USED IN THE GREENHOUSE TESTS FROM OCTOBER TO DECEMBER 2009.

ENTR #	Variety ID #	Class	VARIETY name	2009 Plot	Infection type ^a															HTAP ^c Resistance
					Seedling test (4-20°C) ^b					Adult-plant test (10-30°C) ^b										
					PST-37	PST-45	PST-100	PST-114	PST-127	PST-100			PST-114			PST-127				
										Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3		
SOF	(S check)	SOFT	LEMHI	1	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	No	
1	PI 566596	SWH	ALPOWA	2	8	5	8	8	8	3,3,3	4,4,4	4,4,4	3,3,3	4,4,4	3,3,3	5,5,5	5,5,5	5,5,5	Moderate	
2	PI 607839	SWH	ZAK	3	8	2	8	8	8	8,8,8	7,7,7	7,7,7	8,8,8	7,7,7	7,7,7	8,8,8	7,7,7	7,7,7	No	
3	PI 634865	SWH	LOUISE	4	8	8	8	8	8	2,2,2	2,3,3	2,2,3	2,2,3	2,2,2	2,2,3	3,3,3	3,3,3	3,3,3	Yes	
4	PI 506352	SWH	WAKANZ	5	8	8	8	8	8	2,2,2	3,3,3	3,3,3	2,2,2	2,3,3	3,3,3	3,3,3	3,3,3	3,3,3	Yes	
5	BZ698-031	SWH	NICK	6	8	8	8	8	8	3,3,3	3,3,3	3,3,3	4,4,4	3,3,3	3,3,3	6,6,6	7,7,7	7,7,7	No	
6	BZ604-002	SWH	BZ604-002	7	2	2	8	8	8	3,3,3	3,3,5	7,7,7	2,2,3	2,3	2,2,3	7,7,7	7,7,7	7,7,7	No	
7	WA008008	SWH	WHIT	8	2	2	8	8	8	1,1,3	2,2,3	2,3,3	3,3,3	2,2,3	2,2,3	3,3,3	3,3,3	4,4,4	Yes	
8	WA008039	SWH	WA008039	9	2	8	8	8	8	2,3,3	2,2,3	3,3,3	2,2	2,2,2	2,2,2	3,3,3	3,3,3	3,4	Yes	
9	WA008039	SWH	WA008039HF	10	2,3(1)	8	6	8	8	2,2,2	3,3,3	3,3,3	2,2,2	2,2,2	2,2,2	3,3,3	3,3,3	3,3,3	Yes	
10	WA008041	SWH	WA008041	11	2,8(1)	2	8	8	8	1,1,1	1,1,2	1,1,1	2,1,1	1,1,1	1,1,3	1,1,1	1,1,2	2,2	Yes	
11	WA008108	SWH	WA008108	12	8	8	8	8	8	1,1,3	3,3,3	2,2,2	2,2,3	2,3,3	2,3	3,4	3,3,3	3,3,3	Yes	
12	WA008090	SWH	WA008090	13	8	8	7	4	8	1,1,3	2,2,2	1,1,2	1,1	1,1,1	2,2,2	2,2,2	2,2,2	2,2,2	Yes	
13	WA008089	SWH	WA008089	14	2	2	8	8	8	2,2,3	2,2,3	2,2,2	2,2,1	2,2,2	2,2,2	3,3,3	3,3,3	3,3,3	Yes	
14	WA008058	SWH	WA008058	15	2	2	2	2	2	2,2,2	1,1,1	1,1,1	2,2,1	1,1,1	2,2,2	2,2,2	2,2,2	2,3,3	Yes	
15	WA008059	SWH	WA008059	16	2	2	2	2	2	1,1,3	1,1,2	1,1,1	2,2,1	2,1,1	1,1,2	1,1,1	2,1,1	2,2,2	Yes	
16	WA008104	SWH	WA008104	17	8	2	8	8	8	1,1,3	3,3,3	3,3,3	3,3,3	3,3,4	4,4	4,4,4	5,5,5	5,5,5	Moderate	
17	WA008112	SWH	WA008112	18	8	8	8	8	8	3,3,3	3,3,3	2,3,3	222/333	222/333	3,3,3	3,3,3	3,3,3	3,3,3	Yes	
18	WA008106	SWS	WA008106	19	8	7	7	8	5	1,1,3	1,3,3	2,2,3	1,1,1	2,2,2	2,2,2	1,1,1	3,3,3	2,2,3	Yes	
19	PI 620631	SWH	ALTURAS	20	2	8	8	8	5	3,3,3	3,3,3	2,3,3	3,3,2	2,2,2	2,3,3	2,3,3	2,3,3	3,3,3	Yes	
	(S check)		LEMHI	21	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	No	
20	IDO642	SWH	CATALDO	22	8	8	8	8	8	3,3,3	3,4,4	3,4,4	1,1,3	1,1,3	2,3,3	3,5,5	6,6,6	6,6,6	Moderate	
21	PI 630983	WHCB	EDEN	23	8	2	8	8	8	3,3,3	5,5,5	6,6,6	6,6,6	7,7,7	7,7,7	5,5,5	5,5,5	5,5,5	Low	
22	WA008047	WHCB	WA008047	24	2	2	2	8	2	2,1,2	2,1,1	1,1,1	1,1,3	3,3,3	3,3,3	1,1,1	1,1,2	1,1	Yes	
23	PI 630983	WHCB	EDEN (HSR)	25	8	2	8	8	8	6,6,6	6,6,7	6,6,6	6,6,6	6,7,7	7,7,7	3,3,3	3,3,3	7,7,7	Low	
24	WA008047	WHCB	WA008047 (H	26	2	2	2	8	3,8(1)	1,1,1	2,1,1	1,1,2	1,3,3	2,3,3	2,3,4	1,1,1	1,1,1	2,1,1	Yes	
HAR	(S check)	HARD	LEMHI	27	8	8	8	8	8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	No	
1	PI 601814	HRS	SCARLET	28	8	8	8	8	8	3,3,5	6,6,6	5,5,5	6,5	6,6,6	6,6,6	3,3	3,3,3	3,4,4	Low	

ENTR #	Variety ID #	Class	VARIETY name	2009 Plot	Infection type ^a													HTAP ^c Resistance		
					Seedling test (4-20°C) ^b					Adult-plant test (10-30°C) ^b										
					PST-37	PST-45	PST-100	PST-114	PST-127	PST-100			PST-114			PST-127				
					Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3	Rep 1	Rep 2	Rep 3							
32	EXPRESS	HRS	EXPRESSO	62	1	1	1	1	1	1,1,1	1,1,1	1,1,1	1,1,1	1,1,1	2,1,1	1,1,1	2,1,1	1,1,1	Yes (not by these data, but by Express)	
33	95WV1061	HRS	CABERNET	63	2	1	2	8	8	1,1,1	1,1,1	1,1,1	2,2,2	1,1,1	3,4,4	4,4,4	3,3,3	2,2,3	Yes	
34	02W50076	HRS	LARIAT	64	1	1	2	8	2	2,2,1	2,1,1	2,2,2	2,2,2	2,2,1	2,2,2	2,1,1	2,1,1	2,2,2	Yes	
35	02W50603	HRS	RSI50603	65	2	2	2	2,8(1)	2	1,1,1	1,1,2	2,1,1	1,2,2	1,1,1	2,1,1	2,2,3	1,1,1	3,3,3	Yes	
36	WA008008	SWH	WHIT	66	2	2	8	8	8	2,2,3	3,3	3,3,3	2,2	2,2,2	3,3,3	5,5,5	3,3	4,4,5	Yes	
	(S check)		LEMHI	67	8	8	8	8	8	8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	8,8,8	No

^a Infection Type (IT) was recorded based on the 0-9 scale with ITs 8 and 9 combined as 8 (the most susceptible reaction) in field data. Generally IT 0-3 are considered resistant, 4-6 intermediate, and 7-9 susceptible. Heterogenous reactions of an entry were indicated by two or more ITs separated by "," for most plants with the first IT and few plants with the second IT and the number of plants for each IT is indicated in "()". For adult-plant tests, if the flag leaf has a IT different from the leaf below, the ITs are separated by "/" with the flag leaf IT first.

^b The seedling tests were conducted in December 2008 to January 2009 for each race without replications. For adult-plant tests, seeds were planted in late November and seedlings of about 3-5 cm were vernalized at 2-4°C for 6 to 9 weeks and then transplanted into big pots and grown in the greenhouse (10 to 25°C diurnal temperature cycle, 16h light) from January to May. Plants at boot to flowering stages were inoculated with a mixture of urediniospores of a particular race with talc powdery at about 1:20 ratio, incubated for 20 to 24 h in a dew chamber (dark, 10°C) and then grown in a greenhouse growth chamber at the 10-30°C diurnal temperature cycle with 16 h light. IT was recorded for each plant 18 to 20 days after inoculation. The three reps for each race test were done in different time period.

^c Entries with a high IT in the seedling low-temperature test but with a low IT in the adult-plant tests under high temperatures have possibly high-temperature adult-plant (HTAP) resistance.