

**2009**

**Uniform Eastern & Southern Soft Red Winter Wheat Nurseries**

**Marker Reports**

**Eastern Regional Small Grains Genotyping Lab**

**Collaborator: Gina Brown-Guedira**

**USDA-ARS**

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### some details of notations in the Marker tables

"nd" = not determined or lack of amplification

?" 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*

RhtW = wild type; RhtM = dwarfing = yes

Ppd-D1a = photoperiod insensitive = yes

## 2009 Uniform Eastern Soft Red Winter Wheat Nursery

### Entry List

Nursery	Entry	Sample Name	Pedigree	Breeder
UESRWWN	1	Roane	VA71-54-147(CI17449)/C68-15//IN65309C1-18-2-3-2 (formerly VA93-54-429)	Check
UESRWWN	2	INW0411	96204A1-12//Goldfield/92823A1-11 (formerly P97397E1-11-2-4-1-1)	Check
UESRWWN	3	Branson	Pio2737W/891-4584A (Pike/FL302) (formerly M00-3701)	Check
UESRWWN	4	Bess	MO11769/Madison (formerly MO981020)	Check
UESRWWN	5	LA01-425	P2571/Y91-6B	Moreno
UESRWWN	6	IL02-19463	Patton/Cardinal//IL96-2550	Kolb
UESRWWN	7	B030543	VA93-54-429/LA85422	Hancock
UESRWWN	8	KY97C-0321-02-01	Kristy/VA94-52-25//2540	Van Sanford
UESRWWN	9	KY97C-0519-04-07	SS555W/2540//2552	Van Sanford
UESRWWN	10	KY97C-0508-01-01A-1	FFR555W/VA94-52-25//2568	Van Sanford
UESRWWN	11	IL04-8445	IL94-1653 [MOW12213/IL87-3235(Cardinal/Caldwell)] / IL97-3578 [IL90-6364(P76788G2-5-4-94//Caldwell/IL77-2656)/Pio2571]	Kolb
UESRWWN	12	IL04-11003	IL96-3073 [L880437//Cardinal/IL85-3132-1(McNair1003/Caldwell)] / Roane	Kolb
UESRWWN	13	OH04-264-58	OH645/Hopewell	Sneller
UESRWWN	14	OH04-268-39	Hopewell/VA96-54-372	Sneller
UESRWWN	15	OH05-248-38	OH685/OH686	Sneller
UESRWWN	16	MD00W53-07-1	XW672/Tribute	Costa
UESRWWN	17	MD01W233-07-1	McCormick/Choptank	Costa
UESRWWN	18	G89209	IL84-3010/T812	Brown
UESRWWN	19	G89201	Auburn/Tyler	Brown
UESRWWN	20	G89222	T812/VA91-54-219	Brown
UESRWWN	21	M05-1172	M94-1048-1/Pio2552	Fogleman
UESRWWN	22	M05-1526	FFR502/P931765C-H21	Fogleman
UESRWWN	23	M05-1589	GA871339/Pio2540	Fogleman
UESRWWN	24	B040798	BL920520/9244BX-2-1-4	Hancock
UESRWWN	25	M05-1531	LA87167-D8-10-2/P92118B4-2	Hancock
UESRWWN	26	P99751RA1-6-3-94	P9560//KS94U396/P92162/3/INW9811*2//Fdm/201R	Ohm
UESRWWN	27	P02444A1-23-1	P981129/P99793//INW0301/P92145	Ohm
UESRWWN	28	P05219A1-13-16	INW0316*2/3/P9346/P91202//INW0301*2	Ohm
UESRWWN	29	W06-089	Tribute/Patton	Cisar
UESRWWN	30	W06-522A	Pio25R49/Patterson	Cisar
UESRWWN	31	Z03-1281	W-725/W-591	Moreno
UESRWWN	32	Z03-0496	Clark//W-65/Clemson	Moreno
UESRWWN	33	GA031238-DH7-7A28	96229-3E39(sis SS8641)/USG3295	Johnson
UESRWWN	34	Blazerexp	IN77249/AGC107	Fioritto
UESRWWN	35	Probeexp	Mendon/GR915	Fioritto
UESRWWN	36	Rumorex	Hopewell/Honey	Fioritto
UESRWWN	37	VA05W-151	Pio26R24/McCormick	Griffey
UESRWWN	38	VA05W-168	FFR522/Tribute	Griffey
UESRWWN	39	VA05W-258	VA98W-130(Savannah/VA87-54-558//VA88-54-328/Gore)//C9835/SS520	Griffey
UESRWWN	40	AR98022-19-3	Sabbe/Coker9663	Bacon
UESRWWN	41	AR98023-5-1	Sabbe/Coker9704	Bacon
UESRWWN	42	NC05-21090	Burr/NC96BGTA6 sib//Natchez	Murphy

## 2009 Uniform Eastern Soft Red Winter Wheat Nursery

### Summary of all Markers

Nursery	Entry	Sample Name	Rht1- B1b	Rht2- D1b	Rht8	Ppd- D1a	Fhb Ernie Fhb1	Fhb Ernie 3Bc	Fhb 2DL- Wuhan1/W14	Fhb 5A Ernie	Fhb 5A <i>Ning7840</i>	Fhb Ernie 4B	Fhb Ernie 2B
UESRWWN	1	Roane	<b>het</b>	<b>het</b>	no	<b>yes</b>	no	<b>yes</b>	no	<b>het</b>	<i>no</i>	no	no
UESRWWN	2	INW0411	<b>yes</b>	no	no	<b>yes</b>	<b>yes?</b>	no	no	no	<b>yes?</b>	no	<b>yes</b>
UESRWWN	3	Branson	<b>yes</b>	no	no	<b>yes</b>	no	<b>?</b>	no	no	<i>no</i>	no	no
UESRWWN	4	Bess	<b>yes</b>	no	no	no	no	no	no	<b>no?</b>	<i>no</i>	<b>yes?</b>	no
UESRWWN	5	LA01-425	<b>yes</b>	no	no	<b>yes</b>	no	<b>yes</b>	no	no	<i>no</i>	no	no
UESRWWN	6	IL02-19463	<b>yes</b>	no	no	<b>yes</b>	no	no	no	no	<i>no</i>	no	no
UESRWWN	7	B030543	no	<b>yes</b>	no	<b>yes</b>	no	no	no	no	<i>no</i>	no	<b>yes</b>
UESRWWN	8	KY97C-0321-02-01	no	<b>yes</b>	no	<b>yes</b>	no	no	no	no	<i>no</i>	no	no
UESRWWN	9	KY97C-0519-04-07	no	<b>yes</b>	no	<b>yes</b>	no	no	no	no	<i>no</i>	no	no
UESRWWN	10	KY97C-0508-01-01A-1	no	<b>yes</b>	no	<b>yes</b>	no	no	no	no	<i>no</i>	no	no
UESRWWN	11	IL04-8445	<b>yes</b>	no	no	<b>yes</b>	no	<b>?</b>	no	no	<i>no</i>	<b>yes?</b>	no
UESRWWN	12	IL04-11003	<b>yes</b>	no	no	no	no	no	no	no	<i>no</i>	<b>yes?</b>	no
UESRWWN	13	OH04-264-58	<b>het</b>	<b>yes</b>	no	<b>yes</b>	no	<b>?</b>	no	no	<i>no</i>	no	no
UESRWWN	14	OH04-268-39	<b>yes</b>	no	no	no	no	no	no	no	<i>no</i>	no	no
UESRWWN	15	OH05-248-38	<b>yes</b>	no	no	<b>yes</b>	no	<b>?</b>	no	no	<i>no</i>	no	no
UESRWWN	16	MD00W53-07-1	no	<b>yes</b>	no	no	<b>yes</b>	<b>?</b>	no	no	<i>no</i>	no	no
UESRWWN	17	MD01W233-07-1	no	<b>yes</b>	no	no	no	no	no	no	<i>no</i>	no	no
UESRWWN	18	G89209	<b>yes</b>	no	no	no	no	<b>yes</b>	no	no	<i>no</i>	no	no
UESRWWN	19	G89201	<b>yes</b>	no	no	no	no	<b>yes</b>	no	no	<i>no</i>	no	no
UESRWWN	20	G89222	nd	<b>yes</b>	no	no	no	no	no	no	<i>no</i>	no	no
UESRWWN	21	M05-1172	no	<b>yes</b>	no	<b>yes</b>	no	<b>het</b>	no	no	<i>no</i>	no	no
UESRWWN	22	M05-1526	<b>yes</b>	no	no	no	no	<b>?</b>	no	<b>yes</b>	<i>no</i>	no	no
UESRWWN	23	M05-1589	no	<b>yes</b>	no	<b>yes</b>	no	<b>?</b>	no	no	<i>no</i>	no	no
UESRWWN	24	B040798	<b>yes</b>	no	no	<b>yes</b>	no	no	no	no	<i>no</i>	no	no
UESRWWN	25	M05-1531	<b>yes</b>	no	no	no	no	<b>yes</b>	no	<b>yes</b>	<i>no</i>	no	<b>het</b>
UESRWWN	26	P99751RA1-6-3-94	<b>yes</b>	no	no	<b>yes</b>	no	no	no	<b>?</b>	<b>yes?</b>	no	no
UESRWWN	27	P02444A1-23-1	<b>yes</b>	no	no	<b>yes</b>	<b>yes?</b>	no	no	no	<i>no</i>	no	no
UESRWWN	28	P05219A1-13-16	<b>yes</b>	no	no	no	no	no	no	no	<i>no</i>	no	<b>yes</b>
UESRWWN	29	W06-089	<b>yes</b>	no	no	no	no	<b>?</b>	no	no	<i>no</i>	no	no
UESRWWN	30	W06-522A	no	<b>yes</b>	no	<b>yes</b>	no	<b>yes</b>	no	no	<i>no</i>	no	no
UESRWWN	31	Z03-1281	no	<b>yes</b>	no	<b>yes</b>	no	<b>?</b>	no	no	<i>no</i>	no	no
UESRWWN	32	Z03-0496	<b>yes</b>	<b>het</b>	no	<b>yes</b>	no	no	no	<b>yes</b>	<i>no</i>	no	no
UESRWWN	33	GA031238-DH7-7A28	no	<b>yes</b>	no	<b>yes</b>	no	no	no	no	<i>no</i>	no	<b>yes</b>
UESRWWN	34	Blazerexp	<b>yes</b>	<b>het</b>	<b>yes</b>	no	no	no	no	no	<i>no</i>	no	<b>yes</b>
UESRWWN	35	Probeexp	no	<b>yes</b>	no	no	no	no	no	no	<i>no</i>	no	no
UESRWWN	36	Rumorex	no	<b>yes</b>	<b>yes</b>	no	no	no	no	no	<i>no</i>	no	<b>yes</b>
UESRWWN	37	VA05W-151	no	<b>yes</b>	no	no	no	no	no	no	<i>no</i>	no	no
UESRWWN	38	VA05W-168	no	<b>yes</b>	no	<b>het</b>	no	no	no	no	<i>no</i>	no	no
UESRWWN	39	VA05W-258	no	<b>yes</b>	no	<b>yes</b>	<b>yes</b>	no	no	no	<i>no</i>	no	no
UESRWWN	40	AR98022-19-3	no	no	no	no	no	no	no	no	<i>no</i>	no	no
UESRWWN	41	AR98023-5-1	nd	nd	no	no	no	no	no	no	<i>no</i>	no	no
UESRWWN	42	NC05-21090	no	<b>yes</b>	no	<b>yes</b>	no	<b>?</b>	no	no	<i>no</i>	no	<b>yes</b>

RhtW = wild type; RhtM = dwarfing = yes

Ppd-D1a = photoperiod insensitive = yes

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## 2009 Uniform Eastern Soft Red Winter Wheat Nursery

### Summary of all Markers

Nursery	Entry	Sample Name	Lr37/Yr17/ Lr34/Yr18/				1RS	H13	H9	Bdv2/3	Bx7 over-expressing	Glu-D1
			Sr36	Sr24/Lr24	Sr38	Pm38						
UESRWWN	1	Roane	no	no	no	no	non-1RS	no	no	no	no	het
UESRWWN	2	INW0411	yes	no	no	no	<b>1RS:1BL</b>	no	no	no	no	het
UESRWWN	3	Branson	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	4	Bess	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	5	LA01-425	no	no	yes	no	non-1RS	no	no	no	yes	het
UESRWWN	6	IL02-19463	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	7	B030543	yes	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	8	KY97C-0321-02-01	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	9	KY97C-0519-04-07	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	10	KY97C-0508-01-01A-1	no	no	no	no	non-1RS	no	no	no	yes	5+10
UESRWWN	11	IL04-8445	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	12	IL04-11003	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	13	OH04-264-58	no	no	no	no	non-1RS	no	no	no	het	het
UESRWWN	14	OH04-268-39	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	15	OH05-248-38	no	no	no	het?	non-1RS	no	no	no	no	2+12
UESRWWN	16	MD00W53-07-1	no	yes	no	no	<b>1RS:1AL</b>	no	nd	no	no	2+12
UESRWWN	17	MD01W233-07-1	no	yes	no	no	non-1RS	no	nd	no	no	2+12
UESRWWN	18	G89209	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	19	G89201	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	20	G89222	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	21	M05-1172	no	no	no	no	non-1RS	no	no	no	yes	2+12
UESRWWN	22	M05-1526	no	no	no	no	<b>1RS:1BL</b>	no	no	no	no	2+12
UESRWWN	23	M05-1589	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	24	B040798	no	no	no	no	non-1RS	no	no	no	yes	2+12
UESRWWN	25	M05-1531	het	no	no	no	<b>1RS:1BL</b>	no	no	no	no	2+12
UESRWWN	26	P99751RA1-6-3-94	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	27	P02444A1-23-1	no	no	yes	no	non-1RS	no	no	no	yes	2+12
UESRWWN	28	P05219A1-13-16	yes	no	no	no	<b>1RS:1BL</b>	no	no	yes	yes	5+10
UESRWWN	29	W06-089	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	30	W06-522A	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	31	Z03-1281	no	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	32	Z03-0496	no	no	no	no	<b>1RS:1BL</b>	no	no	no	no	2+12
UESRWWN	33	GA031238-DH7-7A28	yes	no	yes	no	non-1RS	no	no	no	no	2+12
UESRWWN	34	Blazexp	yes	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	35	Probeexp	no	no	no	no	non-1RS	no	no	no	no	2+12
UESRWWN	36	Rumorex	yes	no	no	no	non-1RS	no	no	no	no	5+10
UESRWWN	37	VA05W-151	no	yes	no	no	non-1RS	no	nd	no	no	2+12
UESRWWN	38	VA05W-168	no	yes	no	no	non-1RS	no	nd	no	no	5+10
UESRWWN	39	VA05W-258	no	no	no	no	non-1RS	no	no	no	no	het
UESRWWN	40	AR98022-19-3	no	no	no	no	non-1RS	no	nd	no	no	5+10
UESRWWN	41	AR98023-5-1	no	no	no	no	<b>1RS:1BL</b>	no	no	no	yes	2+12
UESRWWN	42	NC05-21090	yes	no	yes	no	non-1RS	no	no	no	no	2+12

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All numbers are size in base pairs of amplified fragments

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## Dwarfing genes & Photoperiod insensitivity

2009

Nursery	Entry	Sample Name	Rht1W	Rht1M	Rht2W	Rht2M	Rht1- Rht2-		gwm261	Rht8	Ppd	Ppd	Ppd-D1a
							B1b	D1b					
UESRWWN	1	Roane	360	<b>366</b>	250	<b>251</b>	het	het	203	no	<b>283</b>		yes
UESRWWN	2	INW0411		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	3	Branson		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	4	Bess		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	5	LA01-425		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	6	IL02-19463		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	7	B030543	360			<b>251</b>	no	yes	203	no	<b>283</b>		yes
UESRWWN	8	KY97C-0321-02-01	360			<b>251</b>	no	yes	203	no	<b>283</b>		yes
UESRWWN	9	KY97C-0519-04-07	360?			<b>251</b>	no	yes	165	no	<b>283</b>		yes
UESRWWN	10	KY97C-0508-01-01A-1	360			<b>251</b>	no	yes	203	no	<b>283</b>		yes
UESRWWN	11	IL04-8445		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	12	IL04-11003		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	13	OH04-264-58	360	<b>366</b>		<b>251</b>	het	yes	165	no	<b>283</b>		yes
UESRWWN	14	OH04-268-39		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	15	OH05-248-38		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	16	MD00W53-07-1	360			<b>251</b>	no	yes	175	no		413	no
UESRWWN	17	MD01W233-07-1	360			<b>251</b>	no	yes	175	no		413	no
UESRWWN	18	G89209		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	19	G89201		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	20	G89222	nd	nd		<b>251</b>	nd	yes	175	no		413	no
UESRWWN	21	M05-1172	360			<b>251</b>	no	yes	165	no	<b>283</b>		yes
UESRWWN	22	M05-1526		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	23	M05-1589	360			<b>251</b>	no	yes	203	no	<b>283</b>		yes
UESRWWN	24	B040798		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	25	M05-1531		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	26	P99751RA1-6-3-94		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	27	P02444A1-23-1		<b>366</b>	250		yes	no	175	no	<b>283</b>		yes
UESRWWN	28	P05219A1-13-16		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	29	W06-089		<b>366</b>	250		yes	no	175	no		413	no
UESRWWN	30	W06-522A	360			<b>251</b>	no	yes	175	no	<b>283</b>		yes
UESRWWN	31	Z03-1281	360			<b>251</b>	no	yes	165	no	<b>283</b>		yes
UESRWWN	32	Z03-0496		<b>366</b>	250	<b>251</b>	yes	het	175	no	<b>283</b>		yes
UESRWWN	33	GA031238-DH7-7A28	360			<b>251</b>	no	yes	201	no	<b>283</b>		yes
UESRWWN	34	Blazerexp		<b>366</b>	250	<b>251</b>	yes	het	<b>193</b>	yes		413	no
UESRWWN	35	Probeexp	360			<b>251</b>	no	yes	175	no		413	no
UESRWWN	36	Rumorex	360			<b>251</b>	no	yes	<b>193</b>	yes		413	no
UESRWWN	37	VA05W-151	360			<b>251</b>	no	yes	175	no		413	no
UESRWWN	38	VA05W-168	360			<b>251</b>	no	yes	203	no	<b>283</b>	413	het
UESRWWN	39	VA05W-258	360			<b>251</b>	no	yes	203	no	<b>283</b>		yes
UESRWWN	40	AR98022-19-3	360		250		no	no	203	no		413	no
UESRWWN	41	AR98023-5-1	nd	nd	nd	nd	nd	nd	175	no		413	no
UESRWWN	42	NC05-21090	360			<b>251</b>	no	yes	203	no	<b>283</b>		yes

RhtW = wild type; RhtM = dwarfing = yes

Ppd-D1a = photoperiod insensitive = yes

"nd" = not determined or lack of amplification

?" 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**  
2009

Nursery	Entry	Sample Name	umn10	umn10	gwm533	gwm533	gwm533	Fhb1
UESRWWN	1	Roane	229	236	157			no
UESRWWN	2	INW0411	<b>239</b>		130			yes?
UESRWWN	3	Branson	236		119			no
UESRWWN	4	Bess	236		119			no
UESRWWN	5	LA01-425	236		119			no
UESRWWN	6	IL02-19463	236		119			no
UESRWWN	7	B030543	229	236	119	147	157	no
UESRWWN	8	KY97C-0321-02-01	236		119			no
UESRWWN	9	KY97C-0519-04-07	236		119			no
UESRWWN	10	KY97C-0508-01-01A-1	236		119			no
UESRWWN	11	IL04-8445	229		147	157		no
UESRWWN	12	IL04-11003	229		147	157		no
UESRWWN	13	OH04-264-58	236		nd			no
UESRWWN	14	OH04-268-39	229	236	119	147	157	no
UESRWWN	15	OH05-248-38	236		119			no
UESRWWN	16	MD00W53-07-1	<b>239</b>		<b>141</b>			yes
UESRWWN	17	MD01W233-07-1	229		147	157		no
UESRWWN	18	G89209	229		147	157		no
UESRWWN	19	G89201	229		147	157		no
UESRWWN	20	G89222	229		147	157		no
UESRWWN	21	M05-1172	236		nd			no
UESRWWN	22	M05-1526	236		nd			no
UESRWWN	23	M05-1589	229		157			no
UESRWWN	24	B040798	236		129			no
UESRWWN	25	M05-1531	236		119			no
UESRWWN	26	P99751RA1-6-3-94	236		119			no
UESRWWN	27	P02444A1-23-1	<b>239</b>		nd			yes?
UESRWWN	28	P05219A1-13-16	236		119			no
UESRWWN	29	W06-089	229		147	157		no
UESRWWN	30	W06-522A	229		147	157		no
UESRWWN	31	Z03-1281	236		119			no
UESRWWN	32	Z03-0496	236		119			no
UESRWWN	33	GA031238-DH7-7A28	236		119			no
UESRWWN	34	Blazerexp	236		119			no
UESRWWN	35	Probeexp	236		nd			no
UESRWWN	36	Rumorex	236		147			no
UESRWWN	37	VA05W-151	229		147	157		no
UESRWWN	38	VA05W-168	229		147	157		no
UESRWWN	39	VA05W-258	<b>239</b>		<b>141</b>			yes
UESRWWN	40	AR98022-19-3	236		119			no
UESRWWN	41	AR98023-5-1	236		129			no
UESRWWN	42	NC05-21090	236		129			no

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

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**FHB QTLs**  
2009

Nursery	Entry	Sample Name	gwm	gwm	gwm	gwm	wmc	wmc	wmc	wmc	wmc	wmc	wmc	wmc	wmc	Fhb Ernie	
			285	285	612	612	307	307	1	1	418	418	471	471	471	471	3Bc
UESRWWN	1	Roane	<b>245</b>		282		<b>142</b>		<b>153</b>		<b>262</b>		181	217		yes	
UESRWWN	2	INW0411	218		289		<b>142</b>		156		269		179	217		no	
UESRWWN	3	Branson	218		282		144		<b>153</b>		<b>262</b>		181	<b>260</b>		?	
UESRWWN	4	Bess	218	249	276	291	139	144	151		271		179	217		no	
UESRWWN	5	LA01-425	<b>245</b>		<b>287</b>		<b>142</b>		<b>153</b>		<b>262</b>		177	179	<b>260</b>	yes	
UESRWWN	6	IL02-19463	218		279		144		<b>153</b>		271		179	217		no	
UESRWWN	7	B030543	220		280		<b>142</b>	144	163		<b>262</b>		181	217		no	
UESRWWN	8	KY97C-0321-02-01	226		291		144		149		269		169	221		no	
UESRWWN	9	KY97C-0519-04-07	226		291		144		149		260		179	217		no	
UESRWWN	10	KY97C-0508-01-01A-1	220		252		<b>142</b>		160		271		169	215		no	
UESRWWN	11	IL04-8445	218		<b>287</b>		144		<b>153</b>		<b>262</b>		181	217		?	
UESRWWN	12	IL04-11003	220		282		144		163		271		179	217		no	
UESRWWN	13	OH04-264-58	218		274	282	144		<b>153</b>		<b>262</b>		177	179	217	?	
UESRWWN	14	OH04-268-39	226		282		144		149	<b>153</b>	260		179	221		no	
UESRWWN	15	OH05-248-38	218		276		144		<b>153</b>		<b>262</b>		179	221		?	
UESRWWN	16	MD00W53-07-1	220		252		<b>142</b>		149		<b>262</b>		177	181	217	<b>260</b>	?
UESRWWN	17	MD01W233-07-1	218		280		<b>142</b>		156		269		181	217		no	
UESRWWN	18	G89209	220		289		<b>142</b>		<b>153</b>		<b>262</b>		177	179	<b>260</b>	yes	
UESRWWN	19	G89201	220		289		<b>142</b>		<b>153</b>		<b>262</b>		177	179	<b>260</b>	yes	
UESRWWN	20	G89222	220		289		<b>142</b>		149		<b>262</b>		177	179	217	no	
UESRWWN	21	M05-1172	226	<b>245</b>	<b>287</b>		<b>142</b>	144	149	<b>153</b>	<b>262</b>	269	179	217		het	
UESRWWN	22	M05-1526	<b>245</b>		<b>287</b>		<b>142</b>		<b>153</b>		<b>262</b>		179	217		?	
UESRWWN	23	M05-1589	<b>245</b>		282		<b>142</b>		<b>153</b>		<b>262</b>		181	217		?	
UESRWWN	24	B040798	226		280		<b>142</b>		149		271		169	215		no	
UESRWWN	25	M05-1531	<b>245</b>		<b>287</b>		<b>142</b>		<b>153</b>		<b>262</b>		179	217	<b>260</b>	yes	
UESRWWN	26	P99751RA1-6-3-94	220		289		144		156		271		179	215		no	
UESRWWN	27	P02444A1-23-1	218		289		<b>142</b>	144	156		269		179	215	217	no	
UESRWWN	28	P05219A1-13-16	218		289		<b>142</b>		156		271		177	179	215	no	
UESRWWN	29	W06-089	<b>245</b>		<b>287</b>		144		<b>153</b>		<b>262</b>		177	179	217	?	
UESRWWN	30	W06-522A	<b>245</b>		<b>287</b>		<b>142</b>		<b>153</b>		<b>262</b>		179	<b>260</b>		yes	
UESRWWN	31	Z03-1281	226		291		144		<b>153</b>		<b>262</b>		179	<b>260</b>		?	
UESRWWN	32	Z03-0496	220		276		144		151		271		179	215		no	
UESRWWN	33	GA031238-DH7-7A28	226		291		144		149		269		169	217		no	
UESRWWN	34	Blazerexp	244		282		147		158		271		179	215		no	
UESRWWN	35	Probeexp	249		282		139		151		271		179	217		no	
UESRWWN	36	Rumorex	226		291		144		149		271		169	215		no	
UESRWWN	37	VA05W-151	218		280		<b>142</b>		156		271		181	217		no	
UESRWWN	38	VA05W-168	218		282		<b>142</b>		163		271		181	215	217	no	
UESRWWN	39	VA05W-258	220	226	252	291	<b>142</b>	144	149		271		181	215		no	
UESRWWN	40	AR98022-19-3	218		280		<b>142</b>		149		271		179	215		no	
UESRWWN	41	AR98023-5-1	218		280		<b>142</b>		149		271		179	215		no	
UESRWWN	42	NC05-21090	<b>245</b>		282		<b>142</b>		<b>153</b>		<b>262</b>		179	217		?	

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**FHB QTLs**  
2009

Nursery	Entry	Sample Name	cf	fd	gwm	gwm	gwm	gwm	wmc	wmc	gwm	gwm	Fhb 2DL-Wuhan1/W14
			233	233	539	539	608	608	144	144	349	349	
UESRWWN	1	Roane	270	280	131	154	150		139		232	240	no
UESRWWN	2	INW0411	278		139		154		139		232		no
UESRWWN	3	Branson	284		144		150		139		244		no
UESRWWN	4	Bess	288		137		150	162	137	139	232	240	no
UESRWWN	5	LA01-425	278		135		150		139		244		no
UESRWWN	6	IL02-19463	278	284	137		150		139		232		no
UESRWWN	7	B030543	280		131		150		139		240		no
UESRWWN	8	KY97C-0321-02-01	270		133		156		<b>141</b>		238		no
UESRWWN	9	KY97C-0519-04-07	270		137		156		<b>141</b>		238		no
UESRWWN	10	KY97C-0508-01-01A-1	272		133		156		<b>141</b>		240		no
UESRWWN	11	IL04-8445	280		<b>124</b>		154		<b>141</b>		238		no
UESRWWN	12	IL04-11003	290		<b>124</b>		162		139		232		no
UESRWWN	13	OH04-264-58	270		133		150	156	139		238		no
UESRWWN	14	OH04-268-39	270	288	<b>124</b>	131	150	162	139		238		no
UESRWWN	15	OH05-248-38	272		137		158		139		247		no
UESRWWN	16	MD00W53-07-1	278		135		150		<b>141</b>		nd		no
UESRWWN	17	MD01W233-07-1	272		131		154		<b>141</b>		<b>215</b>		no
UESRWWN	18	G89209	280		135	137	154		137		230		no
UESRWWN	19	G89201	280		137		154		137		230		no
UESRWWN	20	G89222	284		137		154		139		240		no
UESRWWN	21	M05-1172	292		133		154		<b>141</b>		240		no
UESRWWN	22	M05-1526	290		139		154		139		240		no
UESRWWN	23	M05-1589	270		133		156		<b>141</b>		238		no
UESRWWN	24	B040798	270		139		156		137		217		no
UESRWWN	25	M05-1531	272	290	137	139	154	156	139		232	239	no
UESRWWN	26	P99751RA1-6-3-94	278		161		150		<b>141</b>		230		no
UESRWWN	27	P02444A1-23-1	290		139		150		139		240	246	no
UESRWWN	28	P05219A1-13-16	278		139		150		139		240		no
UESRWWN	29	W06-089	278		161		150		139		244		no
UESRWWN	30	W06-522A	272		133		158		139		232		no
UESRWWN	31	Z03-1281	270		133		156		<b>141</b>		228		no
UESRWWN	32	Z03-0496	278		131		150		<b>141</b>		232		no
UESRWWN	33	GA031238-DH7-7A28	278		131		170		<b>141</b>		247		no
UESRWWN	34	Blazerexp	286		144		150		137		230		no
UESRWWN	35	Probeexp	270		131		150		139		238		no
UESRWWN	36	Rumorex	272		137		156		<b>141</b>		247		no
UESRWWN	37	VA05W-151	272		133		162		138		247		no
UESRWWN	38	VA05W-168	278		135		150		<b>141</b>		nd		no
UESRWWN	39	VA05W-258	280		131		150		139		228	249	no
UESRWWN	40	AR98022-19-3	290		131		162		<b>141</b>		240		no
UESRWWN	41	AR98023-5-1	272		131		162		<b>141</b>		240		no
UESRWWN	42	NC05-21090	282		152		160		139		244		no

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**FHB QTLs**  
2009

Nursery	Entry	Sample Name	gwm 304	gwm 304	wmc 705	wmc 705	barc 117	barc 117	barc 186	barc 186	gwm 156	gwm 156	barc 56	barc 56	Fhb 5A Ernie	Fhb 5A Ning7840
UESRWWN	1	Roane	199	<b>221</b>	<b>135</b>	164	217	<b>221</b>	<b>203</b>		283		104	<b>115</b>	het	no
UESRWWN	2	INW0411	<b>217</b>		nd		<b>221</b>		<b>213</b>		283		<b>115</b>		no	yes?
UESRWWN	3	Branson	199		162		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	4	Bess	199	<b>217</b>	164		217	<b>221</b>	<b>203</b>	<b>213</b>	283	314	<b>115</b>		<b>no?</b>	no
UESRWWN	5	LA01-425	203		141		217		215		314		104		no	no
UESRWWN	6	IL02-19463	199		162		217		<b>203</b>		314		104		no	no
UESRWWN	7	B030543	199		164		217		<b>203</b>		283		104	<b>115</b>	no	no
UESRWWN	8	KY97C-0321-02-01	199		162		217		<b>203</b>		294		104		no	no
UESRWWN	9	KY97C-0519-04-07	199		164		217		<b>203</b>		283		104		no	no
UESRWWN	10	KY97C-0508-01-01A-1	199		162		217		<b>203</b>		294		104		no	no
UESRWWN	11	IL04-8445	199		164		217		<b>203</b>		314		104		no	no
UESRWWN	12	IL04-11003	199		164		217		<b>203</b>		314		104		no	no
UESRWWN	13	OH04-264-58	199		162		217		<b>203</b>		294		104		no	no
UESRWWN	14	OH04-268-39	197		139		217		<b>213</b>		312	314	<b>115</b>		no	no
UESRWWN	15	OH05-248-38	199		164		217		<b>203</b>		314		104		no	no
UESRWWN	16	MD00W53-07-1	201		162		217		<b>203</b>		294		104		no	no
UESRWWN	17	MD01W233-07-1	199		162		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	18	G89209	199		164		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	19	G89201	199		164		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	20	G89222	199		164		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	21	M05-1172	199		164		217		<b>203</b>		283		104		no	no
UESRWWN	22	M05-1526	<b>221</b>		<b>135</b>		<b>221</b>		<b>203</b>		<b>313</b>		<b>115</b>		yes	no
UESRWWN	23	M05-1589	199		162		217		<b>203</b>		283		104		no	no
UESRWWN	24	B040798	199		162		217		<b>203</b>		314		104		no	no
UESRWWN	25	M05-1531	<b>221</b>		<b>135</b>		<b>221</b>		<b>203</b>		<b>313</b>		<b>115</b>		yes	no
UESRWWN	26	P99751RA1-6-3-94	<b>217</b>		nd		<b>221</b>		<b>213</b>		<b>313</b>		<b>115</b>		?	yes?
UESRWWN	27	P02444A1-23-1	199		164		217		<b>203</b>		283	318	104		no	no
UESRWWN	28	P05219A1-13-16	203		139		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	29	W06-089	199		164		217		<b>203</b>		320		104		no	no
UESRWWN	30	W06-522A	199		164		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	31	Z03-1281	199		162		217		<b>203</b>		312		104		no	no
UESRWWN	32	Z03-0496	<b>221</b>		<b>135</b>		<b>221</b>		<b>203</b>		294		<b>115</b>		yes	no
UESRWWN	33	GA031238-DH7-7A28	199		164		217		<b>203</b>		283		104		no	no
UESRWWN	34	Blazerexp	201	215	133		217	225	<b>203</b>	<b>213</b>	285		<b>115</b>		no	no
UESRWWN	35	Probeexp	197		139		217		<b>213</b>		<b>313</b>		<b>115</b>		no	no
UESRWWN	36	Rumorex	199		164		217		<b>203</b>		283		104		no	no
UESRWWN	37	VA05W-151	199		164		217		<b>203</b>		283		104		no	no
UESRWWN	38	VA05W-168	199		162		217		<b>203</b>		294		104		no	no
UESRWWN	39	VA05W-258	215		<b>135</b>		225		<b>213</b>		<b>313</b>		<b>115</b>		no	no
UESRWWN	40	AR98022-19-3	203		139		217		<b>203</b>		<b>313</b>		104		no	no
UESRWWN	41	AR98023-5-1	199		162		217		<b>203</b>		294		104		no	no
UESRWWN	42	NC05-21090	199		164		217		<b>203</b>		283		104		no	no

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**FHB QTLs**  
2009

Nursery	Entry	Sample Name	wmc	wmc	gwm	gwm	gwm	gwm	gwm	gwm	barc	Fhb Ernie	gwm	gwm	Fhb Ernie
			657	657	495	495	165	165	165	165	163	4B	319	319	2B
UESRWWN	1	Roane	113	132	<b>156</b>	175	192	194	255	156	no	no	174	180	no
UESRWWN	2	INW0411	113		175		190	194	255	159	no	no	<b>167</b>		<b>yes</b>
UESRWWN	3	Branson	113		175		190	194	255	159	no	no	180		no
UESRWWN	4	Bess	<b>117</b>	132	<b>156</b>		190	192	<b>251</b>	159	<b>yes?</b>	no	176		no
UESRWWN	5	LA01-425	126		164		190	194	244	165	no	no	176		no
UESRWWN	6	IL02-19463	126		164		190	194	244	159	no	no	176		no
UESRWWN	7	B030543	120		166	175	192	194	261	156	no	no	<b>167</b>		<b>yes</b>
UESRWWN	8	KY97C-0321-02-01	113		175		190	194	258	156	no	no	180		no
UESRWWN	9	KY97C-0519-04-07	122		175		190	194	250	165	no	no	180		no
UESRWWN	10	KY97C-0508-01-01A-1	113		175		190	194	255	159	no	no	<b>167</b>	180	no
UESRWWN	11	IL04-8445	132		<b>156</b>		190	198	<b>251</b>	168	<b>yes?</b>	no	176		no
UESRWWN	12	IL04-11003	132		<b>156</b>		192	194	<b>251</b>	159	<b>yes?</b>	no	176		no
UESRWWN	13	OH04-264-58	126		164	175	190	194	244	165	no	no	180		no
UESRWWN	14	OH04-268-39	130		175		190	194	255	159	no	no	176		no
UESRWWN	15	OH05-248-38	113		160		192	194	<b>251</b>	159	no	no	176		no
UESRWWN	16	MD00W53-07-1	113		175		190	194	255	159	no	no	176		no
UESRWWN	17	MD01W233-07-1	113		175		190	194	255	156	no	no	176		no
UESRWWN	18	G89209	113		175		190	194	255	165	no	no	176		no
UESRWWN	19	G89201	113		175		192	194	255	165	no	no	176		no
UESRWWN	20	G89222	126		164		192	194	244	165	no	no	176		no
UESRWWN	21	M05-1172	122		175		192	194	250	159	no	no	180		no
UESRWWN	22	M05-1526	113		175		192	194	255	159	no	no	176		no
UESRWWN	23	M05-1589	113		175		192	194	255	156	no	no	180		no
UESRWWN	24	B040798	113		175		190	200	255	159	no	no	176		no
UESRWWN	25	M05-1531	113		175		192	194	255	159	no	no	<b>167</b>	176	<b>het</b>
UESRWWN	26	P99751RA1-6-3-94	124		175		190	194	254	159	no	no	176		no
UESRWWN	27	P02444A1-23-1	113		175		190	194	255	159	no	no	176		no
UESRWWN	28	P05219A1-13-16	126		175		192	194	244	156	no	no	<b>167</b>		<b>yes</b>
UESRWWN	29	W06-089	126		164		192	194	244	165	no	no	176		no
UESRWWN	30	W06-522A	113		175		190	192	255	159	no	no	176		no
UESRWWN	31	Z03-1281	113		175		190	193	255	168	no	no	176		no
UESRWWN	32	Z03-0496	113		175		190	200	255	159	no	no	176		no
UESRWWN	33	GA031238-DH7-7A28	113		175		192	194	255	165	no	no	<b>167</b>	176	<b>yes</b>
UESRWWN	34	Blazerexp	113		175		192	194	255	159	no	no	<b>167</b>	176	<b>yes</b>
UESRWWN	35	Probeexp	113		175		190	194	255	159	no	no	176		no
UESRWWN	36	Rumorex	122		175		192	194	250	165	no	no	<b>167</b>		<b>yes</b>
UESRWWN	37	VA05W-151	122		175		190	192	200	250	165	no	180		no
UESRWWN	38	VA05W-168	113		175		190	194	255	159	no	no	176		no
UESRWWN	39	VA05W-258	122		175		190	192	194	250	165	no	176		no
UESRWWN	40	AR98022-19-3	122		175		190	194	255	165	no	no	176		no
UESRWWN	41	AR98023-5-1	122		175		190	194	255	165	no	no	176		no
UESRWWN	42	NC05-21090	113		175		192	194	255	165	no	no	<b>167</b>		<b>yes</b>

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## Leaf, Stripe & Stem Rusts

2009

Nursery	Entry	Sample Name	wmc	wmc	Sr36	barc	barc	Sr24/Lr24	ventriup	Lr37/Yr17/	cslv		Lr34/Yr18/
			477	477		71	71			Sr38	34	Lr34	Lr34
UESRWWN	1	Roane	165		no	105		no		no	235	515	no
UESRWWN	2	INW0411	<b>187</b>		yes	105		no		no	235	515	no
UESRWWN	3	Branson	162		no	105		no		no	235	515	no
UESRWWN	4	Bess	162	169	no	105	112	no		no	235	515	no
UESRWWN	5	LA01-425	167		no	112		no	<b>256</b>	yes	235	515	no
UESRWWN	6	IL02-19463	169		no	105	112	no		no	235	515	no
UESRWWN	7	B030543	<b>187</b>		yes	105		no		no	235	515	no
UESRWWN	8	KY97C-0321-02-01	162		no	105		no		no	235	515	no
UESRWWN	9	KY97C-0519-04-07	162		no	105		no		no	235	515	no
UESRWWN	10	KY97C-0508-01-01A-1	162		no	105		no		no	235	515	no
UESRWWN	11	IL04-8445	169		no	105		no		no	235	515	no
UESRWWN	12	IL04-11003	169		no	105		no		no	235	515	no
UESRWWN	13	OH04-264-58	162		no	105		no		no	235	515	no
UESRWWN	14	OH04-268-39	167		no	105		no		no	235	515	no
UESRWWN	15	OH05-248-38	167		no	105		no		no	235	<b>510</b>	515 <b>het?</b>
UESRWWN	16	MD00W53-07-1	167		no	<b>87</b>	105	yes		no	235	515	no
UESRWWN	17	MD01W233-07-1	167		no	<b>87</b>	105	yes		no	235	515	no
UESRWWN	18	G89209	167		no	105		no		no	235	515	no
UESRWWN	19	G89201	167		no	105		no		no	235	515	no
UESRWWN	20	G89222	167		no	105		no		no	235	515	no
UESRWWN	21	M05-1172	162		no	105		no		no	235	515	no
UESRWWN	22	M05-1526	165		no	105		no		no	235	515	no
UESRWWN	23	M05-1589	162		no	105		no		no	235	515	no
UESRWWN	24	B040798	167		no	105		no		no	235	515	no
UESRWWN	25	M05-1531	165	<b>187</b>	het	105		no		no	235	515	no
UESRWWN	26	P99751RA1-6-3-94	167		no	105		no		no	235	515	no
UESRWWN	27	P02444A1-23-1	169		no	105		no	<b>256</b>	yes	235	515	no
UESRWWN	28	P05219A1-13-16	<b>187</b>		yes	105		no		no	235	515	no
UESRWWN	29	W06-089	165		no	112		no		no	235	515	no
UESRWWN	30	W06-522A	169		no	93		no		no	235	515	no
UESRWWN	31	Z03-1281	167		no	105		no		no	235	515	no
UESRWWN	32	Z03-0496	167		no	105		no		no	235	515	no
UESRWWN	33	GA031238-DH7-7A28	<b>187</b>		yes	105		no	<b>256</b>	yes	235	515	no
UESRWWN	34	Blazerexp	<b>187</b>		yes	105		no		no	235	515	no
UESRWWN	35	Probeexp	167		no	105		no		no	235	515	no
UESRWWN	36	Rumorex	<b>187</b>		yes	112		no		no	235	515	no
UESRWWN	37	VA05W-151	162		no	<b>87</b>	105	yes		no	235	515	no
UESRWWN	38	VA05W-168	167		no	<b>87</b>	105	yes		no	235	515	no
UESRWWN	39	VA05W-258	167		no	105		no		no	235	515	no
UESRWWN	40	AR98022-19-3	167		no	105		no		no	235	515	no
UESRWWN	41	AR98023-5-1	167		no	105		no		no	235	515	no
UESRWWN	42	NC05-21090	<b>187</b>		yes	105		no	<b>256</b>	yes	235	515	no

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

2009

Nursery	Entry	Sample Name	scm9	1RS	cf132	H13	cfa2153	cfa2153	H9	Bdv3	Bdv2/3
UESRWWN	1	Roane		non-1RS	115	no	195		no	185	no
UESRWWN	2	INW0411	<b>208</b>	<b>1RS:1BL</b>	115	no	195		no	185	no
UESRWWN	3	Branson		non-1RS	115	no	220		no	185	no
UESRWWN	4	Bess		non-1RS	115	no	220		no	185	no
UESRWWN	5	LA01-425		non-1RS	115	no	195		no	185	no
UESRWWN	6	IL02-19463		non-1RS	115	no	199		no	185	no
UESRWWN	7	B030543		non-1RS	115	no	203		no	185	no
UESRWWN	8	KY97C-0321-02-01		non-1RS	115	no	203		no	185	no
UESRWWN	9	KY97C-0519-04-07		non-1RS	115	no	213		no	185	no
UESRWWN	10	KY97C-0508-01-01A-1		non-1RS	115	no	203		no	185	no
UESRWWN	11	IL04-8445		non-1RS	115	no	203		no	185	no
UESRWWN	12	IL04-11003		non-1RS	115	no	195		no	185	no
UESRWWN	13	OH04-264-58		non-1RS	115	no	203		no	185	no
UESRWWN	14	OH04-268-39		non-1RS	115	no	195	203	no	185	no
UESRWWN	15	OH05-248-38		non-1RS	115	no	203		no	185	no
UESRWWN	16	MD00W53-07-1	<b>224</b>	<b>1RS:1AL</b>	115	no	nd		nd	185	no
UESRWWN	17	MD01W233-07-1		non-1RS	115	no	nd		nd	185	no
UESRWWN	18	G89209		non-1RS	115	no	203		no	185	no
UESRWWN	19	G89201		non-1RS	115	no	203		no	185	no
UESRWWN	20	G89222		non-1RS	115	no	203		no	185	no
UESRWWN	21	M05-1172		non-1RS	115	no	169		no	185	no
UESRWWN	22	M05-1526	<b>208</b>	<b>1RS:1BL</b>	115	no	169		no	185	no
UESRWWN	23	M05-1589		non-1RS	115	no	203		no	185	no
UESRWWN	24	B040798		non-1RS	115	no	203		no	185	no
UESRWWN	25	M05-1531	<b>208</b>	<b>1RS:1BL</b>	115	no	169	203	no	185	no
UESRWWN	26	P99751RA1-6-3-94		non-1RS	115	no	213		no	185	no
UESRWWN	27	P02444A1-23-1		non-1RS	115	no	169		no	185	no
UESRWWN	28	P05219A1-13-16	<b>208</b>	<b>1RS:1BL</b>	115	no	203		no	<b>200</b>	<b>yes</b>
UESRWWN	29	W06-089		non-1RS	115	no	203		no	185	no
UESRWWN	30	W06-522A		non-1RS	153	no	203		no	185	no
UESRWWN	31	Z03-1281		non-1RS	115	no	193		no	185	no
UESRWWN	32	Z03-0496	<b>208</b>	<b>1RS:1BL</b>	115	no	195		no	185	no
UESRWWN	33	GA031238-DH7-7A28		non-1RS	115	no	203		no	185	no
UESRWWN	34	Blazerexp		non-1RS	115	no	203		no	185	no
UESRWWN	35	Probeexp		non-1RS	115	no	220		no	185	no
UESRWWN	36	Rumorex		non-1RS	115	no	207		no	185	no
UESRWWN	37	VA05W-151		non-1RS	115	no	nd		nd	185	no
UESRWWN	38	VA05W-168		non-1RS	115	no	nd		nd	185	no
UESRWWN	39	VA05W-258		non-1RS	115	no	195		no	185	no
UESRWWN	40	AR98022-19-3		non-1RS	115	no	nd		nd	185	no
UESRWWN	41	AR98023-5-1	<b>208</b>	<b>1RS:1BL</b>	115	no	203		no	185	no
UESRWWN	42	NC05-21090		non-1RS	115	no	195	207	no	185	no

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**Quality Traits**  
2009

Nursery	Entry	Sample Name	bx7oe	bx7oe	Bx7 over-expressing	umn25	umn25	umn26	umn26	Glu-D1
UESRWWN	1	Roane	403		no	275	293	390	407	het
UESRWWN	2	INW0411	403		no	275	293	390	407	het
UESRWWN	3	Branson	403		no		293		407	2+12
UESRWWN	4	Bess	403		no		293		407	2+12
UESRWWN	5	LA01-425		448	yes	275	293	390	407	het
UESRWWN	6	IL02-19463	403		no		293		407	2+12
UESRWWN	7	B030543	403		no		293		407	2+12
UESRWWN	8	KY97C-0321-02-01	403		no		293		407	2+12
UESRWWN	9	KY97C-0519-04-07	403		no		293		407	2+12
UESRWWN	10	KY97C-0508-01-01A-1		448	yes	275		390		5+10
UESRWWN	11	IL04-8445	403		no	275		390		5+10
UESRWWN	12	IL04-11003	403		no	275		390		5+10
UESRWWN	13	OH04-264-58	403	448	het	275		390	407	het
UESRWWN	14	OH04-268-39	403		no		293		407	2+12
UESRWWN	15	OH05-248-38	403		no		293		407	2+12
UESRWWN	16	MD00W53-07-1	403		no		293		407	2+12
UESRWWN	17	MD01W233-07-1	403		no		293		407	2+12
UESRWWN	18	G89209	403		no	275		390		5+10
UESRWWN	19	G89201	403		no	275		390		5+10
UESRWWN	20	G89222	403		no		293		407	2+12
UESRWWN	21	M05-1172		448	yes		293		407	2+12
UESRWWN	22	M05-1526	403		no		293		407	2+12
UESRWWN	23	M05-1589	403		no		293		407	2+12
UESRWWN	24	B040798		448	yes		293		407	2+12
UESRWWN	25	M05-1531	403		no		293		407	2+12
UESRWWN	26	P99751RA1-6-3-94	403		no	275		390		5+10
UESRWWN	27	P02444A1-23-1		448	yes		293		407	2+12
UESRWWN	28	P05219A1-13-16		448	yes	275		390		5+10
UESRWWN	29	W06-089	403		no	275		390		5+10
UESRWWN	30	W06-522A	403		no	275		390		5+10
UESRWWN	31	Z03-1281	403		no	275		390		5+10
UESRWWN	32	Z03-0496	403		no		293		407	2+12
UESRWWN	33	GA031238-DH7-7A28	403		no		293		407	2+12
UESRWWN	34	Blazerexp	403		no		293		407	2+12
UESRWWN	35	Probeexp	403		no		293		407	2+12
UESRWWN	36	Rumorex	403		no	275		390		5+10
UESRWWN	37	VA05W-151	403		no		293		407	2+12
UESRWWN	38	VA05W-168	403		no	275		390		5+10
UESRWWN	39	VA05W-258	403		no	275	293	390	407	het
UESRWWN	40	AR98022-19-3	403		no	275		390		5+10
UESRWWN	41	AR98023-5-1		448	yes		293		407	2+12
UESRWWN	42	NC05-21090	403		no		293		407	2+12

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## 2009 Uniform Southern Soft Red Winter Wheat Nursery

### Entry List

Nursery	Entry	Sample Name	Pedigree	Breeder
USSRWWN	1	AGS2000	Pio.2555/PF84301//FL 302 (formerly GA89482E7)	Check
USSRWWN	2	PioneerBrand26R61	Omega78/S76/4/Arthur71/3/Stadler//Redcoat/Wisc1/5/Coker747/6/2555sib (formerly XW663)	Check
USSRWWN	3	Coker9553	89M-4035A(IL77-2656/NK79W810/Pio2580 (formerly D00*6874-2)	Check
USSRWWN	4	VA02W-555	VA94-52-60/Pio2643//USG3209	Check
USSRWWN	5	MO011126	MO94-103/Pio2552	McKendry
USSRWWN	6	NC04-20814	NC94-6275/P86958//VA96-54-234	Murphy
USSRWWN	7	LA01140D-70	LA841/LA422//Pio26R61	Harrison
USSRWWN	8	TN802	(Cardinal/FL302)/AR EXP 494 B 2 //(Fillmore/Cardinal)/Jackson	West
USSRWWN	9	TN501	P2552//FFL EX304/Dozier	West
USSRWWN	10	W990002K1	Ciqueba/C762/3/FL72185/3/C762//ETC./SC847523/SC828351//SC838//H14H15/ Williams,H18/NC96BGTA6 (Saluda*3/PI42772) T.mono.Aeg	Edge
USSRWWN	11	W980031K1	FL931339AS (USW97-19 H21, Purple awn)//LA8529-B-3-5-11-2-B-1(USW97-27 C797/FL7297 Awned)	Edge
USSRWWN	12	W980031L1	FL931339AS (USW97-19 H21, Purple awn)//LA8529-B-3-5-11-2-B-1(USW97-27 C797/FL7297 Awned)	Edge
USSRWWN	13	GA031238-DH7-7E34	96229-3E39(sis SS8641)/USG3295	Johnson
USSRWWN	14	GA001170-7E26	Pio 26R61/96667(Saluda/*2 NC109PM)//AGS2000	Johnson
USSRWWN	15	GA001169-7E15	96667 *2(Saluda/*2 NC109PM)/AGS2000	Johnson
USSRWWN	16	GA001492-7E9	941396/2*AGS2000	Johnson
USSRWWN	17	MD01W233-07-1	McCormick/Choptank	Costa
USSRWWN	18	MD00W53-07-1	XW672/Tribute	Costa
USSRWWN	19	G89270	OH413/C9663	Brown
USSRWWN	20	G89283	T95/C86-33	Brown
USSRWWN	21	G89267	VA91-54-219/OH413	Brown
USSRWWN	22	B040798	BL920520/9244BX-2-1-4	Hancock
USSRWWN	23	D05-6189	AR584A*3-2/LA87-167-D8-10-2	Hancock
USSRWWN	24	D05-6441	FFR502/AR584A*3-2	Hancock
USSRWWN	25	FL01029-K1	LA94162D157-1/AGS2000	Barnett/Blount
USSRWWN	26	Z03-0496	Clark/W-65//Clemson	Moreno
USSRWWN	27	ARS03-5358	Pat/TX98D2106	Marshall
USSRWWN	28	ARS05-0443	Neuse/TX98D2334	Marshall
USSRWWN	29	VA04W-90	SS520/Pio2552//Roane	Griffey
USSRWWN	30	VA05W-139	Pio26R24/McCormick	Griffey
USSRWWN	31	VA06W-392	VA96W-49(Savannah/Madison)/AGS2000//RC-Strategy(VA98W-586)	Griffey
USSRWWN	32	VA05W-251	VA98W-130(Savannah/VA87-54-558//VA88-54-328/Gore)/VA96W-348(IN81401A1-32- 2/FFR555W)/Pio26R61	Griffey
USSRWWN	33	LA01034D-235-1	LA94214D200(PIO2684/CK9663)/LA841	Harrison
USSRWWN	34	LA01029D-139-3	LA94162D157-1(FR93.13/FL85238-G76)/AGS2000	Harrison
USSRWWN	35	LA01139D-56-1	LA00056(LA841/LA422)/P26R61	Harrison
USSRWWN	36	AR96052-4-3	Ceruga-15/Pio2643	Bacon
USSRWWN	37	AR98088-1-1	Pio2580/Jaypee	Bacon
USSRWWN	38	NC05-21090	Burr/NC96BGTA6 sib//Natchez	Murphy
USSRWWN	39	NC05-20276	P86300(SN)/NC95-22426	Murphy
USSRWWN	40	NC05-19684	P92118(SN)/VA94-52-25//NC96BGTD3	Murphy

## 2009 Uniform Southern Soft Red Winter Wheat Nursery

### Summary of all Markers

Nursery	Entry	Sample Name	Rht1-	Rht2-	Rht8	Ppd-	Fhb Ernie		Fhb 2DL-	Fhb 5A	Fhb 5A	Fhb Ernie	Fhb Ernie
			B1b	D1b		D1a	Fhb1	3Bc	Wuhan1/W14	Ernie	Ning7840	4B	2B
USSRWWN	1	AGS2000	no	yes	nd	no	no	no	no	no	no	no	no
USSRWWN	2	PioneerBrand26R61	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	3	Coker9553	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	4	VA02W-555	no	yes	no	yes	yes	yes	no	no	no	no	yes
USSRWWN	5	MO011126	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	6	NC04-20814	yes	no	no	yes	no	?	no	no	no	no	yes
USSRWWN	7	LA01140D-70	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	8	TN802	no	yes	yes	yes	no	no	no	no	no	no	no
USSRWWN	9	TN501	no	no	yes	yes	no	no	no	het	no	no	no
USSRWWN	10	W990002K1	no	yes	no	no	no	no	no	no	no	no	yes
USSRWWN	11	W980031K1	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	12	W980031L1	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	13	GA031238-DH7-7E34	no	yes	no	yes	no	no	no	no	no	no	yes
USSRWWN	14	GA001170-7E26	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	15	GA001169-7E15	no	yes	no	no	no	no	no	no	no	no	no
USSRWWN	16	GA001492-7E9	no	yes	no	yes	no	no	no	no	no	yes?	no
USSRWWN	17	MD01W233-07-1	no	yes	no	het	no	no	no	het	no	no	no
USSRWWN	18	MD00W53-07-1	no	yes	no	no	yes	?	no	no	no	no	no
USSRWWN	19	G89270	yes	no	no	no	no	?	no	no	no	no	no
USSRWWN	20	G89283	yes	no	no	no	no	yes	no	no	no	no	no
USSRWWN	21	G89267	yes	no	no	no	no	yes	no	no	no	yes?	yes
USSRWWN	22	B040798	yes	no	no	yes	no	no	no	no	no	no	no
USSRWWN	23	D05-6189	yes	no	no	het	no	no	no	no	no	no	no
USSRWWN	24	D05-6441	no	yes	no	yes	no	no	no	no	no	no	yes
USSRWWN	25	FL01029-K1	no	yes	het	het	no	no	no	no	no	no	het
USSRWWN	26	Z03-0496	yes	no	no	yes	no	no	no	yes	no	no	no
USSRWWN	27	ARS03-5358	no	no	no	no	no	no	no	no	no	no	nd
USSRWWN	28	ARS05-0443	yes	no	no	no	no	?	no	no	no	no	no
USSRWWN	29	VA04W-90	no	yes	no	yes	no	?	no	no	no	no	no
USSRWWN	30	VA05W-139	no	yes	no	yes	no	no	no	no	no	no	no
USSRWWN	31	VA06W-392	no	yes	no	no	no	no	no	no	no	no	no
USSRWWN	32	VA05W-251	no	yes	no	yes	het	?	no	no	no	no	no
USSRWWN	33	LA01034D-235-1	no	yes	yes	yes	no	no	no	no	no	no	no
USSRWWN	34	LA01029D-139-3	no	yes	no	no	no	no	no	no	no	no	no
USSRWWN	35	LA01139D-56-1	no	yes	no	yes	no	no	no	no	no	no	yes
USSRWWN	36	AR96052-4-3	no	yes	no	yes	no	no	no	no	no	no	yes
USSRWWN	37	AR98088-1-1	no	yes	no	het	no	no	no	yes	no	no	no
USSRWWN	38	NC05-21090	no	yes	no	yes	no	?	no	no	no	no	yes
USSRWWN	39	NC05-20276	no	yes	no	no	no	no	no	yes?	no	no	yes
USSRWWN	40	NC05-19684	no	yes	no	yes	no	no	no	no	no	no	yes

RhtW = wild type; RhtM = dwarfing = yes

Ppd-D1a = photoperiod insensitive = yes

"nd" = not determined or lack of amplification

"?" 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**



## 2009 Uniform Southern Soft Red Winter Wheat Nursery

### Summary of all Markers

Nursery	Entry	Sample Name	Sr24/ Lr37/Yr17/ Lr34/Yr18/				1RS	H13	H9	Bdv2/3	Bx7 over-expressing	Glu-D1
			Sr36	Lr24	Sr38	Pm38						
USSRWWN	1	AGS2000	no	no	no	no	non-1RS	no	no	nd	no	5+10
USSRWWN	2	PioneerBrand26R61	no	no	no	no	<b>1RS:1BL</b>	no	no	no	yes	5+10
USSRWWN	3	Coker9553	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	4	VA02W-555	yes	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	5	MO011126	no	no	no	no	non-1RS	no	no	no	yes	2+12
USSRWWN	6	NC04-20814	yes	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	7	LA01140D-70	no	no	yes	no	non-1RS	no	no	no	yes	5+10
USSRWWN	8	TN802	no	no	no	no	non-1RS	no	no	no	no	het
USSRWWN	9	TN501	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	10	W990002K1	yes	no	yes	no	non-1RS	no	no	no	no	2+12
USSRWWN	11	W980031K1	no	no	no	no	<b>1RS:1BL</b>	no	no	no	yes	5+10
USSRWWN	12	W980031L1	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	13	GA031238-DH7-7E34	yes	no	yes	no	non-1RS	no	no	no	no	2+12
USSRWWN	14	GA001170-7E26	no	no	no	no	<b>1RS:1BL</b>	no	no	no	yes	5+10
USSRWWN	15	GA001169-7E15	no	yes	no	no	non-1RS	no	nd	no	no	2+12
USSRWWN	16	GA001492-7E9	no	no	no	no	non-1RS	no	no	no	no	5+10
USSRWWN	17	MD01W233-07-1	no	yes	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	18	MD00W53-07-1	no	yes	no	no	non-1RS	no	nd	no	no	2+12
USSRWWN	19	G89270	no	no	no	no	non-1RS	no	no	no	no	5+10
USSRWWN	20	G89283	no	no	no	no	non-1RS	no	no	no	no	5+10
USSRWWN	21	G89267	yes	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	22	B040798	no	no	no	no	non-1RS	no	no	no	yes	2+12
USSRWWN	23	D05-6189	no	no	yes	no	non-1RS	no	no	no	yes	2+12
USSRWWN	24	D05-6441	yes	no	no	no	non-1RS	no	no	no	no	het
USSRWWN	25	FL01029-K1	het	no	no	no	non-1RS	no	no	no	no	het
USSRWWN	26	Z03-0496	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	27	ARS03-5358	yes	no	no	no	<b>1RS:1AL</b>	no	no	no	no	5+10
USSRWWN	28	ARS05-0443	no	no	yes	no	non-1RS	no	no	no	no	5+10
USSRWWN	29	VA04W-90	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	30	VA05W-139	no	no	no	no	non-1RS	no	no	no	no	5+10
USSRWWN	31	VA06W-392	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	32	VA05W-251	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	33	LA01034D-235-1	no	no	yes	no	non-1RS	no	no	no	yes	2+12
USSRWWN	34	LA01029D-139-3	no	no	yes	no	non-1RS	no	no	no	no	2+12
USSRWWN	35	LA01139D-56-1	yes	no	yes	no	non-1RS	no	no	no	no	5+10
USSRWWN	36	AR96052-4-3	yes	no	no	no	non-1RS	no	no	no	no	5+10
USSRWWN	37	AR98088-1-1	no	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	38	NC05-21090	yes	no	yes	no	non-1RS	no	no	no	no	2+12
USSRWWN	39	NC05-20276	yes	no	no	no	non-1RS	no	no	no	no	2+12
USSRWWN	40	NC05-19684	yes	no	no	no	non-1RS	yes	no	no	no	2+12

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Target alleles are in **bold or italics**

## Dwarfing genes & Photoperiod insensitivity

2009

Nursery	Entry	Sample Name	Rht1W	Rht1M	Rht2W	Rht2M	Rht1-B1b	Rht2-D1b	gwm			Ppd	Ppd	Ppd-D1a
									261	261	Rht8			
USSRWWN	1	AGS2000	360			251	no	yes	nd		nd		413	no
USSRWWN	2	PioneerBrand26R61	360			251	no	yes	165		no	283		yes
USSRWWN	3	Coker9553	360			251	no	yes	203		no	283		yes
USSRWWN	4	VA02W-555	360			251	no	yes	165		no	283		yes
USSRWWN	5	MO011126	360			251	no	yes	165		no	283		yes
USSRWWN	6	NC04-20814		<b>366</b>	250		yes	no	175		no	283		yes
USSRWWN	7	LA01140D-70	360			251	no	yes	203		no	283		yes
USSRWWN	8	TN802	360			251	no	yes	193		yes	283		yes
USSRWWN	9	TN501	360		250		no	no	193		yes	283		yes
USSRWWN	10	W990002K1	360			251	no	yes	175		no		413	no
USSRWWN	11	W980031K1	360			251	no	yes	165	203	no	283		yes
USSRWWN	12	W980031L1	360			251	no	yes	203		no	283		yes
USSRWWN	13	GA031238-DH7-7E34	360			251	no	yes	203		no	283		yes
USSRWWN	14	GA001170-7E26	360			251	no	yes	203		no	283		yes
USSRWWN	15	GA001169-7E15	360			251	no	yes	203		no		413	no
USSRWWN	16	GA001492-7E9	360			251	no	yes	175	203	no	283		yes
USSRWWN	17	MD01W233-07-1	360			251	no	yes	175		no	283	413	het
USSRWWN	18	MD00W53-07-1	360			251	no	yes	175		no		413	no
USSRWWN	19	G89270		<b>366</b>	250		yes	no	175		no		413	no
USSRWWN	20	G89283		<b>366</b>	250		yes	no	175		no		413	no
USSRWWN	21	G89267		<b>366</b>	250		yes	no	163		no		413	no
USSRWWN	22	B040798		<b>366</b>	250		yes	no	175		no	283		yes
USSRWWN	23	D05-6189		<b>366</b>	250		yes	no	165		no	283	413	het
USSRWWN	24	D05-6441	360			251	no	yes	201		no	283		yes
USSRWWN	25	FL01029-K1	360			251	no	yes	175	<b>193</b>	het	283	413	het
USSRWWN	26	Z03-0496		<b>366</b>	250		yes	no	175		no	283		yes
USSRWWN	27	ARS03-5358	360		250		no	no	175		no		413	no
USSRWWN	28	ARS05-0443		<b>366</b>	250		yes	no	211		no		413	no
USSRWWN	29	VA04W-90	360			251	no	yes	203		no	283		yes
USSRWWN	30	VA05W-139	360			251	no	yes	201		no	283		yes
USSRWWN	31	VA06W-392	360			251	no	yes	175		no		413	no
USSRWWN	32	VA05W-251	360			251	no	yes	165		no	283		yes
USSRWWN	33	LA01034D-235-1	360			251	no	yes	193		yes	283		yes
USSRWWN	34	LA01029D-139-3	360			251	no	yes	175		no		413	no
USSRWWN	35	LA01139D-56-1	360			251	no	yes	165		no	283		yes
USSRWWN	36	AR96052-4-3	360			251	no	yes	203		no	283		yes
USSRWWN	37	AR98088-1-1	360			251	no	yes	165	175	no	283	413	het
USSRWWN	38	NC05-21090	360			251	no	yes	201		no	283		yes
USSRWWN	39	NC05-20276	360			251	no	yes	203		no		413	no
USSRWWN	40	NC05-19684	360			251	no	yes	203		no	283		yes

RhtW = wild type; RhtM = dwarfing = yes

Ppd-D1a = photoperiod insensitive = yes

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**FHB QTLs**  
2009

Nursery	Entry	Sample Name	umn10	umn10	gwm533	gwm533	gwm533	Fhb1
USSRWWN	1	AGS2000	236		119			no
USSRWWN	2	PioneerBrand26R61	236		119			no
USSRWWN	3	Coker9553	236		119			no
USSRWWN	4	VA02W-555	<b>239</b>		<b>141</b>			<b>yes</b>
USSRWWN	5	MO011126	236		119			no
USSRWWN	6	NC04-20814	236		119			no
USSRWWN	7	LA01140D-70	236		119			no
USSRWWN	8	TN802	236		119			no
USSRWWN	9	TN501	nd		119			no
USSRWWN	10	W990002K1	236		119			no
USSRWWN	11	W980031K1	236		119			no
USSRWWN	12	W980031L1	236		129			no
USSRWWN	13	GA031238-DH7-7E34	236		119			no
USSRWWN	14	GA001170-7E26	236		119			no
USSRWWN	15	GA001169-7E15	236		119			no
USSRWWN	16	GA001492-7E9	236		119			no
USSRWWN	17	MD01W233-07-1	229	236	119	147	157	no
USSRWWN	18	MD00W53-07-1	<b>239</b>		<b>141</b>			<b>yes</b>
USSRWWN	19	G89270	229		147	157		no
USSRWWN	20	G89283	229		147	157		no
USSRWWN	21	G89267	236		129			no
USSRWWN	22	B040798	236		129			no
USSRWWN	23	D05-6189	236		119			no
USSRWWN	24	D05-6441	236		119			no
USSRWWN	25	FL01029-K1	236		119			no
USSRWWN	26	Z03-0496	236		119			no
USSRWWN	27	ARS03-5358	236		119			no
USSRWWN	28	ARS05-0443	236		nd			no
USSRWWN	29	VA04W-90	229		157			no
USSRWWN	30	VA05W-139	236		119			no
USSRWWN	31	VA06W-392	236		119	156		no
USSRWWN	32	VA05W-251	229	<b>239</b>	<b>141</b>	147	157	<b>het</b>
USSRWWN	33	LA01034D-235-1	236		119	162		no
USSRWWN	34	LA01029D-139-3	236		nd			no
USSRWWN	35	LA01139D-56-1	236		119			no
USSRWWN	36	AR96052-4-3	236		119	129		no
USSRWWN	37	AR98088-1-1	229		147	157		no
USSRWWN	38	NC05-21090	236		129			no
USSRWWN	39	NC05-20276	229		147	157	162	no
USSRWWN	40	NC05-19684	236		119			no

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**FHB QTLs**  
2009

Nursery	Entry	Sample Name	gwm	gwm	gwm	gwm	wmc	wmc	wmc	wmc	wmc	wmc	wmc	wmc	Fhb Ernie	
			285	285	612	612	307	307	1	1	418	471	471	471	471	3Bc
USSRWWN	1	AGS2000	226		291		<b>142</b>		149		271	179	215		no	
USSRWWN	2	PioneerBrand26R61	220		276		144		151		271	179	215		no	
USSRWWN	3	Coker9553	216		276		<b>142</b>		149		269	179	221		no	
USSRWWN	4	VA02W-555	<b>245</b>		<b>287</b>		<b>142</b>		<b>153</b>		<b>262</b>	181	<b>260</b>		yes	
USSRWWN	5	MO011126	226		291		144		149		269	179	217		no	
USSRWWN	6	NC04-20814	244		289		<b>142</b>		149		<b>262</b>	169	<b>260</b>		?	
USSRWWN	7	LA01140D-70	220		274		144		151	163	271	179	217		no	
USSRWWN	8	TN802	226		280	291	<b>142</b>		151		271	179	217		no	
USSRWWN	9	TN501	nd		280		<b>142</b>		151		271	179	215	217	no	
USSRWWN	10	W990002K1	226		291		144		151		<b>262</b>	179	217		no	
USSRWWN	11	W980031K1	220		274		144		151		271	179	215		no	
USSRWWN	12	W980031L1	226		291		144		149		269	169	217		no	
USSRWWN	13	GA031238-DH7-7E34	226		291		144		149		269	169	179	217	no	
USSRWWN	14	GA001170-7E26	220	226	274		144		151		271	179	215	217	no	
USSRWWN	15	GA001169-7E15	226		291		144		149		269	179	217		no	
USSRWWN	16	GA001492-7E9	226		291		<b>142</b>	144	149		269	179	221		no	
USSRWWN	17	MD01W233-07-1	218	244	280		<b>142</b>		156		269	181	217		no	
USSRWWN	18	MD00W53-07-1	220		nd		<b>142</b>		149		<b>262</b>	177	181	217	<b>260</b>	?
USSRWWN	19	G89270	220		289		<b>142</b>		<b>153</b>		<b>262</b>	177	179		?	
USSRWWN	20	G89283	<b>245</b>		<b>287</b>		<b>142</b>		<b>153</b>		<b>262</b>	177	179		yes	
USSRWWN	21	G89267	<b>245</b>		<b>287</b>		<b>142</b>		149	<b>153</b>	<b>262</b>	179	217		yes	
USSRWWN	22	B040798	226		280		<b>142</b>		149		271	169	215		no	
USSRWWN	23	D05-6189	226		291		144		149		269	179	221		no	
USSRWWN	24	D05-6441	226		291		144		149	151	271	169	179	217	221	no
USSRWWN	25	FL01029-K1	226		262	291	<b>142</b>		149		271	179	215	221		no
USSRWWN	26	Z03-0496	220		276		144		151		271	179	215		no	
USSRWWN	27	ARS03-5358	216		<b>287</b>		<b>142</b>		149		269	179	219		no	
USSRWWN	28	ARS05-0443	<b>245</b>		291		<b>142</b>		<b>153</b>		271	181	215		?	
USSRWWN	29	VA04W-90	<b>245</b>		282		nd		<b>153</b>		<b>262</b>	169	181	217		?
USSRWWN	30	VA05W-139	226		289		144		149		269	169	<b>260</b>		no	
USSRWWN	31	VA06W-392	226		291		144		149		269	181	217		no	
USSRWWN	32	VA05W-251	222	226	252	257	<b>142</b>		149		<b>262</b>	169	179	<b>260</b>		?
USSRWWN	33	LA01034D-235-1	222		262		<b>142</b>		151		269	169	217	221		no
USSRWWN	34	LA01029D-139-3	218		289		<b>142</b>		149	<b>153</b>	271	179	215		no	
USSRWWN	35	LA01139D-56-1	220		280		144		163		271	179	217		no	
USSRWWN	36	AR96052-4-3	220	226	280	291	<b>142</b>		149	163	269	169	221		no	
USSRWWN	37	AR98088-1-1	226		282	291	144		149		260	179	217		no	
USSRWWN	38	NC05-21090	<b>245</b>		282		<b>142</b>		<b>153</b>		<b>262</b>	179	217		?	
USSRWWN	39	NC05-20276	226		291		144		149		<b>262</b>	169	221		no	
USSRWWN	40	NC05-19684	226		291		144		149		269	179	217		no	

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**FHB QTLs**  
2009

Nursery	Entry	Sample Name	cfb	cfb	gwm	gwm	gwm	gwm	wmc	wmc	gwm	gwm	Fhb 2DL-Wuhan1/W14
			233	233	539	539	608	608	144	144	349	349	
USSRWWN	1	AGS2000	278	280	135		158		139		228		no
USSRWWN	2	PioneerBrand26R61	288		137		156		<b>141</b>		247		no
USSRWWN	3	Coker9553	280		131	133	150		<b>141</b>		240		no
USSRWWN	4	VA02W-555	272		137		154		139		240		no
USSRWWN	5	MO011126	270		133	135	156		<b>141</b>		238	240	no
USSRWWN	6	NC04-20814	272		135		162		139		232		no
USSRWWN	7	LA01140D-70	278	288	137		150	156	<b>141</b>		232		no
USSRWWN	8	TN802	290		131		162		139		240		no
USSRWWN	9	TN501	272		135		162		<b>141</b>		228		no
USSRWWN	10	W990002K1	272		131		162		139		247		no
USSRWWN	11	W980031K1	288		137		156		<b>141</b>		247		no
USSRWWN	12	W980031L1	272		133		162		<b>141</b>		247		no
USSRWWN	13	GA031238-DH7-7E34	278		131		170		139		247		no
USSRWWN	14	GA001170-7E26	262		137		156	158	<b>141</b>		240		no
USSRWWN	15	GA001169-7E15	272		131		156		139		240		no
USSRWWN	16	GA001492-7E9	278	288	135		158		139	<b>141</b>	228		no
USSRWWN	17	MD01W233-07-1	272		131	133	154	162	<b>141</b>		<b>215</b>	247	no
USSRWWN	18	MD00W53-07-1	278		135		150		<b>141</b>		230		no
USSRWWN	19	G89270	280		137		154		137		230		no
USSRWWN	20	G89283	284		137		150		137		230		no
USSRWWN	21	G89267	290		135		162		137	139	240		no
USSRWWN	22	B040798	270		139		156		137		<b>215</b>		no
USSRWWN	23	D05-6189	290		137		164		137		nd		no
USSRWWN	24	D05-6441	272		137		154		137	139	247		no
USSRWWN	25	FL01029-K1	278		135		158		139		228		no
USSRWWN	26	Z03-0496	278		131		150		<b>141</b>		232		no
USSRWWN	27	ARS03-5358	272		131		156		<b>141</b>		230		no
USSRWWN	28	ARS05-0443	274		135		<b>152</b>		139		240		no
USSRWWN	29	VA04W-90	280		131		150		139		240		no
USSRWWN	30	VA05W-139	272		137		162		139		240		no
USSRWWN	31	VA06W-392	278		135		150	158	139		240		no
USSRWWN	32	VA05W-251	280		131		150		139		249		no
USSRWWN	33	LA01034D-235-1	272		133		156		139		240		no
USSRWWN	34	LA01029D-139-3	278		135		158		139		228		no
USSRWWN	35	LA01139D-56-1	288		137		156		<b>141</b>		247		no
USSRWWN	36	AR96052-4-3	272		137		154		139		240		no
USSRWWN	37	AR98088-1-1	272		133		158		<b>141</b>		247		no
USSRWWN	38	NC05-21090	282		152		160		139		244		no
USSRWWN	39	NC05-20276	280		<b>124</b>		150		137		232		no
USSRWWN	40	NC05-19684	270		131		150		<b>141</b>		240		no

"nd" = not determined or lack of amplification

?" 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**  
2009

Nursery	Entry	Sample Name	gwm	gwm	wmc	wmc	barc	barc	barc	barc	gwm	gwm	barc	barc	Fhb 5A	Fhb 5A
			<b>304</b>	<b>304</b>	<b>705</b>	<b>705</b>	<b>117</b>	<b>117</b>	<b>186</b>	<b>186</b>	<b>156</b>	<b>156</b>	<b>56</b>	<b>56</b>	Ernie	Ning7840
USSRWWN	1	AGS2000	199		162		217		<b>203</b>		<b>313</b>		104		no	no
USSRWWN	2	PioneerBrand26R61	201		133		217		<b>203</b>		294		104		no	no
USSRWWN	3	Coker9553	199		166		217		<b>203</b>		316		104		no	no
USSRWWN	4	VA02W-555	199		164		217		<b>203</b>		312	339	104		no	no
USSRWWN	5	MO011126	199		164		217		<b>203</b>		283		104		no	no
USSRWWN	6	NC04-20814	215		133	164	225		<i>213</i>		283		<b>115</b>		no	no
USSRWWN	7	LA01140D-70	201		133		217		<b>203</b>		294		104		no	no
USSRWWN	8	TN802	199		164		217		<b>203</b>		<b>313</b>		104	<b>115</b>	no	no
USSRWWN	9	TN501	199	215	<b>135</b>	164	217	225	<b>203</b>	<i>213</i>	<b>313</b>		<b>115</b>		<b>het</b>	no
USSRWWN	10	W990002K1	199		162		217		<b>203</b>		296		104		no	no
USSRWWN	11	W980031K1	201		133		217		<b>203</b>		294		104		no	no
USSRWWN	12	W980031L1	199		164		217		<b>203</b>		283		104		no	no
USSRWWN	13	GA031238-DH7-7E34	201		133		217		<b>203</b>		294		104		no	no
USSRWWN	14	GA001170-7E26	201		<b>135</b>		217		<b>203</b>		287		104		no	no
USSRWWN	15	GA001169-7E15	201		<b>135</b>		217		<b>203</b>		287		104		no	no
USSRWWN	16	GA001492-7E9	199		162		217		<b>203</b>		<b>313</b>		104		no	no
USSRWWN	17	MD01W233-07-1	199	<b>221</b>	<b>135</b>	162	217	<b>221</b>	<b>203</b>		311	<b>313</b>	<b>115</b>		<b>het</b>	no
USSRWWN	18	MD00W53-07-1	199		162		217		<b>203</b>		294		104		no	no
USSRWWN	19	G89270	199		164		217		<b>203</b>		<b>313</b>		104		no	no
USSRWWN	20	G89283	199		164		217		<b>203</b>		<b>313</b>		104		no	no
USSRWWN	21	G89267	199		164		217		<b>203</b>		283		104		no	no
USSRWWN	22	B040798	199		162		217		<b>203</b>		<b>313</b>		104		no	no
USSRWWN	23	D05-6189	203		141		217		215		294		104		no	no
USSRWWN	24	D05-6441	199		162		217		<b>203</b>		312		104		no	no
USSRWWN	25	FL01029-K1	199		162		217		<b>203</b>		283		104		no	no
USSRWWN	26	Z03-0496	<b>221</b>		<b>135</b>		<b>221</b>		<b>203</b>		283		<b>115</b>		<b>yes</b>	no
USSRWWN	27	ARS03-5358	199		164		217		<b>203</b>		<b>313</b>		104		no	no
USSRWWN	28	ARS05-0443	199		164		217		<b>203</b>		294		104		no	no
USSRWWN	29	VA04W-90	199		164		217		<b>203</b>		283		104		no	no
USSRWWN	30	VA05W-139	199		164		217		<b>203</b>		283		104		no	no
USSRWWN	31	VA06W-392	199		164		217		<b>203</b>		283		104		no	no
USSRWWN	32	VA05W-251	199		162		217		<b>203</b>		287		104		no	no
USSRWWN	33	LA01034D-235-1	199		162		217		<b>203</b>		<b>313</b>		104		no	no
USSRWWN	34	LA01029D-139-3	199		162		217		<b>203</b>		283	312	104		no	no
USSRWWN	35	LA01139D-56-1	199	201	133		217		<b>203</b>		304		104		no	no
USSRWWN	36	AR96052-4-3	199		166		217		<b>203</b>		294	312	104		no	no
USSRWWN	37	AR98088-1-1	<b>221</b>		<b>135</b>		<b>221</b>		<b>203</b>		294	316	<b>115</b>		<b>yes</b>	no
USSRWWN	38	NC05-21090	199		164		217		<b>203</b>		283		104		no	no
USSRWWN	39	NC05-20276	<b>221</b>		133		<b>221</b>		<b>203</b>		294		<b>115</b>		<b>yes?</b>	no
USSRWWN	40	NC05-19684	199		164		217		<b>203</b>		283		104		no	no

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



## Leaf, Stripe & Stem Rusts

2009

Nursery	Entry	Sample Name	wmc	wmc	Sr36	barc	barc	Sr24/Lr24	ventriup	Lr37/Yr17/Sr38	cslv		
			477	477		71	71				34	Lr34	Lr34/Yr18/Pm38
USSRWWN	1	AGS2000	165		no	112		no		no	235	515	no
USSRWWN	2	PioneerBrand26R61	169		no	112		no		no	235	515	no
USSRWWN	3	Coker9553	169		no	105		no		no	235	515	no
USSRWWN	4	VA02W-555	<b>187</b>		<b>yes</b>	105		no		no	235	515	no
USSRWWN	5	MO011126	169		no	105		no		no	235	515	no
USSRWWN	6	NC04-20814	<b>187</b>		<b>yes</b>	105		no		no	235	515	no
USSRWWN	7	LA01140D-70	162	169	no	112		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	8	TN802	162		no	112		no		no	235	515	no
USSRWWN	9	TN501	162	167	no	105		no		no	235	515	no
USSRWWN	10	W990002K1	<b>187</b>		<b>yes</b>	112		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	11	W980031K1	169		no	112		no		no	235	515	no
USSRWWN	12	W980031L1	162		no	105		no		no	235	515	no
USSRWWN	13	GA031238-DH7-7E34	<b>187</b>		<b>yes</b>	105		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	14	GA001170-7E26	165		no	112		no		no	235	515	no
USSRWWN	15	GA001169-7E15	167		no	<b>87</b>	105	<b>yes</b>		no	235	515	no
USSRWWN	16	GA001492-7E9	165		no	112		no		no	235	515	no
USSRWWN	17	MD01W233-07-1	162	167	no	<b>87</b>	105	<b>yes</b>		no	235	515	no
USSRWWN	18	MD00W53-07-1	167		no	<b>87</b>	105	<b>yes</b>		no	235	515	no
USSRWWN	19	G89270	167		no	105		no		no	235	515	no
USSRWWN	20	G89283	165		no	105		no		no	235	515	no
USSRWWN	21	G89267	<b>187</b>		<b>yes</b>	105		no		no	235	515	no
USSRWWN	22	B040798	167		no	105		no		no	235	515	no
USSRWWN	23	D05-6189	162		no	112		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	24	D05-6441	<b>187</b>		<b>yes</b>	112		no		no	235	515	no
USSRWWN	25	FL01029-K1	165	<b>187</b>	<b>het</b>	112		no		no	235	515	no
USSRWWN	26	Z03-0496	167		no	105		no		no	235	515	no
USSRWWN	27	ARS03-5358	<b>187</b>		<b>yes</b>	112		no		no	235	515	no
USSRWWN	28	ARS05-0443	169		no	105		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	29	VA04W-90	165		no	105		no		no	235	515	no
USSRWWN	30	VA05W-139	162		no	105		no		no	235	515	no
USSRWWN	31	VA06W-392	165		no	105		no		no	235	515	no
USSRWWN	32	VA05W-251	167		no	105		no		no	235	515	no
USSRWWN	33	LA01034D-235-1	162		no	105		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	34	LA01029D-139-3	165		no	112		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	35	LA01139D-56-1	<b>187</b>		<b>yes</b>	112		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	36	AR96052-4-3	<b>187</b>		<b>yes</b>	105		no		no	235	515	no
USSRWWN	37	AR98088-1-1	169		no	105	112	no		no	235	515	no
USSRWWN	38	NC05-21090	<b>187</b>		<b>yes</b>	105		no	<b>256</b>	<b>yes</b>	235	515	no
USSRWWN	39	NC05-20276	<b>187</b>		<b>yes</b>	112		no		no	235	515	no
USSRWWN	40	NC05-19684	<b>187</b>		<b>yes</b>	105		no		no	235	515	no

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Target alleles are in **bold or italics**



**Rye Translocation -- Hessian Fly -- Barley Yellow Dwarf Virus**  
2009

Nursery	Entry	Sample Name	scm9	1RS	cf132	H13	cfa2153	cfa2153	H9	Bdv3	Bdv2/3
USSRWWN	1	AGS2000		non-1RS	115	no	203		no	nd	nd
USSRWWN	2	PioneerBrand26R61	<b>208</b>	<b>1RS:1BL</b>	115	no	193		no	185	no
USSRWWN	3	Coker9553		non-1RS	115	no	205		no	185	no
USSRWWN	4	VA02W-555		non-1RS	115	no	203		no	185	no
USSRWWN	5	MO011126		non-1RS	115	no	213		no	185	no
USSRWWN	6	NC04-20814		non-1RS	115	no	203	207	no	185	no
USSRWWN	7	LA01140D-70		non-1RS	115	no	193	203	no	185	no
USSRWWN	8	TN802		non-1RS	115	no	203		no	185	no
USSRWWN	9	TN501		non-1RS	115	no	203		no	185	no
USSRWWN	10	W990002K1		non-1RS	115	no	203		no	185	no
USSRWWN	11	W980031K1	<b>208</b>	<b>1RS:1BL</b>	115	no	193		no	185	no
USSRWWN	12	W980031L1		non-1RS	115	no	203		no	185	no
USSRWWN	13	GA031238-DH7-7E34		non-1RS	115	no	203		no	185	no
USSRWWN	14	GA001170-7E26	<b>208</b>	<b>1RS:1BL</b>	115	no	193		no	185	no
USSRWWN	15	GA001169-7E15		non-1RS	115	no	nd		nd	185	no
USSRWWN	16	GA001492-7E9		non-1RS	115	no	203		no	185	no
USSRWWN	17	MD01W233-07-1		non-1RS	115	no	203		no	185	no
USSRWWN	18	MD00W53-07-1		non-1RS	115	no	nd		nd	185	no
USSRWWN	19	G89270		non-1RS	115	no	203		no	185	no
USSRWWN	20	G89283		non-1RS	115	no	193		no	185	no
USSRWWN	21	G89267		non-1RS	115	no	195		no	185	no
USSRWWN	22	B040798		non-1RS	115	no	203		no	185	no
USSRWWN	23	D05-6189		non-1RS	115	no	203		no	185	no
USSRWWN	24	D05-6441		non-1RS	115	no	203		no	185	no
USSRWWN	25	FL01029-K1		non-1RS	115	no	203		no	185	no
USSRWWN	26	Z03-0496		non-1RS	115	no	195		no	185	no
USSRWWN	27	ARS03-5358	<b>224</b>	<b>1RS:1AL</b>	115	no	207		no	185	no
USSRWWN	28	ARS05-0443		non-1RS	115	no	199		no	185	no
USSRWWN	29	VA04W-90		non-1RS	115	no	195	213	no	185	no
USSRWWN	30	VA05W-139		non-1RS	115	no	203		no	185	no
USSRWWN	31	VA06W-392		non-1RS	115	no	203		no	185	no
USSRWWN	32	VA05W-251		non-1RS	115	no	203		no	185	no
USSRWWN	33	LA01034D-235-1		non-1RS	115	no	203		no	185	no
USSRWWN	34	LA01029D-139-3		non-1RS	115	no	203		no	185	no
USSRWWN	35	LA01139D-56-1		non-1RS	115	no	193		no	185	no
USSRWWN	36	AR96052-4-3		non-1RS	115	no	201		no	185	no
USSRWWN	37	AR98088-1-1		non-1RS	115	no	195	203	no	185	no
USSRWWN	38	NC05-21090		non-1RS	115	no	197	207	no	185	no
USSRWWN	39	NC05-20276		non-1RS	115	no	181		no	185	no
USSRWWN	40	NC05-19684		non-1RS	<b>153</b>	<b>yes</b>	203		no	185	no

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## Quality Traits

2009

Nursery	Entry	Sample Name	bx7oe	bx7oe	Bx7 over-expressing	umn25	umn25	umn26	umn26	Glu-D1
USSRWWN	1	AGS2000	403		no	275		390		5+10
USSRWWN	2	PioneerBrand26R61		<b>448</b>	yes	275		390		5+10
USSRWWN	3	Coker9553	403		no		293		407	2+12
USSRWWN	4	VA02W-555	403		no		293		407	2+12
USSRWWN	5	MO011126		<b>448</b>	yes		293		407	2+12
USSRWWN	6	NC04-20814	403		no		293		407	2+12
USSRWWN	7	LA01140D-70		<b>448</b>	yes	275		390		5+10
USSRWWN	8	TN802	403		no		293	390	407	het
USSRWWN	9	TN501	403		no		293		407	2+12
USSRWWN	10	W990002K1	403		no		293		407	2+12
USSRWWN	11	W980031K1		<b>448</b>	yes	275			390	5+10
USSRWWN	12	W980031L1	403		no		293		407	2+12
USSRWWN	13	GA031238-DH7-7E34	403		no		293		407	2+12
USSRWWN	14	GA001170-7E26		<b>448</b>	yes	275		390		5+10
USSRWWN	15	GA001169-7E15	403		no		293		407	2+12
USSRWWN	16	GA001492-7E9	403		no	275		390		5+10
USSRWWN	17	MD01W233-07-1	403		no		293		407	2+12
USSRWWN	18	MD00W53-07-1	403		no		293		407	2+12
USSRWWN	19	G89270	403		no	275		390		5+10
USSRWWN	20	G89283	403		no	275		390		5+10
USSRWWN	21	G89267	403		no		293		407	2+12
USSRWWN	22	B040798		<b>448</b>	yes		293		407	2+12
USSRWWN	23	D05-6189		<b>448</b>	yes		293		407	2+12
USSRWWN	24	D05-6441	403		no	275	293	390	407	het
USSRWWN	25	FL01029-K1	403		no	275	293	390	407	het
USSRWWN	26	Z03-0496	403		no		293		407	2+12
USSRWWN	27	ARS03-5358	403		no	275		390		5+10
USSRWWN	28	ARS05-0443	403		no	275		390		5+10
USSRWWN	29	VA04W-90	403		no		293		407	2+12
USSRWWN	30	VA05W-139	403		no	275		390		5+10
USSRWWN	31	VA06W-392	403		no		293		407	2+12
USSRWWN	32	VA05W-251	403		no		293		407	2+12
USSRWWN	33	LA01034D-235-1		<b>448</b>	yes		293		407	2+12
USSRWWN	34	LA01029D-139-3	403		no		293		407	2+12
USSRWWN	35	LA01139D-56-1	403		no	275		390		5+10
USSRWWN	36	AR96052-4-3	403		no	275		390		5+10
USSRWWN	37	AR98088-1-1	403		no		293		407	2+12
USSRWWN	38	NC05-21090	403		no		293		407	2+12
USSRWWN	39	NC05-20276	403		no		293		407	2+12
USSRWWN	40	NC05-19684	403		no		293		407	2+12

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