

2010

Uniform Eastern & Southern Soft Red Winter Wheat Nurseries

Marker Reports

Eastern Regional Small Grains Genotyping Lab

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USDA-ARS

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Some details of notations in the Marker tables

"nd" = not determined or lack of amplification

if marker is dominant, samples with no amplification are left blank

"?" indicates that markers may not be diagnostic or data was not clear; therefore,
can not be sure if gene is present or not

All numbers are size in base pairs of amplified fragments

Target alleles are in **bold** or *italics*

Rht1-B1b = dwarf = yes; Rht2-D1b = dwarf = yes

Ppd-D1a = photoperiod insensitive = yes

2010 Uniform Eastern Soft Red Winter Wheat Nursery

Entry List

Nursery	Entry	Sample Name	Pedigree	Class	Breeder
UESRWWN	1	INW0411	96204A1-12//Goldfield/92823A1-11 (formerly P97397E1-11-2-4-1-1)	SRWW	Check
UESRWWN	2	Branson	Pio2737W/891-4584A (Pike/FL302) (formerly M00-3701)	SRWW	Check
UESRWWN	3	Bess	MO11769/Madison (formerly MO981020)	SRWW	Check
UESRWWN	4	Shirley	VA94-52-25 /Coker 9835//VA96-54-234 (formerly VA03W-409)	SRWW	Check
UESRWWN	5	KY997C-0508-01-01A-1	FFR555W/VA94-52-25//2568	SRWW	Van Sanford
UESRWWN	6	IL04-8445	IL94-1653 [MOW12213/IL87-3235(Cardinal/Caldwell)] / IL97-3578 [IL90-6364(P76788G2-5-4-94//Caldwell/IL77- 2656)/Pio2571]	SRWW	Kolb
UESRWWN	7	B040798	BL920520/9244BX-2-1-4	SRWW	Hancock
UESRWWN	8	W06-089	Tribute/Patton	SRWW	Cisar
UESRWWN	9	VA05W-151	Pio26R24/McCormick	SRWW	Griffey
UESRWWN	10	VA05W-168	FFR522/Tribute	SRWW	Griffey
UESRWWN	11	AR98022-19-3	Sabbe/Coker9663	SRWW	Bacon
UESRWWN	12	AR98023-5-1	Sabbe/Coker9704	SRWW	Bacon
UESRWWN	13	Taboo exp.	L930605/Ashland	SRWW	Fioritto
UESRWWN	14	Mondo exp.	Roane/IL95-3245	SRWW	Fioritto
UESRWWN	15	Okie exp.	F285N3-111/65343	SRWW	Fioritto
UESRWWN	16	W06*646	Quantum708/SW89	SRWW	Cisar
UESRWWN	17	VA07W-415	VA98W-895/GA881130LE5//VA98W-627	SRWW	Griffey
UESRWWN	18	MD00W389-08-4	Pio2643/MD71-5	SRWW	Costa
UESRWWN	19	MD02W135-08-9	Sisson/McCormick	SRWW	Costa
UESRWWN	20	MD01W270-08-12	VA98W-769/USG3209	SRWW	Costa
UESRWWN	21	B169	T143/B980582	SRWW	Wilson
UESRWWN	22	B170	T104/IL95-947	SRWW	Wilson
UESRWWN	23	B171	P92145EB..../T116	SRWW	Wilson
UESRWWN	24	MO 041687	MO 960304/MO 960815	SRWW	McKendry
UESRWWN	25	MO 050921	Ernie/MO 980521(Truman sib)	SRWW	McKendry
UESRWWN	26	MO 080104	L910097/MO 92-599	SRWW	McKendry
UESRWWN	27	Z03-3352	Patterson/W-278	SRWW	Moreno
UESRWWN	28	XY04-37	951078/W-753	SRWW	Moreno
UESRWWN	29	OH05-164-76	Pio25R18/OH686	SRWW	Sneller
UESRWWN	30	OH05-200-74	OH629/Hopewell	SRWW	Sneller
UESRWWN	31	OH05-248-38	OH685/OH686	SRWW	Sneller
UESRWWN	32	ML06-2097	Benton/M98-1569	SRWW	Fogleman
UESRWWN	33	03M1539#019	Gibson/92226E2-5-3	SRWW	Fogleman
UESRWWN	34	MH06*2820	Pio25R26/Cooper	SRWW	Fogleman
UESRWWN	35	GA011174-8A9	GA961526/GA96565	SRWW	Johnson
UESRWWN	36	IL04-24668	IL98-13404/IL97-3578	SRWW	Kolb
UESRWWN	37	IL05-4236	Truman/KY93C-1238-17-1	SRWW	Kolb
UESRWWN	38	G89267	VA91-54-219/OH413	SRWW	Brown
UESRWWN	39	G89263	T814/ABI89-4584A	SRWW	Brown
UESRWWN	40	KY00C-2567-01	SS520/25W33	SRWW	Van Sanford
UESRWWN	41	P05215A1-1-46	INW0316*2/INW0301//MO980829	SRWW	Ohm
UESRWWN	42	P05247A1-7-3	98840*2/03726//99794	SRWW	Ohm
UESRWWN	43	P05251A1-1-77	INW0412*2/03705//981312	SRWW	Ohm
UESRWWN	44	TN902	ILL F322W/BL940582//(Card/Mass)/T106	SRWW	West
UESRWWN	45	NX05M4180-6	92201D5-2-29 X 99 waxy bulk	SRWW	Graybosch
UESRWWN	46	NC05-19896	Burr/NC96BGTA6 sib//Natchez	SRWW	Murphy

2010 Uniform Eastern Soft Red Winter Wheat Nursery

Summary of all Markers

Nursery	Entry	Sample Name	Rht1-	Rht2-	Rht8	Ppd-D1a	Fhb		2DL-	Fhb	Fhb 5A <i>Ning7840</i>	
			B1b	D1b			Ernie	3Bc	Wuhan1/ W14	5A Ernie		
UESRWWN	1	INW0411	yes	no	no	yes	yes?	no	no	no	no	no
UESRWWN	2	Branson	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	3	Bess	yes	no	no	no	no	no	no	no	no	no
UESRWWN	4	Shirley	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	5	KY997C-0508-01-01A-1	no	het	no	yes	no	no	no	no	no	no
UESRWWN	6	IL04-8445	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	7	B040798	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	8	W06-089	yes	no	no	no	no	?	no	no	no	no
UESRWWN	9	VA05W-151	no	yes	no	no	no	no	no	no	no	no
UESRWWN	10	VA05W-168	no	yes	no	yes	no	no	no	no	no	no
UESRWWN	11	AR98022-19-3	no	no	no	no	no	no	no	no	no	no
UESRWWN	12	AR98023-5-1	no	yes	no	no	no	no	no	no	no	no
UESRWWN	13	Taboo exp.	yes	no	yes	het	no	no	no	no	no	no
UESRWWN	14	Mondo exp.	no	no	no	no	no	no	no	yes	no	no
UESRWWN	15	Okie exp.	yes	no	yes	no	no	no	no	no	no	no
UESRWWN	16	W06*646	no	yes	no	yes	no	no	no	no	no	no
UESRWWN	17	VA07W-415	no	yes	no	yes	no	no	no	no	no	no
UESRWWN	18	MD00W389-08-4	no	yes	no	yes	no	no	no	no	no	no
UESRWWN	19	MD02W135-08-9	no	yes	no	no	no	no	no	no	no	no
UESRWWN	20	MD01W270-08-12	no	yes	no	yes	no	no	no	no	no	no
UESRWWN	21	B169	no	no	no	no	no	no	no	no	no	no
UESRWWN	22	B170	yes	no	no	no	no	yes	no	no	no	no
UESRWWN	23	B171	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	24	MO 041687	yes	no	no	no	no	no	no	no	no	no
UESRWWN	25	MO 050921	yes	no	no	no	no	yes	no	no	no	no
UESRWWN	26	MO 080104	no	no	no	yes	no	?	no	no	no	no
UESRWWN	27	Z03-3352	yes	no	no	no	no	no	no	no	no	no
UESRWWN	28	XY04-37	no	yes	no	yes	no	no	no	no	no	no
UESRWWN	29	OH05-164-76	yes	no	no	yes	het	yes	no	no	no	no
UESRWWN	30	OH05-200-74	yes	no	no	no	no	no	no	no	no	no
UESRWWN	31	OH05-248-38	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	32	ML06-2097	yes	no	het	het	no	no	no	no	no	no
UESRWWN	33	03M1539#019	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	34	MH06*2820	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	35	GA011174-8A9	nd	yes	no	no	no	no	no	no	no	no
UESRWWN	36	IL04-24668	yes	no	no	yes	no	no	no	no	no	no
UESRWWN	37	IL05-4236	yes	no	no	no	no	no	no	no	no	no
UESRWWN	38	G89267	yes	het	no	no	no	het	no	no	no	no
UESRWWN	39	G89263	yes	no	no	no	no	no	no	no	no	no
UESRWWN	40	KY00C-2567-01	no	yes	no	yes	no	no	no	yes	no	no
UESRWWN	41	P05215A1-1-46	yes	no	no	no	no	no	no	no	no	no
UESRWWN	42	P05247A1-7-3	yes	no	no	yes	no	no	no	yes?	no	no
UESRWWN	43	P05251A1-1-77	yes	no	no	no	no	no	no	yes?	no	no
UESRWWN	44	TN902	no	yes	het	yes	no	no	no	no	no	no
UESRWWN	45	NX05M4180-6	yes	no	no	yes	no	no	no	yes?	no	no
UESRWWN	46	NC05-19896	no	yes	no	yes	no	?	no	yes?	no	no

Rht1-B1b = dwarf = yes; Rht2-D1b = dwarf = yes

Ppd-D1a = photoperiod insensitive = yes

"nd" = not determined or lack of amplification

If marker is dominant, samples with no amplification are left blank

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Summary of all Markers

Nursery	Entry	Sample Name	Yr17/ Lr34/			Yr18/			1RS	H13	H9	Bdv 2/3	Bx7		
			Sr2	Sr36	Lr24	Sr38	Pm38	over-ex pressing					Glu-D1	Glu-A1	
UESRWWN	1	INW0411	no	yes	no	no	no	1RS:1BL	no	no	no	no	2+12	Ax1 or null	
UESRWWN	2	Branson	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*	
UESRWWN	3	Bess	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax1 or null	
UESRWWN	4	Shirley	no	het	no	no	no	1RS:1BL	no	no	no	no	2+12	Ax1 or null	
UESRWWN	5	KY997C-0508-01-01A-1	no	yes	no	no	no	1RS:1BL	no	no	no	het	5+10	Ax2*	
UESRWWN	6	IL04-8445	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*	
UESRWWN	7	B040798	no	no	no	no	no	non-1RS	no	no	no	yes	2+12	Ax1 or null	
UESRWWN	8	W06-089	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*	
UESRWWN	9	VA05W-151	no	no	yes	no	no	1RS:1AL	no	nd	no	no	5+10	Ax2*	
UESRWWN	10	VA05W-168	no	no	yes	no	no	1RS:1AL	no	nd	no	no	5+10	Ax2*	
UESRWWN	11	AR98022-19-3	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax1 or null	
UESRWWN	12	AR98023-5-1	no	no	no	no	no	1RS:1BL	no	no	no	yes	2+12	Ax1 or null	
UESRWWN	13	Taboo exp.	no	no	no	no	no	1RS:1BL	no	no	no	no	2+12	Ax2*	
UESRWWN	14	Mondo exp.	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax1 or null	
UESRWWN	15	Okie exp.	no	no	no	no	no	1RS:1BL	no	no	no	no	2+12	Ax2*	
UESRWWN	16	W06*646	no	no	no	no	no	1RS:1BL	no	no	no	yes	5+10	Ax2*	
UESRWWN	17	VA07W-415	no	no	no	yes	no	non-1RS	yes	no	no	no	2+12	Ax2*	
UESRWWN	18	MD00W389-08-4	no	yes	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*	
UESRWWN	19	MD02W135-08-9	no	no	no	no	no	1RS:1BL,1RS:1AL	no	no	no	no	2+12	Ax2*	
UESRWWN	20	MD01W270-08-12	no	het	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*	
UESRWWN	21	B169	no	yes	no	no	no	non-1RS	no	no	no	no	5+10	Ax1 or null	
UESRWWN	22	B170	no	no	no	no	no	non-1RS	no	no	no	no	nd	het	
UESRWWN	23	B171	no	no	no	no	no	non-1RS	no	no	no	yes	5+10	het	
UESRWWN	24	MO 041687	no	no	no	no	no	non-1RS	no	no	no	no	het	Ax1 or null	
UESRWWN	25	MO 050921	no	yes	no	no	no	non-1RS	no	no	no	no	2+12	Ax1 or null	
UESRWWN	26	MO 080104	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*	
UESRWWN	27	Z03-3352	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax1 or null	
UESRWWN	28	XY04-37	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax1 or null	
UESRWWN	29	OH05-164-76	no	no	no	no	het	1RS:1BL	no	no	no	no	5+10	het	
UESRWWN	30	OH05-200-74	no	no	no	no	no	1RS:1AL	no	no	no	no	2+12	het	
UESRWWN	31	OH05-248-38	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*	
UESRWWN	32	ML06-2097	no	no	no	no	no	1RS:1BL	no	no	no	no	5+10	Ax2*	
UESRWWN	33	03M1539#019	no	no	no	yes	no	1RS:1BL	no	het	no	no	het	Ax2*	
UESRWWN	34	MH06*2820	no	no	no	no	no	non-1RS	no	no	no	yes	2+12	Ax2*	
UESRWWN	35	GA011174-8A9	no	no	no	yes	no	non-1RS	no	no	no	no	2+12	Ax2*	
UESRWWN	36	IL04-24668	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*	
UESRWWN	37	IL05-4236	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax1 or null	
UESRWWN	38	G89267	no	het	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*	
UESRWWN	39	G89263	no	het	no	no	no	non-1RS	no	no	no	no	5+10	Ax1 or null	
UESRWWN	40	KY00C-2567-01	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*	
UESRWWN	41	P05215A1-1-46	no	yes	no	no	no	1RS:1BL	no	no	yes	no	2+12	Ax1 or null	
UESRWWN	42	P05247A1-7-3	no	no	no	yes	no	1RS:1BL	no	yes	yes	yes	2+12	Ax2*	
UESRWWN	43	P05251A1-1-77	no	no	no	no	no	non-1RS	no	no	het	no	2+12	Ax1 or null	
UESRWWN	44	TN902	no	no	no	yes	no	1RS:1BL	no	no	no	no	het	Ax2*	
UESRWWN	45	NX05M4180-6	no	no	no	yes	no	1RS:1AL	no	no	no	no	2+12	Ax1 or null	
UESRWWN	46	NC05-19896	no	yes	no	yes	no	non-1RS	no	no	no	no	2+12	Ax2*	

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2010 Uniform Eastern Soft Red Winter Wheat Nursery

Summary of all Markers

Nursery	Entry	Selection	PHS Cayuga
UESRWWN	1	INW0411	nd
UESRWWN	2	Branson	yes
UESRWWN	3	Bess	no
UESRWWN	4	Shirley	no
UESRWWN	5	KY997C-0508-01-01A-1	nd
UESRWWN	6	IL04-8445	no
UESRWWN	7	B040798	yes
UESRWWN	8	W06-089	no
UESRWWN	9	VA05W-151	yes
UESRWWN	10	VA05W-168	yes
UESRWWN	11	AR98022-19-3	no
UESRWWN	12	AR98023-5-1	no
UESRWWN	13	Taboo exp.	het?
UESRWWN	14	Mondo exp.	no
UESRWWN	15	Okie exp.	yes
UESRWWN	16	W06*646	yes
UESRWWN	17	VA07W-415	no
UESRWWN	18	MD00W389-08-4	nd
UESRWWN	19	MD02W135-08-9	yes
UESRWWN	20	MD01W270-08-12	nd
UESRWWN	21	B169	nd
UESRWWN	22	B170	o
UESRWWN	23	B171	no
UESRWWN	24	MO 041687	yes
UESRWWN	25	MO 050921	nd
UESRWWN	26	MO 080104	het?
UESRWWN	27	Z03-3352	yes
UESRWWN	28	XY04-37	nd
UESRWWN	29	OH05-164-76	yes
UESRWWN	30	OH05-200-74	yes
UESRWWN	31	OH05-248-38	yes
UESRWWN	32	ML06-2097	nd
UESRWWN	33	03M1539#019	yes
UESRWWN	34	MH06*2820	yes
UESRWWN	35	GA011174-8A9	no
UESRWWN	36	IL04-24668	nd
UESRWWN	37	IL05-4236	no
UESRWWN	38	G89267	yes
UESRWWN	39	G89263	nd
UESRWWN	40	KY00C-2567-01	yes
UESRWWN	41	P05215A1-1-46	nd
UESRWWN	42	P05247A1-7-3	yes
UESRWWN	43	P05251A1-1-77	no
UESRWWN	44	TN902	nd
UESRWWN	45	NX05M4180-6	het?
UESRWWN	46	NC05-19896	nd

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Dwarfing genes & Photoperiod insensitivity

2010

Nursery	Entry	Sample Name	Rht1K	Rht2K	Rht1- B1b	Rht2- D1b	gwm261	gwm261	Rht8	Ppd	Ppd	Ppd-D1a
UESRWWN	1	INW0411	Allele Y	Allele X	yes	no	173		no	283		yes
UESRWWN	2	Branson	Allele Y	Allele X	yes	no	173		no	283		yes
UESRWWN	3	Bess	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	4	Shirley	Allele Y	Allele X	yes	no	201		no	283		yes
UESRWWN	5	KY997C-0508-01-01A-1	Allele X	Both Alleles	no	het	163	201	no	283		yes
UESRWWN	6	IL04-8445	Allele Y	Allele X	yes	no	173		no	283		yes
UESRWWN	7	B040798	Allele Y	Allele X	yes	no	173		no	283		yes
UESRWWN	8	W06-089	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	9	VA05W-151	Allele X	Allele Y	no	yes	173		no		414	no
UESRWWN	10	VA05W-168	Allele X	Allele Y	no	yes	201		no	283		yes
UESRWWN	11	AR98022-19-3	Allele X	Allele X	no	no	201		no		414	no
UESRWWN	12	AR98023-5-1	Allele X	Allele Y	no	yes	173		no		414	no
UESRWWN	13	Taboo exp.	Allele Y	Allele X	yes	no	192		yes	283	414	het
UESRWWN	14	Mondo exp.	Allele X	Allele X	no	no	173		no		414	no
UESRWWN	15	Okie exp.	Allele Y	Allele X	yes	no	192		yes		414	no
UESRWWN	16	W06*646	Allele X	Allele Y	no	yes	163		no	283		yes
UESRWWN	17	VA07W-415	Allele X	Allele Y	no	yes	173		no	283		yes
UESRWWN	18	MD00W389-08-4	Allele X	Allele Y	no	yes	201		no	283		yes
UESRWWN	19	MD02W135-08-9	Allele X	Allele Y	no	yes	173	201	no		414	no
UESRWWN	20	MD01W270-08-12	Allele X	Allele Y	no	yes	201		no	283		yes
UESRWWN	21	B169	Allele X	Allele X	no	no	173		no		414	no
UESRWWN	22	B170	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	23	B171	Allele Y	Allele X	yes	no	173		no	283		yes
UESRWWN	24	MO 041687	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	25	MO 050921	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	26	MO 080104	Allele X	Allele X	no	no	163	201	no	283		yes
UESRWWN	27	Z03-3352	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	28	XY04-37	Allele X	Allele Y	no	yes	192	201	no	283		yes
UESRWWN	29	OH05-164-76	Allele Y	Allele X	yes	no	163	173	no	283		yes
UESRWWN	30	OH05-200-74	Allele Y	Allele X	yes	no	163		no		414	no
UESRWWN	31	OH05-248-38	Allele Y	Allele X	yes	no	173		no	283		yes
UESRWWN	32	ML06-2097	Allele Y	Allele X	yes	no	173	192	het	283	414	het
UESRWWN	33	03M1539#019	Allele Y	Allele X	yes	no	173	203	no	283		yes
UESRWWN	34	MH06*2820	Allele Y	Allele X	yes	no	163		no	283		yes
UESRWWN	35	GA011174-8A9	nd	Allele Y	nd	yes	173		no		414	no
UESRWWN	36	IL04-24668	Allele Y	Allele X	yes	no	173		no	283		yes
UESRWWN	37	IL05-4236	Allele Y	Allele X	yes	no	192		no		414	no
UESRWWN	38	G89267	Allele Y	Allele X	yes	het	163	173	no		414	no
UESRWWN	39	G89263	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	40	KY00C-2567-01	Allele X	Allele Y	no	yes	163	201	no	283		yes
UESRWWN	41	P05215A1-1-46	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	42	P05247A1-7-3	Allele Y	Allele X	yes	no	201	210	no	283		yes
UESRWWN	43	P05251A1-1-77	Allele Y	Allele X	yes	no	173		no		414	no
UESRWWN	44	TN902	Allele X	Allele Y	no	yes	163	192	het	283		yes
UESRWWN	45	NX05M4180-6	Allele Y	Allele X	yes	no	201		no	283		yes
UESRWWN	46	NC05-19896	Allele X	Allele Y	no	yes	201		no	283		yes

Rht1-B1b = dwarf = yes; Rht2-D1b = dwarf = yes

Ppd-D1a = photoperiod insensitive = yes

"nd" = not determined or lack of amplification

If marker is dominant, samples with no amplification are left blank

"?" indicates that markers may not be diagnostic or data was not clear; therefore can not be sure if gene is present or not.

All numbers are size in base pairs of amplified fragments

Target alleles are in **bold or italics**

FHB QTLs

2010

Nursery	Entry	Sample Name	umn	umn	gwm	gwm	gwm	Fhb1	gwm	gwm	wmc	wmc	wmc	wmc	wmc	wmc	wmc	Fhb
			10	10	533	533	533		285	285	612	612	307	307	1	1	1	Ernie
UESRWWN	1	INW0411	238		128			yes?	219		287		141		156			no
UESRWWN	2	Branson	236		118			no	219		281		143		153			no
UESRWWN	3	Bess	236		118			no	250		289		139		151			no
UESRWWN	4	Shirley	236		118			no	244		287		141		149			no
UESRWWN	5	KY997C-0508-01-01A-1	236		118	160		no	221				141	153	160			no
UESRWWN	6	IL04-8445	228		146	155		no	219		285		143		153			no
UESRWWN	7	B040798	236		128			no	226		279		141		149			no
UESRWWN	8	W06-089	228		146	155		no	246		285		143		153			?
UESRWWN	9	VA05W-151	228		146	155		no	219		279		141		156			no
UESRWWN	10	VA05W-168	228		146	155		no	219		281		141		160			no
UESRWWN	11	AR98022-19-3	236		118			no	219		279		141		149			no
UESRWWN	12	AR98023-5-1	236		128			no	219		279		141		149			no
UESRWWN	13	Taboo exp.	228	236	146	155		no	221		273		143		156			no
UESRWWN	14	Mondo exp.	228	236	118	146	155	no	221	250	281		141		151	158		no
UESRWWN	15	Okie exp.	228		146	155		no	221		273		143		156			no
UESRWWN	16	W06*646	236		118			no	221		283		141		149			no
UESRWWN	17	VA07W-415	236		118			no	219	226	277	289	143		149			no
UESRWWN	18	MD00W389-08-4	236		118			no	226		289		143		149			no
UESRWWN	19	MD02W135-08-9	236		146			no	219		281		141		160			no
UESRWWN	20	MD01W270-08-12	236		nd			no	244		287		141		149			no
UESRWWN	21	B169	228		146	155		no	219		277		143		153			no
UESRWWN	22	B170	228		146	155		no	246		285		141		153			yes
UESRWWN	23	B171	228	236	118			no	221	246	273		143		151			no
UESRWWN	24	MO 041687	236		160			no	221		279		141		149			no
UESRWWN	25	MO 050921	236		118			no	246		285		141		153			yes
UESRWWN	26	MO 080104	228		146	155		no	226	246	281		141		153			?
UESRWWN	27	Z03-3352	236		118			no	226		289		143		149			no
UESRWWN	28	XY04-37	236		118			no	226	246	287		143		153			no
UESRWWN	29	OH05-164-76	236	238	118	145		het	246		285				153			yes
UESRWWN	30	OH05-200-74	236		128			no	219	222	261	275	141	143	151			no
UESRWWN	31	OH05-248-38	236		118			no	219		275		143		153			no
UESRWWN	32	ML06-2097	228		146	155		no	221		273		143		156			no
UESRWWN	33	03M1539#019	236		118			no	221		267	273	143		151	156		no
UESRWWN	34	MH06*2820	228		146	155		no	219		277		143		150			no
UESRWWN	35	GA011174-8A9	236		118			no	219		277	283	141		149			no
UESRWWN	36	IL04-24668	228		146	155		no	221		285		143		162			no
UESRWWN	37	IL05-4236	236		118			no	250		289		139		151			no
UESRWWN	38	G89267	236		118	128		no	221	246	285		141	143	149	153	162	het
UESRWWN	39	G89263	228		146	155		no	221		287		141		149			no
UESRWWN	40	KY00C-2567-01	236		118			no	226		289		143		149			no
UESRWWN	41	P05215A1-1-46	236		118			no	226		289		143		149			no
UESRWWN	42	P05247A1-7-3	236		118			no	295		267		143		160			no
UESRWWN	43	P05251A1-1-77	236		118			no	221	246	279	283	141		156			no
UESRWWN	44	TN902	228		146	155		no	226		289		143		149			no
UESRWWN	45	NX05M4180-6	228		149	155		no	304		267		143		160			no
UESRWWN	46	NC05-19896	236		128			no	246		281		141	143	153			?

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If marker is dominant, samples with no amplification are left blank

"?" indicates that markers may not be diagnostic or data was not clear; therefore can not be sure if gene is present or not.

All numbers are size in base pairs of amplified fragments

Target alleles are in **bold or italics**

FHB QTLs

2010

Nursery	Entry	Sample Name	cf	fd	gwm	gwm	gwm	gwm	2DL- Wuhan 1 / W14	gwm	gwm	wmc	wmc	barc	barc	barc	gwm	gwm	Fhb 5A Ernie	5A Ning 7840
			233	233	539	539	608	608		304	304	705	705	117	117	186	156	156		
UESRWWN	1	INW0411	278		139		154		no	216		nd		221		212	283		no	<i>no</i>
UESRWWN	2	Branson	284		144		150		no	198		162		217		203	312	313	no	<i>no</i>
UESRWWN	3	Bess	290		137		162		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	4	Shirley	272		131		156		no	198		164		217		203	283		no	<i>no</i>
UESRWWN	5	KY997C-0508-01-01A-1	272		133	137	156		no	198		162		217		203	292		no	<i>no</i>
UESRWWN	6	IL04-8445	280		124		154		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	7	B040798	271		139		156		no	198		162		217		203	312		no	<i>no</i>
UESRWWN	8	W06-089	278		161		150		no	198		164		217		203	318		no	<i>no</i>
UESRWWN	9	VA05W-151	272		133		162		no	198		164		217		203	283		no	<i>no</i>
UESRWWN	10	VA05W-168	272		135		162		no	198		162		217		203	292		no	<i>no</i>
UESRWWN	11	AR98022-19-3	290		131		162		no	201		139		217		203	312		no	<i>no</i>
UESRWWN	12	AR98023-5-1	272		131		162		no	198		162		217		203	292		no	<i>no</i>
UESRWWN	13	Taboo exp.	288		137		156		no	214		133		224		212	285		no	<i>no</i>
UESRWWN	14	Mondo exp.	282		141		154		no	220		135		221		203	312		yes	<i>no</i>
UESRWWN	15	Okie exp.	288		137		156		no	214		133		224		212	285		no	<i>no</i>
UESRWWN	16	W06*646	280		131		150		no	198		164		217		203	283		no	<i>no</i>
UESRWWN	17	VA07W-415	271		135		150		no	201		133		217		203	312		no	<i>no</i>
UESRWWN	18	MD00W389-08-4	271		137				no	198		162		217		203	312		no	<i>no</i>
UESRWWN	19	MD02W135-08-9	278	290	135	137	150	162	no	198		162		217		203	312		no	<i>no</i>
UESRWWN	20	MD01W270-08-12	272		137		154		no	198		162		217		203	292		no	<i>no</i>
UESRWWN	21	B169	278		162		150		no	196		164		217		203	318		no	<i>no</i>
UESRWWN	22	B170	278		137		150		no	198		164		217		203	318		no	<i>no</i>
UESRWWN	23	B171	272		133	137	158		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	24	MO 041687	290		131		154		no	198		164		217		203	316		no	<i>no</i>
UESRWWN	25	MO 050921	284	290	137		150	162	no	198		164		217		203	312		no	<i>no</i>
UESRWWN	26	MO 080104	280	284	137		150		no	198		164		217		203	283	318	no	<i>no</i>
UESRWWN	27	Z03-3352	278		139		150		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	28	XY04-37	271		133		156		no	198		162		217		203	309	312	no	<i>no</i>
UESRWWN	29	OH05-164-76	278		139		150		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	30	OH05-200-74	271	290	131	137	150	162	no	196		139		217		212	283		no	<i>no</i>
UESRWWN	31	OH05-248-38	272		137		158		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	32	ML06-2097	288		137		156		no	214		137		221	224	212	285	312	no	<i>no</i>
UESRWWN	33	03M1539#019	278		137	161	150		no	198		164		217		203	283	312	no	<i>no</i>
UESRWWN	34	MH06*2820	271		133		156		no	198		162		217		203	292		no	<i>no</i>
UESRWWN	35	GA011174-8A9	278		135		170		no	198		162		217		203	292	312	no	<i>no</i>
UESRWWN	36	IL04-24668	288		152		154		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	37	IL05-4236	290		137		162		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	38	G89267	280	290	124	135	150	162	no	198		133	164	217		203	283	312	no	<i>no</i>
UESRWWN	39	G89263	271	282	137		150		no	198		164		217		203	318		no	<i>no</i>
UESRWWN	40	KY00C-2567-01	272		133	137	156	162	no	220		135		221		203	312		yes	<i>no</i>
UESRWWN	41	P05215A1-1-46	290		139		162		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	42	P05247A1-7-3	288		137				no	220	221	135		221		203	283		yes?	<i>no</i>
UESRWWN	43	P05251A1-1-77	276		127	139	150	156	no	220		135		221		203	283		yes?	<i>no</i>
UESRWWN	44	TN902	272		131		156		no	198		164		217		203	312		no	<i>no</i>
UESRWWN	45	NX05M4180-6	290		164		152		no	221		135	139	221		203	316		yes?	<i>no</i>
UESRWWN	46	NC05-19896	282		131		160		no	220		135		221		203	283		yes?	<i>no</i>

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If marker is dominant, samples with no amplification are left blank

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Target alleles are in **bold or italics**

Leaf, Stripe & Stem Rusts

2010

Nursery	Entry	Sample Name	Sr2	wmc	wmc	wmc	Sr36	barc	barc	Sr24/	Ventriup	Yr17/	CsLv34	CsLv34	Lr34/
				477	477	477		71	71	Lr24		Lr37/			Yr18/
UESRWWN	1	INW0411	no	185			yes	104		no		no	235		no
UESRWWN	2	Branson	no	160			no	104		no		no	235		no
UESRWWN	3	Bess	no	167			no	112		no		no	235		no
UESRWWN	4	Shirley	no	167	185		het	104		no		no	235		no
UESRWWN	5	KY997C-0508-01-01A-1	no	185			yes	104		no		no	235		no
UESRWWN	6	IL04-8445	no	167			no	104		no		no	235		no
UESRWWN	7	B040798	no	165			no	104		no		no	235		no
UESRWWN	8	W06-089	no	163			no	112		no		no	235		no
UESRWWN	9	VA05W-151	no	160			no	87	104	yes		no	235		no
UESRWWN	10	VA05W-168	no	165			no	87	104	yes		no	235		no
UESRWWN	11	AR98022-19-3	no	165			no	104		no		no	235		no
UESRWWN	12	AR98023-5-1	no	165			no	104		no		no	235		no
UESRWWN	13	Taboo exp.	no	165			no	112		no		no	235		no
UESRWWN	14	Mondo exp.	no	165	167		no	112		no		no	235		no
UESRWWN	15	Okie exp.	no	165			no	112		no		no	235		no
UESRWWN	16	W06*646	no	167			no	104		no		no	235		no
UESRWWN	17	VA07W-415	no	167			no	112		no	256	yes	235		no
UESRWWN	18	MD00W389-08-4	no	185			yes	112		no		no	235		no
UESRWWN	19	MD02W135-08-9	no	165			no	104		no		no	235		no
UESRWWN	20	MD01W270-08-12	no	165	167	185	het	112		no		no	235		no
UESRWWN	21	B169	no	185			yes	104		no		no	235		no
UESRWWN	22	B170	no	163			no	104	112	no		no	235		no
UESRWWN	23	B171	no	167			no	104	112	no		no	235		no
UESRWWN	24	MO 041687	no	167			no	92		no		no	235		no
UESRWWN	25	MO 050921	no	185			yes	112		no		no	235		no
UESRWWN	26	MO 080104	no	163			no	104		no		no	235		no
UESRWWN	27	Z03-3352	no	165			no	104		no		no	235		no
UESRWWN	28	XY04-37	no	167			no	112		no		no	235		no
UESRWWN	29	OH05-164-76	no	163			no	112		no		no	154	235	het
UESRWWN	30	OH05-200-74	no	167			no	104		no		no	235		no
UESRWWN	31	OH05-248-38	no	165			no	104		no		no	235		no
UESRWWN	32	ML06-2097	no	167			no	104		no		no	235		no
UESRWWN	33	03M1539#019	no	160	165		no	104		no	256	yes	235		no
UESRWWN	34	MH06*2820	no	160			no	104		no		no	235		no
UESRWWN	35	GA011174-8A9	no	160			no	104		no	256	yes	235		no
UESRWWN	36	IL04-24668	no	167			no	104		no		no	235		no
UESRWWN	37	IL05-4236	no	167			no	112		no		no	235		no
UESRWWN	38	G89267	no	165	185		het	104		no		no	235		no
UESRWWN	39	G89263	no	167	185		het	104		no		no	235		no
UESRWWN	40	KY00C-2567-01	no	167			no	104		no		no	235		no
UESRWWN	41	P05215A1-1-46	no	185			yes	104	112	no		no	235		no
UESRWWN	42	P05247A1-7-3	no	165			no	104		no	256	yes	235		no
UESRWWN	43	P05251A1-1-77	no	163			no	104		no		no	235		no
UESRWWN	44	TN902	no	160	167		no	104		no	256	yes	235		no
UESRWWN	45	NX05M4180-6	no	163			no	104		no	256	yes	235		no
UESRWWN	46	NC05-19896	no	185			yes	104		no	256	yes	235		no

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Target alleles are in **bold** or *italics*

Rye Translocation -- Hessian Fly -- Barley Yellow Dwarf Virus

2010

Nursery	Entry	Sample Name	scm9	scm9	1RS	efd132	H13	cfa2153	cfa2153	H9	Bdv	Bdv	Bdv
UESRWWN	1	INW0411	206		1RS:1BL	114	no	194		no	184		no
UESRWWN	2	Branson			non-1RS	114	no	217		no	184		no
UESRWWN	3	Bess			non-1RS	114	no	217		no	184		no
UESRWWN	4	Shirley	206		1RS:1BL	114	no	194		no	184		no
UESRWWN	5	KY997C-0508-01-01A-1	206		1RS:1BL	114	no	201		no	184		no
UESRWWN	6	IL04-8445			non-1RS	114	no	201		no	184		no
UESRWWN	7	B040798			non-1RS	114	no	201		no	184		no
UESRWWN	8	W06-089			non-1RS	114	no	201		no	184		no
UESRWWN	9	VA05W-151		222	1RS:1AL	114	no	nd		nd	184		no
UESRWWN	10	VA05W-168		222	1RS:1AL	114	no	nd		nd	184		no
UESRWWN	11	AR98022-19-3			non-1RS	114	no	201		no	184		no
UESRWWN	12	AR98023-5-1	206		1RS:1BL	114	no	201		no	184		no
UESRWWN	13	Taboo exp.	206		1RS:1BL	114	no	191		no	184		no
UESRWWN	14	Mondo exp.			non-1RS	114	no	201	217	no	184		no
UESRWWN	15	Okie exp.	206		1RS:1BL	114	no	191		no	184		no
UESRWWN	16	W06*646	206		1RS:1BL	114	no	194		no	184		no
UESRWWN	17	VA07W-415			non-1RS	152	yes	201		no	184		no
UESRWWN	18	MD00W389-08-4			non-1RS	114	no	201		no	184		no
UESRWWN	19	MD02W135-08-9	206	222	1RS:1BL,1RS:1AL	114	no	205		no	184		no
UESRWWN	20	MD01W270-08-12			non-1RS	114	no	199		no	184		no
UESRWWN	21	B169			non-1RS	114	no	201		no	184		no
UESRWWN	22	B170			non-1RS	114	no	201		no	184		no
UESRWWN	23	B171			non-1RS	114	no	203		no	184		no
UESRWWN	24	MO 041687			non-1RS	114	no	169		no	184		no
UESRWWN	25	MO 050921			non-1RS	114	no	191	217	no	184		no
UESRWWN	26	MO 080104			non-1RS	114	no	194		no	184		no
UESRWWN	27	Z03-3352			non-1RS	114	no	197		no	184		no
UESRWWN	28	XY04-37			non-1RS	114	no	201		no	184		no
UESRWWN	29	OH05-164-76	206		1RS:1BL	114	no	201	217	no	184		no
UESRWWN	30	OH05-200-74		222	1RS:1AL	114	no	217		no	184		no
UESRWWN	31	OH05-248-38			non-1RS	114	no	201		no	184		no
UESRWWN	32	ML06-2097	206		1RS:1BL	114	no	191		no	184		no
UESRWWN	33	03M1539#019	206		1RS:1BL	114	no	179	191	het	184		no
UESRWWN	34	MH06*2820			non-1RS	114	no	191		no	184		no
UESRWWN	35	GA011174-8A9			non-1RS	114	no	205		no	184		no
UESRWWN	36	IL04-24668			non-1RS	114	no	194		no	184		no
UESRWWN	37	IL05-4236			non-1RS	114	no	199		no	184		no
UESRWWN	38	G89267			non-1RS	114	no	194		no	184		no
UESRWWN	39	G89263			non-1RS	114	no	191		no	184		no
UESRWWN	40	KY00C-2567-01			non-1RS	114	no	201		no	184		no
UESRWWN	41	P05215A1-1-46	206		1RS:1BL	114	no	201		no	199		yes
UESRWWN	42	P05247A1-7-3	206		1RS:1BL	114	no	179		yes	199		yes
UESRWWN	43	P05251A1-1-77			non-1RS	114	no	194		no	184	199	het
UESRWWN	44	TN902	206		1RS:1BL	114	no	191		no	184		no
UESRWWN	45	NX05M4180-6		222	1RS:1AL	114	no	201		no	184		no
UESRWWN	46	NC05-19896			non-1RS	114	no	205		no	184		no

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Target alleles are in **bold or italics**

Quality Traits

2010

Nursery	Entry	Sample Name	Bx7oe	Bx7oe	Bx7 over-expressing	Umn25	Umn25	Glu-D1	Umn19	Umn19	Glu-A1
UESRWWN	1	INW0411	404		no		295	2+12		359	Ax1 or null
UESRWWN	2	Branson	404		no		295	2+12	341		Ax2*
UESRWWN	3	Bess	404		no		295	2+12		359	Ax1 or null
UESRWWN	4	Shirley	404		no		295	2+12		359	Ax1 or null
UESRWWN	5	KY997C-0508-01-01A-1	404	448	het	277		5+10	341		Ax2*
UESRWWN	6	IL04-8445	404		no	277		5+10	341		Ax2*
UESRWWN	7	B040798		448	yes		295	2+12		359	Ax1 or null
UESRWWN	8	W06-089	404		no	277		5+10	341		Ax2*
UESRWWN	9	VA05W-151	404		no		295	5+10	341		Ax2*
UESRWWN	10	VA05W-168	404		no	277		5+10	341		Ax2*
UESRWWN	11	AR98022-19-3	404		no	277		5+10		359	Ax1 or null
UESRWWN	12	AR98023-5-1		448	yes		295	2+12		359	Ax1 or null
UESRWWN	13	Taboo exp.	404		no		295	2+12	341		Ax2*
UESRWWN	14	Mondo exp.	404		no		295	2+12		359	Ax1 or null
UESRWWN	15	Okie exp.	404		no		295	2+12	341		Ax2*
UESRWWN	16	W06*646		448	yes	277		5+10	341		Ax2*
UESRWWN	17	VA07W-415	404		no		295	2+12	341		Ax2*
UESRWWN	18	MD00W389-08-4	404		no	277		5+10	341		Ax2*
UESRWWN	19	MD02W135-08-9	404		no		295	2+12	341		Ax2*
UESRWWN	20	MD01W270-08-12	404		no		295	2+12	341		Ax2*
UESRWWN	21	B169	404		no	277		5+10		359	Ax1 or null
UESRWWN	22	B170	404		no	nd	nd	nd	341	359	het
UESRWWN	23	B171		448	yes	277		5+10	341	359	het
UESRWWN	24	MO 041687	404		no	277	295	het		359	Ax1 or null
UESRWWN	25	MO 050921	404		no		295	2+12		359	Ax1 or null
UESRWWN	26	MO 080104	404		no	277		5+10	341		Ax2*
UESRWWN	27	Z03-3352	404		no		295	2+12		359	Ax1 or null
UESRWWN	28	XY04-37	404		no	277		5+10		359	Ax1 or null
UESRWWN	29	OH05-164-76	404		no	277		5+10	341	359	het
UESRWWN	30	OH05-200-74	404		no		295	2+12	341	359	het
UESRWWN	31	OH05-248-38	404		no		295	2+12	341		Ax2*
UESRWWN	32	ML06-2097	404		no	277		5+10	341		Ax2*
UESRWWN	33	03M1539#019	404		no	277	295	het	341		Ax2*
UESRWWN	34	MH06*2820		448	yes		295	2+12	341		Ax2*
UESRWWN	35	GA011174-8A9	404		no		295	2+12	341		Ax2*
UESRWWN	36	IL04-24668	404		no	277		5+10	341		Ax2*
UESRWWN	37	IL05-4236	404		no		295	2+12		359	Ax1 or null
UESRWWN	38	G89267	404		no		295	2+12	341		Ax2*
UESRWWN	39	G89263	404		no	277		5+10		359	Ax1 or null
UESRWWN	40	KY00C-2567-01	404		no	277		5+10	341		Ax2*
UESRWWN	41	P05215A1-1-46	404		no		295	2+12		359	Ax1 or null
UESRWWN	42	P05247A1-7-3		448	yes		295	2+12	341		Ax2*
UESRWWN	43	P05251A1-1-77	404		no		295	2+12		359	Ax1 or null
UESRWWN	44	TN902	404		no	277	295	het	341		Ax2*
UESRWWN	45	NX05M4180-6	404		no		295	2+12		359	Ax1 or null
UESRWWN	46	NC05-19896	404		no		295	2+12	341		Ax2*

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Pre-harvest Sprouting
2010

Nursery	Entry	Selection	barc55	barc55	PHS Cayuga
UESRWWN	1	INW0411	nd		nd
UESRWWN	2	Branson	132		yes
UESRWWN	3	Bess	124		no
UESRWWN	4	Shirley	124		no
UESRWWN	5	KY997C-0508-01-01A-1	nd		nd
UESRWWN	6	IL04-8445	128		no
UESRWWN	7	B040798	132		yes
UESRWWN	8	W06-089	128		no
UESRWWN	9	VA05W-151	132		yes
UESRWWN	10	VA05W-168	132		yes
UESRWWN	11	AR98022-19-3	124		no
UESRWWN	12	AR98023-5-1	124		no
UESRWWN	13	Taboo exp.	128	132	het?
UESRWWN	14	Mondo exp.	128		no
UESRWWN	15	Okie exp.	132		yes
UESRWWN	16	W06*646	132		yes
UESRWWN	17	VA07W-415	124		no
UESRWWN	18	MD00W389-08-4	nd		nd
UESRWWN	19	MD02W135-08-9	132		yes
UESRWWN	20	MD01W270-08-12	nd		nd
UESRWWN	21	B169	nd		nd
UESRWWN	22	B170	128		o
UESRWWN	23	B171	128	132	no
UESRWWN	24	MO 041687	132		yes
UESRWWN	25	MO 050921	nd		nd
UESRWWN	26	MO 080104	128	132	het?
UESRWWN	27	Z03-3352	132		yes
UESRWWN	28	XY04-37	nd		nd
UESRWWN	29	OH05-164-76	132		yes
UESRWWN	30	OH05-200-74	132		yes
UESRWWN	31	OH05-248-38	132		yes
UESRWWN	32	ML06-2097	nd		nd
UESRWWN	33	03M1539#019	132		yes
UESRWWN	34	MH06*2820	132		yes
UESRWWN	35	GA011174-8A9	124		no
UESRWWN	36	IL04-24668	nd		nd
UESRWWN	37	IL05-4236	124		no
UESRWWN	38	G89267	132		yes
UESRWWN	39	G89263	nd		nd
UESRWWN	40	KY00C-2567-01	132		yes
UESRWWN	41	P05215A1-1-46	nd		nd
UESRWWN	42	P05247A1-7-3	132		yes
UESRWWN	43	P05251A1-1-77	136		no
UESRWWN	44	TN902	nd		nd
UESRWWN	45	NX05M4180-6	132	136	het?
UESRWWN	46	NC05-19896	nd		nd

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Target alleles are in **bold or italics**

2010 Uniform Southern Soft Red Winter Wheat Nursery

Entry List

Nursery	Entry	Sample Name		Class	Breeder
USSRWWN	1	AGS 2000	Pioneer 2555/PF84301//Florida 302 (=PI612956; GA89482E7)	SRWW	
USSRWWN	2	Pioneer Brand 26R61		SRWW	
USSRWWN	3	Coker 9553		SRWW	
USSRWWN	4	USG 3555		SRWW	
USSRWWN	5	W980031K1		SRWW	
USSRWWN	6	VA05W-139	VA96W-49(Savannah/Madison)/AGS2000//RC-Strategy(VA98W-586)	SRWW	Griffey
USSRWWN	7	VA06W-392	VA98W-130(Savannah/VA87-54-558//VA88-54-328/Gore)/VA96W-348(IN81401A1-32-2/FFR555W)/Pio26R61	SRWW	Griffey
USSRWWN	8	VA05W-251	Tribute/LA94242D4-1(VA92-54-104/GA85238-C3)	SRWW	Griffey
USSRWWN	9	LA01139D-56-1	Ceruga-15/Pio2643	SRWW	Harrison
USSRWWN	10	AR96052-4-3	Pio2580/Jaypee	SRWW	Bacon
USSRWWN	11	AR98088-1-1	Burr/NC96BGTA6 sib//Natchez	SRWW	Bacon
USSRWWN	12	NC05-19684		SRWW	Murphy
USSRWWN	13	MD00W389-08-4		SRWW	
USSRWWN	14	MD01W270-08-12		SRWW	
USSRWWN	15	MD01W28-08-11		SRWW	
USSRWWN	16	B05-0142		SRWW	
USSRWWN	17	B05-0329		SRWW	
USSRWWN	18	B05*0323		SRWW	
USSRWWN	19	NC05-19896	BURR/NC96BGTA6 SIB//NATCHEZ	SRWW	Murphy
USSRWWN	20	NC06-20401	NC95CLB-14543 / REN 3260 // NC96-14629	SRWW	Murphy
USSRWWN	21	NC06-19556	B931167 / ROANE //CHOPTANK	SRWW	Murphy
USSRWWN	22	TN902	TRIBUTE / AGS2000 // VAN99W-20	SRWW	
USSRWWN	23	LA01139E-86-2		SRWW	
USSRWWN	24	LA0110D-84-2		SRWW	
USSRWWN	25	LA01056D-84-7-2		SRWW	
USSRWWN	26	VA06W-412	TRIBUTE / AGS2000 // VAN99W-20	SRWW	Griffey
USSRWWN	27	GA00067-8E35	921204 / AGS 2000	SRWW	
USSRWWN	28	GA001138-8E36	961581 / PIO 26R61	SRWW	
USSRWWN	29	GA011496-8E18		SRWW	
USSRWWN	30	G75735		SRWW	
USSRWWN	31	G81036		SRWW	
USSRWWN	32	G75692		SRWW	

2010 Uniform Southern Soft Red Winter Wheat Nursery

Summary of all Markers

Nursery	Entry	Sample Name	Rht1- Rht2-			Ppd-D1a	Fhb1	Fhb	2DL-	Fhb	5A
			B1b	D1b	Rht8			Ernie	Wuhan1/ W14	5A Ernie	Ning 7840
USSRWWN	1	AGS 2000	no	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	2	Pioneer Brand 26R61	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	3	Coker 9553	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	4	USG 3555	no	yes	no	yes	False positive	yes	no	no	<i>no</i>
USSRWWN	5	W980031K1	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	6	VA05W-139	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	7	VA06W-392	no	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	8	VA05W-251	no	yes	no	yes	mix	no	no	no	<i>no</i>
USSRWWN	9	LA01139D-56-1	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	10	AR96052-4-3	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	11	AR98088-1-1	no	yes	no	yes	no	no	no	yes	<i>no</i>
USSRWWN	12	NC05-19684	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	13	MD00W389-08-4	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	14	MD01W270-08-12	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	15	MD01W28-08-11	no	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	16	B05-0142	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	17	B05-0329	no	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	18	B05*0323	yes	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	19	NC05-19896	no	yes	no	yes	no	?	no	yes?	<i>no</i>
USSRWWN	20	NC06-20401	no	yes	no	yes	yes	no	no	no	<i>no</i>
USSRWWN	21	NC06-19556	yes	no	no	yes	no	no	no	no	<i>no</i>
USSRWWN	22	TN902	no	yes	het	yes	no	no	no	no	<i>no</i>
USSRWWN	23	LA01139E-86-2	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	24	LA0110D-84-2	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	25	LA01056D-84-7-2	no	yes	no	yes	no	no	no	no	<i>no</i>
USSRWWN	26	VA06W-412	no	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	27	GA00067-8E35	yes	no	no	yes	no	no	no	no	<i>no</i>
USSRWWN	28	GA001138-8E36	no	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	29	GA011496-8E18	no	yes	no	no	no	no	no	no	<i>no</i>
USSRWWN	30	G75735	yes	no	no	no	no	no	no	no	<i>no</i>
USSRWWN	31	G81036	yes	no	no	no	no	yes	no	no	<i>no</i>
USSRWWN	32	G75692	yes	no	no	no	no	no	no	no	<i>no</i>

Rht1-B1b = dwarf = yes; Rht2-D1b = dwarf = yes Ppd-D1a = photoperiod insensitive = yes

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2010 Uniform Southern Soft Red Winter Wheat Nursery

Summary of all Markers

Nursery	Entry	Sample Name	Yr17/ Lr34/ Sr24/ Lr37/ Yr18/					1RS	H13	H9	BDV 2/3	Bx7 over- expressing	Glu-D1	Glu-A1
			Sr2	Sr36	Lr24	Sr38	Pm38							
USSRWVN	1	AGS 2000	no	no	no	no	no	1RS:1BL	no	no	no	no	5+10	Ax2*
USSRWVN	2	Pioneer Brand 26R61	no	no	no	no	no	1RS:1BL	no	no	no	yes	5+10	Ax2*
USSRWVN	3	Coker 9553	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	4	USG 3555	no	yes	no	no	no	1RS:1BL	no	no	no	no	2+12	Ax2*
USSRWVN	5	W980031K1	no	no	no	no	no	1RS:1BL	no	no	no	yes	5+10	Ax2*
USSRWVN	6	VA05W-139	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*
USSRWVN	7	VA06W-392	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	8	VA05W-251	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	9	LA01139D-56-1	no	yes	no	yes	no	non-1RS	no	no	no	no	5+10	Ax1 or null
USSRWVN	10	AR96052-4-3	no	yes	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*
USSRWVN	11	AR98088-1-1	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax1 or null
USSRWVN	12	NC05-19684	no	yes	no	no	no	non-1RS	yes	no	no	no	2+12	Ax2*
USSRWVN	13	MD00W389-08-4	no	yes	no	no	no	non-1RS	no	no	no	no	5+10	Ax2*
USSRWVN	14	MD01W270-08-12	no	yes	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	15	MD01W28-08-11	no	no	no	no	no	1RS:1BL?	no	no	no	no	5+10	Ax1 or null
USSRWVN	16	B05-0142	no	no	no	yes	no	non-1RS	no	no	no	no	2+12	Ax1 or null
USSRWVN	17	B05-0329	no	yes	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	18	B05*0323	no	no	no	no	no	non-1RS	no	no	no	no	2+12	het
USSRWVN	19	NC05-19896	no	yes	no	yes	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	20	NC06-20401	no	yes	no	no	no	1RS:1BL	no	yes	no	no	2+12	Ax2*
USSRWVN	21	NC06-19556	no	yes	no	no	no	1RS:1BL	no	no	no	no	5+10	Ax1 or null
USSRWVN	22	TN902	no	no	no	no	no	1RS:1BL	no	no	no	no	2+12	Ax2*
USSRWVN	23	LA01139E-86-2	no	no	no	no	no	1RS:1BL	no	no	no	yes	2+12	Ax2*
USSRWVN	24	LA0110D-84-2	no	no	no	yes	no	non-1RS	no	no	no	yes	5+10	Ax2*
USSRWVN	25	LA01056D-84-7-2	no	nd	no	no	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	26	VA06W-412	no	no	yes	no	no	1RS:1AL	no	no	no	no	5+10	Ax2*
USSRWVN	27	GA00067-8E35	no	no	no	yes	no	non-1RS	no	no	no	no	5+10	Ax1 or null
USSRWVN	28	GA001138-8E36	no	no	no	no	no	1RS:1BL	no	no	no	yes	5+10	Ax2*
USSRWVN	29	GA011496-8E18	no	no	no	yes	no	non-1RS	no	no	no	no	2+12	Ax2*
USSRWVN	30	G75735	no	no	no	no	no	non-1RS	no	no	no	no	2+12	Ax1 or null
USSRWVN	31	G81036	no	no	no	no	no	non-1RS	no	no	no	no	5+10	Ax1 or null
USSRWVN	32	G75692	no	yes	no	no	no	non-1RS	no	no	no	no	5+10	Ax1 or null

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Target alleles are in **bold or italics**

2010 Uniform Southern Soft Red Winter Wheat Nursery

Summary of all Markers

Nursery	Entry	Sample Name	PHS Cayuga
USSRWWN	1	AGS 2000	no
USSRWWN	2	Pioneer Brand 26R61	yes
USSRWWN	3	Coker 9553	yes
USSRWWN	4	USG 3555	yes
USSRWWN	5	W980031K1	yes
USSRWWN	6	VA05W-139	yes
USSRWWN	7	VA06W-392	no
USSRWWN	8	VA05W-251	no
USSRWWN	9	LA01139D-56-1	nd
USSRWWN	10	AR96052-4-3	yes
USSRWWN	11	AR98088-1-1	yes
USSRWWN	12	NC05-19684	nd
USSRWWN	13	MD00W389-08-4	nd
USSRWWN	14	MD01W270-08-12	nd
USSRWWN	15	MD01W28-08-11	no
USSRWWN	16	B05-0142	no
USSRWWN	17	B05-0329	nd
USSRWWN	18	B05*0323	yes
USSRWWN	19	NC05-19896	nd
USSRWWN	20	NC06-20401	nd
USSRWWN	21	NC06-19556	yes
USSRWWN	22	TN902	yes
USSRWWN	23	LA01139E-86-2	yes
USSRWWN	24	LA0110D-84-2	yes
USSRWWN	25	LA01056D-84-7-2	nd
USSRWWN	26	VA06W-412	yes
USSRWWN	27	GA00067-8E35	yes
USSRWWN	28	GA001138-8E36	no
USSRWWN	29	GA011496-8E18	yes
USSRWWN	30	G75735	nd
USSRWWN	31	G81036	no
USSRWWN	32	G75692	nd

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Dwarfing genes & Photoperiod insensitivity

2010

Nursery	Entry	Sample Name	Rht1K	Rht2K	Rht1- B1b	Rht2- D1b	gwm261	gwm261	Rht8	Ppd	Ppd-D1a
USSRWWN	1	AGS 2000	Allele X	Allele Y	no	yes	201		no	413	no
USSRWWN	2	Pioneer Brand 26R61	Allele X	Allele Y	no	yes	163	201	no	283	yes
USSRWWN	3	Coker 9553	Allele X	Allele Y	no	yes	163		no	283	yes
USSRWWN	4	USG 3555	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	5	W980031K1	Allele X	Allele Y	no	yes	163	201	no	283	yes
USSRWWN	6	VA05W-139	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	7	VA06W-392	Allele X	Allele Y	no	yes	173		no	414	no
USSRWWN	8	VA05W-251	Allele X	Allele Y	no	yes	163		no	283	yes
USSRWWN	9	LA01139D-56-1	Allele X	Allele Y	no	yes	163		no	283	yes
USSRWWN	10	AR96052-4-3	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	11	AR98088-1-1	Allele X	Allele Y	no	yes	163		no	283	yes
USSRWWN	12	NC05-19684	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	13	MD00W389-08-4	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	14	MD01W270-08-12	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	15	MD01W28-08-11	Allele X	Allele Y	no	yes	201		no	414	no
USSRWWN	16	B05-0142	Allele X	Allele Y	no	yes	163		no	283	yes
USSRWWN	17	B05-0329	Allele X	Allele Y	no	yes	173		no	414	no
USSRWWN	18	B05*0323	Allele Y	Allele Y	yes	yes	173		no	414	no
USSRWWN	19	NC05-19896	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	20	NC06-20401	Allele X	Allele Y	no	yes	173		no	283	yes
USSRWWN	21	NC06-19556	Allele Y	Allele X	yes	no	201		no	283	yes
USSRWWN	22	TN902	Allele X	Allele Y	no	yes	163	192	het	283	yes
USSRWWN	23	LA01139E-86-2	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	24	LA0110D-84-2	Allele X	Allele Y	no	yes	163		no	283	yes
USSRWWN	25	LA01056D-84-7-2	Allele X	Allele Y	no	yes	201		no	283	yes
USSRWWN	26	VA06W-412	Allele X	Allele Y	no	yes	201		no	414	no
USSRWWN	27	GA00067-8E35	Allele Y	Allele X	yes	no	201		no	283	yes
USSRWWN	28	GA001138-8E36	Allele X	Allele Y	no	yes	201		no	414	no
USSRWWN	29	GA011496-8E18	Allele X	Allele Y	no	yes	201		no	414	no
USSRWWN	30	G75735	Allele Y	Allele X	yes	no	173		no	414	no
USSRWWN	31	G81036	Allele Y	Allele X	yes	no	173		no	414	no
USSRWWN	32	G75692	Allele Y	Allele X	yes	no	173		no	414	no

Rht1-B1b = dwarf = yes; Rht2-D1b = dwarf = yes

Ppd-D1a = photoperiod insensitive = yes

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If marker is dominant, samples with no amplification are left blank

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All numbers are size in base pairs of amplified fragments

Target alleles are in **bold or italics**

FHB QTLs

2010

Nursery	Entry	Sample Name	umn	umn	umn	gwm	gwm	gwm	gwm	Fhb1
			10	10	10	533	533	533	533	
USSRWWN	1	AGS 2000	236			118				no
USSRWWN	2	Pioneer Brand 26R61	236			118				no
USSRWWN	3	Coker 9553	236			118				no
USSRWWN	4	USG 3555	238			140				False positive
USSRWWN	5	W980031K1	236			118				no
USSRWWN	6	VA05W-139	236			118				no
USSRWWN	7	VA06W-392	236							no
USSRWWN	8	VA05W-251	228	236	238	118	140	146	155	mix
USSRWWN	9	LA01139D-56-1	236			118				no
USSRWWN	10	AR96052-4-3	236			128				no
USSRWWN	11	AR98088-1-1	228			146	155			no
USSRWWN	12	NC05-19684	236			118				no
USSRWWN	13	MD00W389-08-4	236			118				no
USSRWWN	14	MD01W270-08-12	236							no
USSRWWN	15	MD01W28-08-11	236			118				no
USSRWWN	16	B05-0142	236							no
USSRWWN	17	B05-0329	236			118				no
USSRWWN	18	B05*0323	236			128				no
USSRWWN	19	NC05-19896	236			128				no
USSRWWN	20	NC06-20401	238			140				yes
USSRWWN	21	NC06-19556	236			118				no
USSRWWN	22	TN902	228	236		118	146	155		no
USSRWWN	23	LA01139E-86-2	236			118				no
USSRWWN	24	LA0110D-84-2	236			118				no
USSRWWN	25	LA01056D-84-7-2	236			118				no
USSRWWN	26	VA06W-412	236			118				no
USSRWWN	27	GA00067-8E35	236			118	160			no
USSRWWN	28	GA001138-8E36	236			118				no
USSRWWN	29	GA011496-8E18	228			146	155			no
USSRWWN	30	G75735	236			118				no
USSRWWN	31	G81036	228			146	155			no
USSRWWN	32	G75692	228			146	155			no

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All numbers are size in base pairs of amplified fragments

Target alleles are in **bold** or *italics*

FHB QTLs

2010

Nursery	Entry	Sample Name	gwm	gwm	wmc	wmc	wmc	wmc	wmc	Fhb	cfb	cfb	cfb	cfb	gwm	gwm	gwm	gwm	2DL-
			285	285	612	612	307	307	1	1	Ernie 3Bc	233	233	233	233	539	539	608	608
USSRWWN	1	AGS 2000	226		289		141		149	no	278				135		158		no
USSRWWN	2	Pioneer Brand 26R61	221		273		143		151	no	286	288			137		156		no
USSRWWN	3	Coker 9553	217		275		141		149	no	272	278	280		133		150		no
USSRWWN	4	USG 3555	246		285		141		153	yes	272				137		154		no
USSRWWN	5	W980031K1	221		273		143		151	no	286	288			137		156		no
USSRWWN	6	VA05W-139	226		287		143		149	no	272				137		162		no
USSRWWN	7	VA06W-392	226		289		143		149	no	276	278			135		150	158	no
USSRWWN	8	VA05W-251	220		251	281	141	143	149	162	no	280			131		150		no
USSRWWN	9	LA01139D-56-1	221		279		143		162	no	286	288			137		156		no
USSRWWN	10	AR96052-4-3	221		279		141		149	no	272				137		154		no
USSRWWN	11	AR98088-1-1	226		281	287	143		149	no	272				133		158		no
USSRWWN	12	NC05-19684	226		289		143		149	no	271				131		150		no
USSRWWN	13	MD00W389-08-4	226		289		143		149	no	271				137				no
USSRWWN	14	MD01W270-08-12	244		287		141		149	no	272				137		154		no
USSRWWN	15	MD01W28-08-11	226		289		141		149	no	272				131				no
USSRWWN	16	B05-0142	226		289		143		149	no	282	284			133		152		no
USSRWWN	17	B05-0329	226		289		143		149	no	265				137				no
USSRWWN	18	B05*0323	219		275		143		153	no	288	290			131		152		no
USSRWWN	19	NC05-19896	246		281		141		153	?	280	282			131		160		no
USSRWWN	20	NC06-20401	219		281		143		149	no	276	278			161		150		no
USSRWWN	21	NC06-19556	226		289		143		149	153	no	288	290			133		156	no
USSRWWN	22	TN902	226		289		143		149	no	272	274	276	278	131		150	156	no
USSRWWN	23	LA01139E-86-2	221		279		143		151	no	278				137				no
USSRWWN	24	LA0110D-84-2	221		273		143		151	no	272				133		156		no
USSRWWN	25	LA01056D-84-7-2	226		275		141		149	no	272				131		162		no
USSRWWN	26	VA06W-412	226		287		143		149	no	278				135		150		no
USSRWWN	27	GA00067-8E35	219		279		141		156	no	271				148		148		no
USSRWWN	28	GA001138-8E36	217		275		143		149	no	286	288			137		156		no
USSRWWN	29	GA011496-8E18	226		289		143		149	no	286	288			137		156		no
USSRWWN	30	G75735	219		281		143		151	no	278				139		150		no
USSRWWN	31	G81036	219	246	285		141		153	yes	282	284			123	139	150		no
USSRWWN	32	G75692	221		287		141		153	no	282	284			137		154		no

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Target alleles are in **bold or italics**

FHB QTLs

2010

Nursery	Entry	Sample Name	gwm	gwm	wmc	wmc	barc	barc	barc	barc	gwm	gwm	Fhb	5A
			304	304	705	705	117	117	186	186	156	156	Ernie	Ning
USSRWWN	1	AGS 2000	198		162		217		203		312		no	<i>no</i>
USSRWWN	2	Pioneer Brand 26R61	200		133		217		203		292		no	<i>no</i>
USSRWWN	3	Coker 9553	198		166		217		203		313		no	<i>no</i>
USSRWWN	4	USG 3555	198		164		217		203		312		no	<i>no</i>
USSRWWN	5	W980031K1	200		133		217		203		292		no	<i>no</i>
USSRWWN	6	VA05W-139	198		133	164	217		203		283	292	no	<i>no</i>
USSRWWN	7	VA06W-392	198		164		217		203		283		no	<i>no</i>
USSRWWN	8	VA05W-251	198		162		217		203		285		no	<i>no</i>
USSRWWN	9	LA01139D-56-1	198	200	133		217		203		294		no	<i>no</i>
USSRWWN	10	AR96052-4-3	198		166		217		203		312		no	<i>no</i>
USSRWWN	11	AR98088-1-1	220		135		221		203		313		yes	<i>no</i>
USSRWWN	12	NC05-19684	198		135	164	217	221	203		283		no	<i>no</i>
USSRWWN	13	MD00W389-08-4	198		162		217		203		312		no	<i>no</i>
USSRWWN	14	MD01W270-08-12	198		162		217		203		292		no	<i>no</i>
USSRWWN	15	MD01W28-08-11	nd		164		217		203		312		no	<i>no</i>
USSRWWN	16	B05-0142	198		162		217		203		283	292	no	<i>no</i>
USSRWWN	17	B05-0329	198		164		217		203		283	292	no	<i>no</i>
USSRWWN	18	B05*0323	nd		139		217			<i>212</i>	312		no	<i>no</i>
USSRWWN	19	NC05-19896	220		135		221		203		283		yes?	<i>no</i>
USSRWWN	20	NC06-20401	201		139		217			<i>212</i>	312		no	<i>no</i>
USSRWWN	21	NC06-19556	nd		133		221	224	203	<i>212</i>	285		no	<i>no</i>
USSRWWN	22	TN902	198		162		217		203		292	312	no	<i>no</i>
USSRWWN	23	LA01139E-86-2	198		162		217		203		312		no	<i>no</i>
USSRWWN	24	LA0110D-84-2	198		162		217		203		292		no	<i>no</i>
USSRWWN	25	LA01056D-84-7-2	198		164		217		203		292		no	<i>no</i>
USSRWWN	26	VA06W-412	198		162		217		203		292		no	<i>no</i>
USSRWWN	27	GA00067-8E35	nd		164		217		203		283		no	<i>no</i>
USSRWWN	28	GA001138-8E36	198		164		217		203		312		no	<i>no</i>
USSRWWN	29	GA011496-8E18	199		133		217		203		312		no	<i>no</i>
USSRWWN	30	G75735	212		137		221			<i>212</i>	313		no	<i>no</i>
USSRWWN	31	G81036	198		164		217		203		312		no	<i>no</i>
USSRWWN	32	G75692	198		164		217		203		312		no	<i>no</i>

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Target alleles are in **bold** or *italics*

Leaf, Stripe & Stem Rusts

2010

Nursery	Entry	Sample Name	Sr2	wmc 477	wmc 477	Sr36	barc 71	barc 71	Sr24/L r24	Ventriup	Yr17/ Lr37/ Sr38	CsLv34	Lr34/ Yr18/ Pm38
USSRWWN	1	AGS 2000	no	163		no	112		no		no	235	no
USSRWWN	2	Pioneer Brand 26R61	no	167		no	112		no		no	235	no
USSRWWN	3	Coker 9553	no	167		no	104		no		no	235	no
USSRWWN	4	USG 3555	no	185		yes	104		no		no	235	no
USSRWWN	5	W980031K1	no	167		no	112		no		no	235	no
USSRWWN	6	VA05W-139	no	160		no	104	112	no		no	235	no
USSRWWN	7	VA06W-392	no	163		no	104		no		no	235	no
USSRWWN	8	VA05W-251	no	165		no	104		no		no	235	no
USSRWWN	9	LA01139D-56-1	no	185		yes	112		no	256	yes	235	no
USSRWWN	10	AR96052-4-3	no	185		yes	92		no		no	235	no
USSRWWN	11	AR98088-1-1	no	167		no	104		no		no	235	no
USSRWWN	12	NC05-19684	no	185		yes	104	112	no		no	235	no
USSRWWN	13	MD00W389-08-4	no	185		yes	112		no		no	235	no
USSRWWN	14	MD01W270-08-12	no	185		yes	112		no		no	235	no
USSRWWN	15	MD01W28-08-11	no	163		no	112		no		no	235	no
USSRWWN	16	B05-0142	no	165		no	104		no	256	yes	235	no
USSRWWN	17	B05-0329	no	185		yes	104		no		no	235	no
USSRWWN	18	B05*0323	no	165		no	105		no		no	235	no
USSRWWN	19	NC05-19896	no	185		yes	104		no	256	yes	235	no
USSRWWN	20	NC06-20401	no	185		yes	112		no		no	235	no
USSRWWN	21	NC06-19556	no	185		yes	104	112	no		no	235	no
USSRWWN	22	TN902	no	160	167	no	92		no		no	235	no
USSRWWN	23	LA01139E-86-2	no	160	167	no	112		no		no	235	no
USSRWWN	24	LA0110D-84-2	no	160	167	no	112		no	256	yes	235	no
USSRWWN	25	LA01056D-84-7-2	no	nd		nd	112		no		no	235	no
USSRWWN	26	VA06W-412	no	165		no	87	104	yes		no	235	no
USSRWWN	27	GA00067-8E35	no	160		no	112		no	256	yes	235	no
USSRWWN	28	GA001138-8E36	no	163		no	104		no		no	235	no
USSRWWN	29	GA011496-8E18	no	167		no	104		no	256	yes	235	no
USSRWWN	30	G75735	no	165		no	104		no		no	235	no
USSRWWN	31	G81036	no	163		no	104		no		no	235	no
USSRWWN	32	G75692	no	185		yes	104		no		no	235	no

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Rye Translocation -- Hessian Fly -- Barley Yellow Dwarf Virus

2010

Nursery	Entry	Sample Name	scm9	IRS	cfb 132	H13	cfa 2153	cfa 2153	H9	Bdv	Bdv 2/3
USSRWWN	1	AGS 2000	206	IRS:1BL	114	no	201		no	184	no
USSRWWN	2	Pioneer Brand 26R61	206	IRS:1BL	114	no	191		no	184	no
USSRWWN	3	Coker 9553		non-IRS	114	no	203		no	184	no
USSRWWN	4	USG 3555	206	IRS:1BL	114	no	201		no	184	no
USSRWWN	5	W980031K1	206	IRS:1BL	114	no	191		no	184	no
USSRWWN	6	VA05W-139		non-IRS	114	no	201		no	184	no
USSRWWN	7	VA06W-392		non-IRS	114	no	201		no	184	no
USSRWWN	8	VA05W-251		non-IRS	114	no	194	201	no	184	no
USSRWWN	9	LA01139D-56-1		non-IRS	114	no	191		no	184	no
USSRWWN	10	AR96052-4-3		non-IRS	114	no	199		no	184	no
USSRWWN	11	AR98088-1-1		non-IRS	114	no	194		no	184	no
USSRWWN	12	NC05-19684		non-IRS	152	yes	201		no	184	no
USSRWWN	13	MD00W389-08-4		non-IRS	114	no	201		no	184	no
USSRWWN	14	MD01W270-08-12		non-IRS	114	no	199		no	184	no
USSRWWN	15	MD01W28-08-11	206?	IRS:1BL?	114	no	203		no	184	no
USSRWWN	16	B05-0142		non-IRS	114	no	217		no	184	no
USSRWWN	17	B05-0329		non-IRS	114	no	203		no	184	no
USSRWWN	18	B05*0323		non-IRS	114	no	201		no	184	no
USSRWWN	19	NC05-19896		non-IRS	114	no	205		no	184	no
USSRWWN	20	NC06-20401	206	IRS:1BL	114	no	179		yes	184	no
USSRWWN	21	NC06-19556	206	IRS:1BL	114	no	194	201	no	184	no
USSRWWN	22	TN902	206	IRS:1BL	114	no	191	201	no	184	no
USSRWWN	23	LA01139E-86-2	206	IRS:1BL	114	no	201		no	184	no
USSRWWN	24	LA0110D-84-2		non-IRS	114	no	201		no	184	no
USSRWWN	25	LA01056D-84-7-2		non-IRS	114	no	201		no	184	no
USSRWWN	26	VA06W-412	222	IRS:1AL	114	no	201		no	184	no
USSRWWN	27	GA00067-8E35		non-IRS	114	no	203		no	184	no
USSRWWN	28	GA001138-8E36	206	IRS:1BL	114	no	191		no	184	no
USSRWWN	29	GA011496-8E18		non-IRS	114	no	201		no	184	no
USSRWWN	30	G75735		non-IRS	114	no	201		no	184	no
USSRWWN	31	G81036		non-IRS	114	no	191		no	184	no
USSRWWN	32	G75692		non-IRS	114	no	201		no	184	no

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Quality Traits

2010

Nursery	Entry	Sample Name	Bx7oe	Bx7 over-expressing	Umn25	Umn25	Glu-D1	Umn19	Umn19	Glu-A1
USSRWWN	1	AGS 2000	404	no	277		5+10	341		Ax2*
USSRWWN	2	Pioneer Brand 26R61	448	yes	277		5+10	341		Ax2*
USSRWWN	3	Coker 9553	404	no		295	2+12	341		Ax2*
USSRWWN	4	USG 3555	404	no		295	2+12	341		Ax2*
USSRWWN	5	W980031K1	448	yes	277		5+10	341		Ax2*
USSRWWN	6	VA05W-139	404	no	277		5+10	341		Ax2*
USSRWWN	7	VA06W-392	404	no		295	2+12	341		Ax2*
USSRWWN	8	VA05W-251	404	no		295	2+12	341		Ax2*
USSRWWN	9	LA01139D-56-1	404	no	277		5+10		359	Ax1 or null
USSRWWN	10	AR96052-4-3	404	no	277		5+10	341		Ax2*
USSRWWN	11	AR98088-1-1	404	no		295	2+12		359	Ax1 or null
USSRWWN	12	NC05-19684	404	no		295	2+12	341		Ax2*
USSRWWN	13	MD00W389-08-4	404	no	277		5+10	341		Ax2*
USSRWWN	14	MD01W270-08-12	404	no		295	2+12	341		Ax2*
USSRWWN	15	MD01W28-08-11	404	no	277		5+10		359	Ax1 or null
USSRWWN	16	B05-0142	404	no		295	2+12		359	Ax1 or null
USSRWWN	17	B05-0329	404	no		295	2+12	341		Ax2*
USSRWWN	18	B05*0323	404	no		295	2+12	341	359	het
USSRWWN	19	NC05-19896	404	no		295	2+12	341		Ax2*
USSRWWN	20	NC06-20401	404	no		295	2+12	341		Ax2*
USSRWWN	21	NC06-19556	404	no	277		5+10		359	Ax1 or null
USSRWWN	22	TN902	404	no		295	2+12	341		Ax2*
USSRWWN	23	LA01139E-86-2	448	yes		295	2+12	341		Ax2*
USSRWWN	24	LA0110D-84-2	448	yes	277		5+10	341		Ax2*
USSRWWN	25	LA01056D-84-7-2	404	no		295	2+12	341		Ax2*
USSRWWN	26	VA06W-412	404	no	277		5+10	341		Ax2*
USSRWWN	27	GA00067-8E35	404	no	277		5+10		359	Ax1 or null
USSRWWN	28	GA001138-8E36	448	yes	277		5+10	341		Ax2*
USSRWWN	29	GA011496-8E18	404	no		295	2+12	341		Ax2*
USSRWWN	30	G75735	404	no		295	2+12		359	Ax1 or null
USSRWWN	31	G81036	404	no	277		5+10		359	Ax1 or null
USSRWWN	32	G75692	404	no	277		5+10		359	Ax1 or null

"nd" = not determined or lack of amplification

If marker is dominant, samples with no amplification are left blank

"?" indicates that markers may not be diagnostic or data was not clear; therefore can not be sure if gene is present or not.

All numbers are size in base pairs of amplified fragments

Target alleles are in **bold or italics**

Pre-harvest Sprouting

2010

Nursery	Entry	Sample Name	barc55	PHS Cayuga
USSRWWN	1	AGS 2000	128	no
USSRWWN	2	Pioneer Brand 26R61	132	yes
USSRWWN	3	Coker 9553	132	yes
USSRWWN	4	USG 3555	132	yes
USSRWWN	5	W980031K1	132	yes
USSRWWN	6	VA05W-139	132	yes
USSRWWN	7	VA06W-392	128	no
USSRWWN	8	VA05W-251	128	no
USSRWWN	9	LA01139D-56-1	nd	nd
USSRWWN	10	AR96052-4-3	132	yes
USSRWWN	11	AR98088-1-1	132	yes
USSRWWN	12	NC05-19684	nd	nd
USSRWWN	13	MD00W389-08-4	nd	nd
USSRWWN	14	MD01W270-08-12	nd	nd
USSRWWN	15	MD01W28-08-11	128	no
USSRWWN	16	B05-0142	124	no
USSRWWN	17	B05-0329	nd	nd
USSRWWN	18	B05*0323	132	yes
USSRWWN	19	NC05-19896	nd	nd
USSRWWN	20	NC06-20401	nd	nd
USSRWWN	21	NC06-19556	132	yes
USSRWWN	22	TN902	132	yes
USSRWWN	23	LA01139E-86-2	132	yes
USSRWWN	24	LA0110D-84-2	132	yes
USSRWWN	25	LA01056D-84-7-2	nd	nd
USSRWWN	26	VA06W-412	132	yes
USSRWWN	27	GA00067-8E35	132	yes
USSRWWN	28	GA001138-8E36	128	no
USSRWWN	29	GA011496-8E18	132	yes
USSRWWN	30	G75735	nd	nd
USSRWWN	31	G81036	124	no
USSRWWN	32	G75692	nd	nd

"nd" = not determined or lack of amplification

If marker is dominant, samples with no amplification are left blank

"?" indicates that markers may not be diagnostic or data was not clear; therefore can not be sure if gene is present or not.

All numbers are size in base pairs of amplified fragments

Target alleles are in **bold or italics**