

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

in cooperation with

STATE AGRICULTURAL EXPERIMENT STATIONS

Results from the

UNIFORM BARLEY WINTER HARDINESS NURSERY

2013-2014

Compiled by

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This is a joint progress report of an investigation underway in the State Agricultural Experiment Stations and the Agricultural Research Service of the U. S. Department of Agriculture. It contains preliminary data which have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. The report is primarily a tool for cooperators, their staff and those with special interest in agricultural research program development.

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COOPERATING AGRICULTURAL EXPERIMENT STATIONS AND PERSONNEL

Country	State	AES Location	Personnel
USA	KS	Hays	G. Zhang
USA	NC	Laurel Springs/Waynesville	D. Marshall/M. Fountain
USA	NE	Mead	S.P.Baenziger
USA	TN	Knoxville	D.West
USA	VA	Blacksburg	C.A.Griffey
USA	MN	St. Paul	K.P. Smith
USA	IL	Lawrenceville	L. Phillippe
USA	OK	Ardmore	J. Anderson
Canada	Ontario	Nairn	M. Etienne

DIGEST

NUMBER OF TESTS: 9 tests (8 US States, 1 foreign countries)

NUMBER OF ENTRIES: 18

EXPERIMENTAL DESIGN: Single-row, 5-foot plot
Two replications
Randomized complete block

DATA RECORDED: Percent winter survival

DATA NOT USED IN ANALYSIS:

Krasnodar, Russia	No Data
Ontario, Canada	No Data
St. Paul, MN	No Data
Lawrenceville, IL	No Data
Knoxville, TN	100% Survival

COMMENTS:

Knoxville, TN Metribuzin herbicide (Sencor) applied for cheat control on 5 Dec 2013.
Herbicide application did not injure barley.

Table 1. Entries in the 2013-2014 Uniform Barley Winter Hardiness Nursery.

Entry No.	Entry name	Pedigree	Yrs in Nursery	Contributors
1	Tenn. Winter(ck)	CI 6034	78	
2	Trebi (ck)	CI 936	74	
3	Kearney (ck)	CI 7580	66	
4	Dicktoo (ck)	CI 5529	66	
5	Kentucky 1 (ck)	CI 6050	78	
6	Dan (VA03H-61)	VA96-41-17/SC872143	9	Griffey
7	Eve (VA01H-68)	SC860974/VA94-42-13	11	Griffey
8	VA07H-31 WS	Thoroughbred/SC872143	5	Griffey
9	Atlantic (VA06B-19)	VA97B-176/VA92-44-279	6	Griffey
10	VA08B-85	VA00B-199/VA00B-259	3	Griffey
11	VA08B-109	VA00B-259/3/Rounder//VA97B-233/Price	2	Griffey
12	VA08B-84	VA00B-199 / VA00B-259	1	Griffey
13	VA10B-43	VA99B-161 /3/ VA99B-210 // 94Ab1261 / VA00B-271	1	Griffey
14	VA11B-143 (LA)	SPONT03-44 / VA10B-44	1	Griffey
15	NB10417	NB98919/NE86841/Sussex 9024//NE83825/TAMBAR 500	1	Baenziger
16	NB10440	94Ab1274 /NE98936=(VA 83-42-57/Perkins)/NE99838=(Keowee/Dictoo//Dundy)	1	Baenziger
17	NB11414	P-721//VA01H-5/Sangregado"S"/VA90-42-56/VA90-42-22/3/Pamunkey/4/SC890585(hullless)	1	Baenziger
18	NB11418	P-721//SC010441/VA75-4-24/SC793556//C/ho2457(hullless)	1	Baenziger

Top Ten Ranked Survival Entries

Top 10 ranked survival entries for 2013-2014

Rank	Ent No.	Entry	Pedigree	% Survival (across locations)
1	3	Kearney (ck)	CI 7580	82.7
2	1	Tenn. Winter(ck)	CI 6034	73.2
3	18	NB11418	P-721//SC010441/VA75-4-24/SC793556//CIho2457(hulless)	69.8
4	4	Dicktoo (ck)	CI 5529	69.0
5	15	NB10417	NB98919/NE86841/Sussex 9024//NE83825/TAMBAR 500	68.6
6	16	NB10440	94Ab1274 /NE98936=(VA 83-42-57/Perkins)/NE99838=(Keowee/Dicktoo//Dui	67.8
7	13	VA10B-43	VA99B-161 /3/ VA99B-210 // 94Ab1261 / VA00B-271	64.3
8	7	Eve (VA01H-68)	SC860974/VA94-42-13	63.7
9	5	Kentucky 1 (ck)	CI 6050	63.0
10	14	VA11B-143 (LA)	SPONT03-44 / VA10B-44	62.7
LSD (0.05)				11.1

Table 2. Winter Barley Survival (%) at Various Stations (sorted by entry number)

Entry #	Entry Name	Ranked means	Means Across Loc.	Blacksburg VA	Ardmore OK	Mead NE	Laurel Spring NC	Hays KS
1	Tenn. Winter(ck)	2	73.2	95.0	75.0	5.0	93.5	97.5
2	Trebi (ck)	18	46.3	70.0	58.5	0.0	3.0	100.0
3	Kearney (ck)	1	82.7	90.0	75.0	100.0	98.5	50.0
4	Dicktoo (ck)	4	69.0	89.0	75.0	2.5	83.5	95.0
5	Kentucky 1 (ck)	9	63.0	89.0	69.5	7.5	74.0	75.0
6	Dan (VA03H-61)	12	61.8	87.5	72.5	5.0	99.0	45.0
7	Eve (VA01H-68)	8	63.7	85.0	58.5	0.0	100.0	75.0
8	VA07H-31 WS	11	62.3	90.0	33.5	0.0	98.0	90.0
9	Atlantic (VA06B-19)	15	56.7	85.0	72.0	2.5	99.0	25.0
10	VA08B-85	17	56.5	87.5	75.0	5.0	100.0	15.0
11	VA08B-109	14	57.8	82.5	66.5	0.0	75.0	65.0
12	VA08B-84	16	56.7	85.0	69.5	2.5	81.5	45.0
13	VA10B-43	7	64.3	80.0	64.0	2.5	100.0	75.0
14	VA11B-143 (LA)	10	62.7	85.0	56.0	0.0	97.5	75.0
15	NB10417	5	68.6	90.0	72.0	70.0	98.5	12.5
16	NB10440	6	67.8	91.0	78.0	60.0	100.0	10.0
17	NB11414	13	60.5	90.0	69.5	40.0	88.0	15.0
18	NB11418	3	69.8	89.0	75.0	70.0	100.0	15.0
Average			63.5	86.7	67.5	20.7	88.3	54.4
LSD (0.05)			11.1	6.2	ns	37.4	24.4	19.7
CV			8.3	3.4	ns	86.9	13.1	17.1

ns: not significant

Table 3. Winter Barley Survival (%) at Various Stations (sorted by rank)

Entry #	Entry Name	Ranked means	Means Across Loc.	Blacksburg VA	Ardmore OK	Mead NE	Laurel Spring NC	Hays KS
3	Kearney (ck)	1	82.7	90.0	75.0	100.0	98.5	50.0
1	Tenn. Winter(ck)	2	73.2	95.0	75.0	5.0	93.5	97.5
18	NB11418	3	69.8	89.0	75.0	70.0	100.0	15.0
4	Dicktoo (ck)	4	69.0	89.0	75.0	2.5	83.5	95.0
15	NB10417	5	68.6	90.0	72.0	70.0	98.5	12.5
16	NB10440	6	67.8	91.0	78.0	60.0	100.0	10.0
13	VA10B-43	7	64.3	80.0	64.0	2.5	100.0	75.0
7	Eve (VA01H-68)	8	63.7	85.0	58.5	0.0	100.0	75.0
5	Kentucky 1 (ck)	9	63.0	89.0	69.5	7.5	74.0	75.0
14	VA11B-143 (LA)	10	62.7	85.0	56.0	0.0	97.5	75.0
8	VA07H-31 WS	11	62.3	90.0	33.5	0.0	98.0	90.0
6	Dan (VA03H-61)	12	61.8	87.5	72.5	5.0	99.0	45.0
17	NB11414	13	60.5	90.0	69.5	40.0	88.0	15.0
11	VA08B-109	14	57.8	82.5	66.5	0.0	75.0	65.0
9	Atlantic (VA06B-19)	15	56.7	85.0	72.0	2.5	99.0	25.0
12	VA08B-84	16	56.7	85.0	69.5	2.5	81.5	45.0
10	VA08B-85	17	56.5	87.5	75.0	5.0	100.0	15.0
2	Trebi (ck)	18	46.3	70.0	58.5	0.0	3.0	100.0
Average			63.5	86.7	67.5	20.7	88.3	54.4
LSD (0.05)			11.1	6.2	ns	37.4	24.4	19.7
CV			8.3	3.4	ns	86.9	13.1	17.1

ns: not significant

**Table 4. Across Location Percent Survival Means for
Check Cultivars in Previous Winter Hardiness Nurseries**

Nursery Year	Tenn. Winter	Trebi	Kearney	Kenosha	Dicktoo	Kentucky 1	LDS (0.05)
2000-01	50	35	56	87	58	58	14
2001-02	49	10	95	94	92	87	24
2002-03	76	61	91	100	86	93	29
2003-04	96	69	90	97	100	97	48
2004-05	43	22	62	89	65	64	23
2005-06	59	28	76	94	81	74	21
2006-07	32	7.6	59	94	50	59	14
2007-08	50	35	72	96	76	74	27
2008-09	53	31	66	98	75	68	6.4
2009-10	55	23	65	96	69	65	11
2010-11	33	17	67	96	65	43	13
2011-12	79	41	86	91	79	85	9.4
2012-13	94	48	100	98	88	88	7.7
2013-14	73	46	83	-	69	63	11.1
Avg.	60	34	76	95	75	73	