

2009

Uniform Eastern Soft White Winter Wheat Nursery

Marker Report

Eastern Regional Small Grains Genotyping Lab

Collaborator: Gina Brown-Guedira

USDA-ARS

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2009

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Some details of notations in the Marker tables

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

Rht1 & Rht2 taqman = Allele Y = yes(dwarfing)

Ppd-D1a = photoperiod insensitive = yes

2009 Uniform Eastern Soft White Winter Wheat Nursery
Entry List

Nursery	Entry	Sample Name	Pedigree	Breeder	Notes
UESWWWN	1	MSULineE5011A	Caledonia/NY88024-117	Janet Lewis	Refined Test
UESWWWN	2	MSULineE5011B	Caledonia/NY88024-117	Janet Lewis	Refined Test
UESWWWN	3	MSULineE5024	D6234 / Pioneer Brand 25W33	Janet Lewis	Retest
UESWWWN	4	MSULineE5038	VA96W-403WS / D6277	Janet Lewis	New
UESWWWN	5	MSULineE6048	VA96W-403-WS / Pioneer Brand 25W60	Janet Lewis	New
UESWWWN	6	MSULineE3024	(980775,(CALEDONIA,GENEVA/GENVEVA)//NY85020-395)	Janet Lewis	New
UESWWWN	7	MSULineE5028	D6234 / Pioneer Brand 25W33	Janet Lewis	Retest
UESWWWN	8	TW412-033	TW006-007/Emmit (TW044-094)	Mark Etienne	Retest
UESWWWN	9	TW435-025	TW060-075/D8006	Mark Etienne	Retest
UESWWWN	10	TW531-003	TW137-003/Watford (Aubrey)	Mark Etienne	New
UESWWWN	11	TW528-001	Superior/Watford	Mark Etienne	New
UESWWWN	12	TWF507-001	W103-054/TWF064-080	Mark Etienne	New
UESWWWN	13	Ajax	T63/Pion2737W	Ron Fioritto	New
UESWWWN	14	NY103-208-7263	Cayuga/Caledonia	Mark Sorrells	New
UESWWWN	15	NY103-21-9183	Cayuga/Caledonia	Mark Sorrells	New
UESWWWN	16	NY103-226-9195	Cayuga/Caledonia	Mark Sorrells	New
UESWWWN	17	Jensen_NY88046-8138	MD286-21/Harus	Mark Sorrells	Retest
UESWWWN	18	Cal4PHS-10	Caledonia/Cayuga//Caledonia 4-10 (BC1F4select)	Mark Sorrells	Retest
UESWWWN	19	NY03180FHB-10	NY7387/Caledonia//Caledonia-2///Caledonia 9-10 (BC2F4select)	Mark Sorrells	Retest
UESWWWN	20	Cayuga	Clark'sCream /Geneva/Geneva	Mark Sorrells	Check

2009 Uniform Eastern Soft White Winter Wheat Nursery
Summary of all Markers

Nursery	Entry	Sample Name	Rht1- Rht2-			Ppd-D1a	Fhb Ernie Fhb 2DL- Fhb 5A Fhb 5A				
			B1b	D1b	Rht8		Fhb1	3Bc	Wuhan1/W14	Ernie	Ning7840
UESWWWN	1	MSULineE5011A	no	yes	no	no	no	no	no	no	no
UESWWWN	2	MSULineE5011B	no	yes	no	no	no	no	no	no	no
UESWWWN	3	MSULineE5024	no	yes	no	yes	no	no	no	yes	no
UESWWWN	4	MSULineE5038	no	yes	no	no	no	no	no	no	no
UESWWWN	5	MSULineE6048	no	yes	no	yes	no	yes?	no	yes?	no
UESWWWN	6	MSULineE3024	no	yes	no	no	no	yes?	no	no	no
UESWWWN	7	MSULineE5028	no	yes	no	yes	no	no	no	yes	no
UESWWWN	8	TW412-033	no	yes	yes	no	no	no	no	no	no
UESWWWN	9	TW435-025	no	no?	no	yes	no	no	no	no	no
UESWWWN	10	TW531-003	yes	no	no	no	no	no	no	no	no
UESWWWN	11	TW528-001	no	yes	no	no	no	no	no	no	no
UESWWWN	12	TWF507-001	no	yes	no	no	no	no	no	no	no
UESWWWN	13	Ajax	no	yes	no	yes	no	no	no	no	no
UESWWWN	14	NY103-208-7263	no	yes	no	het	no	no	no	no	no
UESWWWN	15	NY103-21-9183	no	no	no	no	no	no	no	no	no
UESWWWN	16	NY103-226-9195	no	no	no	no	no	no	no	no	no
UESWWWN	17	Jensen_NY88046-8138	no	yes	no	no	no	no	no	no	no
UESWWWN	18	Cal4PHS-10	no	yes	no	no	no	no	no	no	no
UESWWWN	19	NY03180FHB-10	no	yes	no	no	yes	no	no	no	no
UESWWWN	20	Cayuga	no	no	no	no	no	no	no	no	no

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Ppd-D1a = photoperiod insensitivity = yes

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Summary of all Markers

Nursery	Entry	Sample Name	Yr17/		Lr34/		1RS	H13	H9	Bdv2/3	Bx7 over- expressing	Glu-D1	PHS Cayuga
			Sr24/ Sr36	Lr34	Lr37/ Sr38	Yr18/ Pm38							
UESWWWN	1	MSULineE5011A	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	2	MSULineE5011B	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	3	MSULineE5024	no	no	no	no	1RS:1BL	no	no	no	no	5+10	no
UESWWWN	4	MSULineE5038	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	5	MSULineE6048	no	no	no	no	1RS:1BL	no	no	no	no	2+12	no
UESWWWN	6	MSULineE3024	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	7	MSULineE5028	no	no	no	no	1RS:1BL	no	no	no	no	5+10	het?
UESWWWN	8	TW412-033	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	9	TW435-025	no	no	no	no		no	no	no	no	2+12	yes
UESWWWN	10	TW531-003	no	no	no	no	1RS:1BL	no	no	no	no	2+12	no
UESWWWN	11	TW528-001	no	no	no	no		no	nd	no	no	2+12	no
UESWWWN	12	TWF507-001	no	no	no	no		no	no	no	no	2+12	yes
UESWWWN	13	Ajax	het	no	no	no		no	no	no	yes	2+12	no
UESWWWN	14	NY103-208-7263	no	no	no	no		no	no	no	no	2+12	yes
UESWWWN	15	NY103-21-9183	no	no	no	no		no	no	no	no	2+12	het?
UESWWWN	16	NY103-226-9195	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	17	Jensen_NY88046-8138	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	18	Cal4PHS-10	no	no	no	no		no	no	no	no	2+12	yes
UESWWWN	19	NY03180FHB-10	no	no	no	no		no	no	no	no	2+12	no
UESWWWN	20	Cayuga	no	no	no	no		no	no	no	no	2+12	yes

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Dwarfing genes & Photoperiod insensitivity

2009

Nursery	Entry	Sample Name	Rht1 Taqman	Rht2 Taqman	Rht1-B1b	Rht2-D1b	gwm261	Rht8	Ppd	Ppd	Ppd-D1a
UESWWWN	1	MSULineE5011A	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	2	MSULineE5011B	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	3	MSULineE5024	Allele X	Allele Y	no	yes	165	no	283		yes
UESWWWN	4	MSULineE5038	Allele X	Allele Y	no	yes	203	no		413	no
UESWWWN	5	MSULineE6048	Allele X	Allele Y	no	yes	203	no	283		yes
UESWWWN	6	MSULineE3024	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	7	MSULineE5028	Allele X	Allele Y	no	yes	165	no	283		yes
UESWWWN	8	TW412-033	Allele X	Allele Y	no	yes	193	yes		413	no
UESWWWN	9	TW435-025	Allele X	Allele X?	no	no?	165	no	283		yes
UESWWWN	10	TW531-003	Allele Y	Allele X	yes	no	165	no		413	no
UESWWWN	11	TW528-001	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	12	TWF507-001	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	13	Ajax	Allele X	Allele Y	no	yes	203	no	283		yes
UESWWWN	14	NY103-208-7263	Allele X	Allele Y	no	yes	175	no	283	413	het
UESWWWN	15	NY103-21-9183	Allele X	Allele X	no	no	175	no		413	no
UESWWWN	16	NY103-226-9195	Allele X	Allele X	no	no	175	no		413	no
UESWWWN	17	Jensen_NY88046-8138	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	18	Cal4PHS-10	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	19	NY03180FHB-10	Allele X	Allele Y	no	yes	175	no		413	no
UESWWWN	20	Cayuga	Allele X	Allele X	no	no	175	no		413	no

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FHB QTLs

2009

Nursery	Entry	Sample Name	umn	gwm	gwm	Fhb1	gwm	gwm	wmc	wmc	wmc	wmc	wmc	wmc	wmc	wmc	Fhb Ernie	
			10	533	533		285	285	307	1	1	418	418	471	471	612	612	3Bc
UESWWWN	1	MSULineE5011A	236	148		no	216		142	160		271		246		282	no	
UESWWWN	2	MSULineE5011B	236	148		no	216		142	160		271		246		268	no	
UESWWWN	3	MSULineE5024	236	119		no	220		144	151		271		221		274	no	
UESWWWN	4	MSULineE5038	236	119		no	218		144	160		271		217		278	no	
UESWWWN	5	MSULineE6048	236	119		no	218		144	153		262		217		282	yes?	
UESWWWN	6	MSULineE3024	239	139		no	243		142	153		273		217		287	yes?	
UESWWWN	7	MSULineE5028	236	119		no	226		144	149		271		221		289	no	
UESWWWN	8	TW412-033	228	147	156	no	218		144	160		271		215		278	no	
UESWWWN	9	TW435-025	236	119		no	218	226	144	149	160	269	273	217	221	268	290	no
UESWWWN	10	TW531-003	228	147	156	no	220		144	151		271		215		274	no	
UESWWWN	11	TW528-001	236	119		no	216		142	160		273		217		268	no	
UESWWWN	12	TWF507-001	236	119		no	216		142	160		271		217		268	no	
UESWWWN	13	Ajax	236	119	129	no	220		144	163		271		217		282	no	
UESWWWN	14	NY103-208-7263	236	119		no	216		142	160		271		215		268	no	
UESWWWN	15	NY103-21-9183	236	119		no	216		142	160		271		215		268	276	no
UESWWWN	16	NY103-226-9195	236	119		no	216		142	160		271		215		268	no	
UESWWWN	17	Jensen_NY88046-8138	236	119		no	220		144	160		271		217		282	no	
UESWWWN	18	Cal4PHS-10	236	119		no	216		142	160		271		217		268	270	no
UESWWWN	19	NY03180FHB-10	239	145		yes	216		142	160		271		215	217	268	no	
UESWWWN	20	Cayuga	236	119		no	218		144	160		271		217		276	no	

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FHB QTLs
2009

Nursery	Entry	Sample Name	cf	cf	gwm	gwm	gwm	Fhb 2DL- Wuhan1/W14	gwm	gwm	wmc	barc	barc	Fhb 5A	Fhb 5A
			233	233	539	539	608		304	304	705	117	186	Ernie	Ning7840
UESWWWN	1	MSULineE5011A	288		139		152	no	197		158	217	203	no	<i>no</i>
UESWWWN	2	MSULineE5011B	274	288	139		154	no	197		158	217	203	no	<i>no</i>
UESWWWN	3	MSULineE5024	272		133		156	no	221		135	221	203	yes	<i>no</i>
UESWWWN	4	MSULineE5038	288		133		156	no	201		133	217	203	no	<i>no</i>
UESWWWN	5	MSULineE6048	268		137		142	no	223		135	221	203	yes?	<i>no</i>
UESWWWN	6	MSULineE3024	274		139		154	no	201		135	217	203	no	<i>no</i>
UESWWWN	7	MSULineE5028	274		141		154	no	221		135	221	203	yes	<i>no</i>
UESWWWN	8	TW412-033	278		163		150	no	196	215	135	225	213	no	<i>no</i>
UESWWWN	9	TW435-025	278		133	141	150	no	201		133	217	203	no	<i>no</i>
UESWWWN	10	TW531-003	278		145		150	no	215		133	225	213	no	<i>no</i>
UESWWWN	11	TW528-001	278		147		150	no	201		133	217	203	no	<i>no</i>
UESWWWN	12	TWF507-001	288		141		152	no	201		133	217	203	no	<i>no</i>
UESWWWN	13	Ajax	272		133		156	no	201		133	217	203	no	<i>no</i>
UESWWWN	14	NY103-208-7263	274		139		154	no	201		133	217	203	no	<i>no</i>
UESWWWN	15	NY103-21-9183	288		141	143	152	no	201		133	217	203	no	<i>no</i>
UESWWWN	16	NY103-226-9195	288		141		152	no	201		133	217	203	no	<i>no</i>
UESWWWN	17	Jensen_NY88046-8138	282	284	141		152	no	201		133	217	203	no	<i>no</i>
UESWWWN	18	Cal4PHS-10	274	276	139		154	no	201		133	217	203	no	<i>no</i>
UESWWWN	19	NY03180FHB-10	274		139		154	no	201		nd	217	203	no	<i>no</i>
UESWWWN	20	Cayuga	288		141		152	no	201		nd	217	203	no	<i>no</i>

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Leaf, Stripe & Stem Rusts

2009

Nursery	Entry	Sample Name						Lr37		Lr34	
			wmc477	wmc477	Sr36	barc71	Sr24/Lr34	taqman	Yr17/Lr37/Sr38	Taqman	Lr34/Yr18/Pm38
UESWWWN	1	MSULineE5011A	162		no	100	no	Allele X	no	Allele X	no
UESWWWN	2	MSULineE5011B	167		no	105	no	Allele X	no	Allele X	no
UESWWWN	3	MSULineE5024	169		no	105	no	Allele X	no	Allele X	no
UESWWWN	4	MSULineE5038	167		no	113	no	Allele X	no	Allele X	no
UESWWWN	5	MSULineE6048	167		no	113	no	Allele X	no	Allele X	no
UESWWWN	6	MSULineE3024	162		no	113	no	Allele X	no	Allele X	no
UESWWWN	7	MSULineE5028	169		no	105	no	Allele X	no	Allele X	no
UESWWWN	8	TW412-033	162		no	100	no	Allele X	no	Allele X	no
UESWWWN	9	TW435-025	167		no	105	no	Allele X	no	Allele X	no
UESWWWN	10	TW531-003	167		no	105	no	Allele X	no	Allele X	no
UESWWWN	11	TW528-001	162		no	105	no	Allele X	no	Allele X	no
UESWWWN	12	TWF507-001	167		no	105	no	Allele X	no	Allele X	no
UESWWWN	13	Ajax	167	186	het	105	no	Allele X	no	Allele X	no
UESWWWN	14	NY103-208-7263	169		no	105	no	Allele X	no	Allele X	no
UESWWWN	15	NY103-21-9183	162	169	no	105	no	Allele X	no	Allele X	no
UESWWWN	16	NY103-226-9195	169		no	105	no	Allele X	no	Allele X	no
UESWWWN	17	Jensen_NY88046-8138	169		no	100	no	Allele X	no	Allele X	no
UESWWWN	18	Cal4PHS-10	169		no	105	no	Allele X	no	Allele X	no
UESWWWN	19	NY03180FHB-10	162		no	105	no	Allele X	no	Allele X	no
UESWWWN	20	Cayuga	162	169	no	105	no	Allele X	no	Allele X	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
UESWWWN	1	MSULineE5011A			115	no	203		no	185	no
UESWWWN	2	MSULineE5011B			115	no	203	221	no	185	no
UESWWWN	3	MSULineE5024	208	1RS:1BL	115	no	203		no	185	no
UESWWWN	4	MSULineE5038			115	no	191		no	185	no
UESWWWN	5	MSULineE6048	208	1RS:1BL	115	no	203		no	185	no
UESWWWN	6	MSULineE3024			115	no	195		no	185	no
UESWWWN	7	MSULineE5028	208	1RS:1BL	115	no	191	203	no	185	no
UESWWWN	8	TW412-033			115	no	178		no	185	no
UESWWWN	9	TW435-025			115	no	191		no	185	no
UESWWWN	10	TW531-003	208	1RS:1BL	115	no	171		no	185	no
UESWWWN	11	TW528-001			115	no	nd		nd	185	no
UESWWWN	12	TWF507-001			115	no	203		no	185	no
UESWWWN	13	Ajax			115	no	195		no	185	no
UESWWWN	14	NY103-208-7263			115	no	195		no	185	no
UESWWWN	15	NY103-21-9183			115	no	195		no	185	no
UESWWWN	16	NY103-226-9195			115	no	195		no	185	no
UESWWWN	17	Jensen_NY88046-8138			115	no	178		no	185	no
UESWWWN	18	Cal4PHS-10			115	no	195		no	185	no
UESWWWN	19	NY03180FHB-10			115	no	203		no	185	no
UESWWWN	20	Cayuga			115	no	195		no	185	no

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Quality Traits

2009

Nursery	Entry	Sample Name	bx7oe	bx7oe Taqman	Bx7 over- expressing	umn25	umn25	umn26	umn26	Glu-D1
UESWWWN	1	MSULineE5011A	404	Allele Y	no		293		407	2+12
UESWWWN	2	MSULineE5011B	404	Allele Y	no		293		407	2+12
UESWWWN	3	MSULineE5024	404	Allele Y	no	275		390		5+10
UESWWWN	4	MSULineE5038	404	Allele Y	no		293		407	2+12
UESWWWN	5	MSULineE6048	404	Allele Y	no		293		407	2+12
UESWWWN	6	MSULineE3024	404	Allele Y	no		293		407	2+12
UESWWWN	7	MSULineE5028	404	Allele Y	no	275		390		5+10
UESWWWN	8	TW412-033	404	Allele Y	no		293		407	2+12
UESWWWN	9	TW435-025	404	Allele Y	no		293		407	2+12
UESWWWN	10	TW531-003	404	Allele Y	no		293		407	2+12
UESWWWN	11	TW528-001	404	Allele Y	no		293		407	2+12
UESWWWN	12	TWF507-001	404	Allele Y	no		293		407	2+12
UESWWWN	13	Ajax	448	Negative	yes		293		407	2+12
UESWWWN	14	NY103-208-7263	404	Allele Y	no		293		407	2+12
UESWWWN	15	NY103-21-9183	404	Allele Y	no		293		407	2+12
UESWWWN	16	NY103-226-9195	404	Allele Y	no		293		407	2+12
UESWWWN	17	Jensen_NY88046-8138	404	Allele Y	no		293		407	2+12
UESWWWN	18	Cal4PHS-10	404	Allele Y	no		293		407	2+12
UESWWWN	19	NY03180FHB-10	404	Allele Y	no		293		407	2+12
UESWWWN	20	Cayuga	404	Allele Y	no		293		407	2+12

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Pre-harvest Sprouting
2009

Nursery	Entry	Sample Name	barc55	barc55	gwm429	gwm429	gwm429	gwm429	wmc474	wmc474	PHS Cayuga
UESWWWN	1	MSULineE5011A	128		211	302			132		no
UESWWWN	2	MSULineE5011B	128		211	302			132		no
UESWWWN	3	MSULineE5024	128		208	298			132		no
UESWWWN	4	MSULineE5038	132		208	298			132		no
UESWWWN	5	MSULineE6048	132		204	294			132		no
UESWWWN	6	MSULineE3024	128		211	300	307		132		no
UESWWWN	7	MSULineE5028	132		209	213	300	305	132	136	het?
UESWWWN	8	TW412-033	128		209	300			136		no
UESWWWN	9	TW435-025	132		209	300			136		yes
UESWWWN	10	TW531-003	128		209	300			132		no
UESWWWN	11	TW528-001	128		209	300			132		no
UESWWWN	12	TWF507-001	132		209	300			136		yes
UESWWWN	13	Ajax	132		223	316			130		no
UESWWWN	14	NY103-208-7263	132		209	300			136		yes
UESWWWN	15	NY103-21-9183	128	132	209	300			136		het?
UESWWWN	16	NY103-226-9195	128		211	302			136		no
UESWWWN	17	Jensen_NY88046-8138	128		204	294			136		no
UESWWWN	18	Cal4PHS-10	132		209	300			136		yes
UESWWWN	19	NY03180FHB-10	128		211	302			132		no
UESWWWN	20	Cayuga	132		209	300			136		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**