

# 2010 Michigan Alfalfa Variety Trials Report

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Alfalfa varieties are tested in four locations across the state, with cutting, fertility, and IPM management strategies that are optimal for each location. Alfalfa varieties are seeded with a Carter Nursery Seeder in three-ft. wide by twenty-five ft. long plots into conventionally tilled soil. A pre-incorporated application of EPTC herbicide is normally used for weed control with, if necessary, follow-up applications of Raptor (imazamox) for escapes. Plots are harvested with a three-ft. Carter Flail-type Forage Harvester with sub-samples collected for DM determination.

## Chatham in the Upper Peninsula

A trial was seeded in 2008 and in 2009 at Chatham (location 1) in the Upper Peninsula at the Michigan State University Upper Peninsula Experiment Station. Chatham is 300 miles north of East Lansing and has colder winters than Lake City, but with more snow. Winterhardiness and persistence are important at Chatham. Trials are normally seeded in the spring, and are usually cut three times per year: Cut 1 - June 10-20; Cut 2 - July 15-25 and Cut 3 - end of September. Potato leafhopper is not normally a problem, but populations are monitored and controlled if necessary. Ample rainfall (Fig. 1) supported high yields in 2010. Dry-matter yields for the trials seeded in 2008 and 2009 are given Tables 1 and 2, respectively.



## Lake City in Central Northern Lower Michigan

Lake City (location 2) is 130 miles north of East Lansing and has colder winters than East Lansing and less snow than Chatham. Both winterhardiness and persistence are important characteristics for alfalfa varieties grown at Lake City. Trials are managed for good yields (4-6 tons/acre) and long stand life. Trials at Lake City are typically cut three times per year: Cut 1 - June 10-20; Cut 2 - July 25 to August 5; Cut 3 - mid to late September, but this year four harvests were obtained. Ample rainfall (Fig. 1) supported high yields in 2010. The 2010 trial was seeded in May and two harvests were obtained. Yield data for 2007-2010 seedings at Lake City are reported in Tables 3, 4, 5, and 6, respectively.

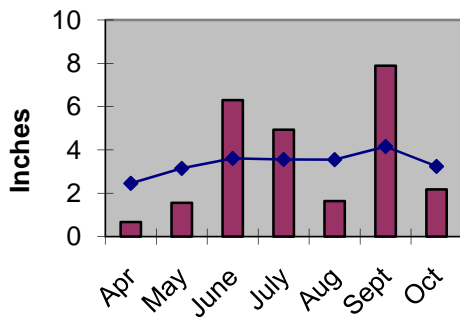
## North Branch in the Thumb of Michigan

A trial was established in 2008 on the Chris Howland Farm in Lapeer Co. about 80 miles northeast of East Lansing (location 3). The soils of this area are lake/river bed soils which are prone to heaving as a result of freeze-thawing cycles. This trial was harvested five times in yield data is reported in Table 7.

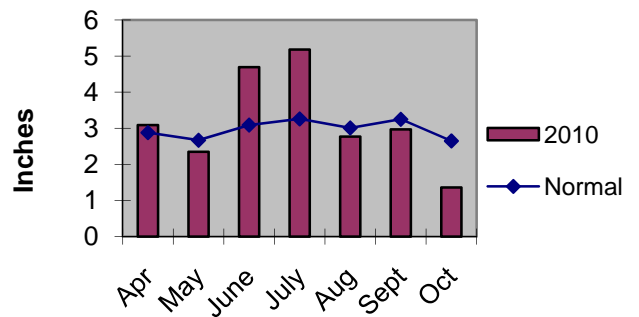
## East Lansing in Southern Lower Michigan

Alfalfa variety trials are seeded annually at East Lansing in southern lower-Michigan (location 4). These trials are located on the Crop and Soil Sciences Agronomy Farm and are usually seeded in the spring. Trials are managed for high yields (8 tons/acre) using four cuttings per year. Typical cutting dates are: Cut 1 - late May to early June (late bud to early bloom); Cut 2 - July 5-15 (1/10 bloom); Cut 3 - August 5-15 (1/10 bloom); Cut 4 - mid to late October with little regrowth after cutting. High fertility with P and especially K is essential for obtaining high yields. Potato leafhopper (*Empoasca fabae*) can greatly reduce yields and are controlled with an application of insecticide prior to cut 2 and 3. Alfalfa weevil (*Hypera posticata*) populations are occasionally controlled with insecticide prior to first cutting, however this was not necessary in 2010. The 2010 trials were established in April and received above average rainfall in May (Figure 1). Weeds in the new seeding were controlled with an application of Raptor (imazamox) and in established stands; Velpar (hexazinone) was used. Standard variety trial data is presented in tables 8,10,12, and 14, while the PLHR data are in Tables 9, 11, 13, and 15.

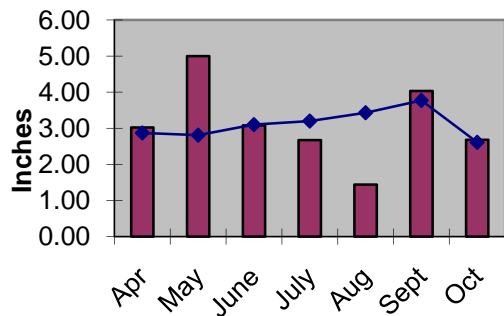
**Chatham Rainfall 2010**



**Lake City Rainfall 2010**



**North Branch Rainfall 2010**



**East Lansing Rainfall 2010**

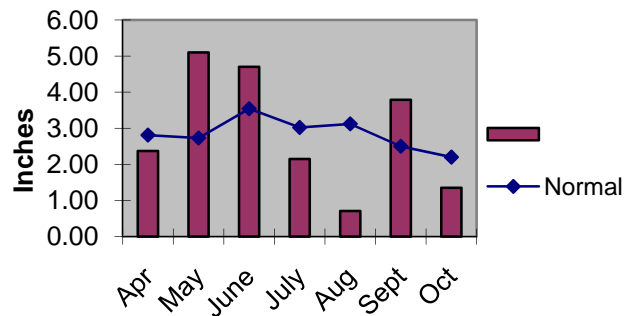


Table 1.

**Michigan State Alfalfa Variety Trial Yield (DM tons/acre)**  
**Upper Peninsula Exp. Sta., Chatham**  
 Sown Aug 2008  
 Non-irrigated

Entry	18-Jun	27-Jul	21-Sep	2010	2009	total
Garst 6417	2.09	1.57	0.72	4.37	3.46	7.83
DKA33-16	2.06	1.50	0.73	4.29	3.38	7.67
Velocity	2.00	1.59	0.68	4.26	3.35	7.61
Garst 6431	1.93	1.55	0.64	4.12	3.44	7.56
Vernal	1.92	1.48	0.69	4.09	3.43	7.52
WL343HQ	1.99	1.54	0.79	4.33	3.09	7.42
DK140	1.92	1.38	0.64	3.94	3.34	7.27
Pioneer 55V48	1.95	1.49	0.61	4.04	3.11	7.16
AmeriStand 407TQ	1.83	1.52	0.70	4.06	3.04	7.10
Evergreen 3	1.70	1.42	0.67	3.78	3.05	6.83
Mean	1.94	1.50	0.69	4.13	3.27	7.4
CV%	10	11	19	10	14	11
LSD 5%	0.29	NS	NS	NS	NS	NS

Location: Upper Peninsula Exp. Sta., Alger Co.  
 Design: RCB, plot size: 3 x 24 (3 x 21 harvested)  
 Seeded: 8/1/08, 20 lbs. PLS/acre  
 Soil Type: Eben Very Cobbly Sandy Loam  
 Cuttings: three in 2009  
 Fertility: 0-84-252 /acre

Table 2.

**Michigan State Alfalfa Variety Trial Yield (DM tons/acre)**  
**Upper Peninsula Exp. Sta., Chatham**  
 Sown July 2009  
 Non-irrigated

Entry	6/18/2010	7/27/2010	9/21/2010	total
5312	1.66	1.74	0.89	4.29
Pioneer 55V12	1.63	1.68	0.91	4.21
Pioneer 54Q32	1.71	1.58	0.82	4.11
Ameristand 403T	1.60	1.55	0.89	4.04
DKA 43-13	1.59	1.65	0.80	4.04
Pioneer 53H92	1.58	1.64	0.78	4.00
Mycogen 4A421	1.51	1.49	0.92	3.92
DK140	1.43	1.62	0.78	3.83
Velocity	1.63	1.38	0.82	3.83
Vernal	1.61	1.43	0.78	3.82
Pioneer 55V48	1.47	1.58	0.78	3.82
AmeriStand 407TQ	1.50	1.50	0.80	3.80
Mean	1.58	1.57	0.83	3.97
CV%	13	12	14	9
LSD 5%	0.28	0.26	NS	NS

Location: Upper Peninsula Exp. Sta., Alger Co.  
 Design: RCB, plot size: 3 x 20 (3 x 17 harvested)  
 Seeded: 7/30/09, 20 lbs. PLS/acre  
 Soil Type: Eben Very Cobbly Sandy Loam  
 Cuttings: none in 2009  
 Fertility: 0-84-252 /acre

Table 3.

**Michigan State Alfalfa Variety Trial Yields (DM tons/acre)**  
**Lake City, Missaukee Co., Mich. State Univ.**  
 Sown May 2007  
 Non-irrigated

Entry	3-Jun	7-Jul	14-Aug	14-Oct	2010	2009	2008	2007	total
Garst6200HT	1.37	1.20	1.21	0.59	4.37	3.54	2.38	0.24	10.53
DK140	1.22	1.26	1.12	0.58	4.18	3.25	2.17	0.37	9.97
BOB06*	1.33	1.14	1.09	0.61	4.17	3.25	2.17	0.36	9.94
Ascend	1.38	1.20	1.08	0.56	4.22	3.41	2.01	0.31	9.94
CCim06*	1.42	1.25	1.10	0.66	4.43	3.12	2.08	0.30	9.92
Cdual*	1.25	1.11	1.07	0.62	4.05	3.17	2.10	0.45	9.76
CDurango06*	1.25	1.26	1.20	0.66	4.36	3.10	1.91	0.38	9.75
CimarronVL410*	1.20	1.14	1.13	0.68	4.16	3.18	2.02	0.38	9.74
Ckey*	1.31	1.29	1.11	0.53	4.25	3.46	1.66	0.35	9.72
CDAK06*	1.19	1.14	1.07	0.60	4.00	3.19	2.18	0.31	9.67
Pioneer 55V48	1.20	1.24	1.03	0.60	4.07	2.92	1.94	0.42	9.35
Vernal	1.20	0.97	1.02	0.58	3.78	3.04	2.11	0.33	9.25
5312	1.42	1.06	0.96	0.48	3.92	3.05	1.91	0.30	9.18
Velocity**	1.09	1.01	0.90	0.52	3.52	3.20	1.79	0.13	8.65
Mean	1.27	1.16	1.08	0.59	4.10	3.20	1.65	0.33	9.68
CV%	16	14	17	22	13	16	16	33	11
LSD 5%	0.29	0.23	0.26	0.19	0.77	NS	0.48	0.15	1.50

Location: Lake City Exp. Station, Lake City  
 Design: RCB, plot size: 3 x 25'(3 x22' harvested)  
 Seeded: 27-May-07  
 Soil Type: Nester sandy loam  
 Cuttings: One in 2007, three in 2008 & 2009  
 Insects: dimethoate applied prior to cut two  
 Fertility: 0-65-195 + 2.5 boron lbs./acre

\*Experimental Cultivar

\*\*Newly released cultivar that was established with experimental seed

Table 4.

**Michigan State Alfalfa Variety Trial Yields (DM tons/acre)**  
**Lake City, Missaukee Co., Mich. State Univ.**

Sown August 2008

Non-irrigated

Entry	3-Jun	7-Jul	14-Aug	12-Oct	2010	2009	total
Garst 6431	1.40	1.39	1.36	0.44	4.60	2.09	6.69
Velocity	1.34	1.35	1.31	0.43	4.44	1.81	6.25
Pioneer 55V48	1.26	1.24	1.29	0.46	4.25	1.77	6.02
Pioneer 53H92	1.08	1.07	1.15	0.46	3.75	1.64	5.39
Vernal	1.03	1.00	1.10	0.29	3.42	1.41	4.83
Mean	1.22	1.21	1.24	0.42	4.09	1.74	5.83
CV%	13	11	12	26	11	11	9
LSD 5%	0.29	0.24	NS	NS	0.70	0.31	0.9

Location: Lake City Exp. Station, Lake City  
 Design: RCB, plot size: 3 x 25'(3 x22' harvested)  
 Seeded: 6-Aug-08  
 Cuttings: three in 2009  
 Soil Type: Nester sandy loam  
 Fertility: 0-65-195 + 2.5 boron lbs./acre  
 Insects: dimethoate applied prior to cut two

Table 5.

**Michigan State Alfalfa Variety Trial Yields (DM tons/acre)**  
**Lake City, Missaukee Co., Mich. State Univ.**

Sown April 2009

Non-irrigated

Entry	3-Jun	7-Jul	14-Aug	14-Oct	2010	2009	total
LegenDairy 5.0	1.68	1.39	1.42	0.61	5.10	0.67	5.77
FSG329	1.58	1.27	1.52	0.55	4.92	0.72	5.64
Syngenta 6422Q**	1.46	1.23	1.43	0.68	4.80	0.76	5.56
PLHR Check	1.42	1.22	1.30	0.62	4.56	0.86	5.42
4S417	1.53	1.15	1.44	0.67	4.79	0.63	5.42
AmeriStand 403T plus	1.51	1.39	1.38	0.40	4.68	0.71	5.38
Chesapeake	1.50	1.09	1.40	0.59	4.58	0.79	5.37
AmeriStand 407TQ	1.61	1.17	1.38	0.53	4.69	0.66	5.36
Pioneer 54Q32	1.48	1.13	1.35	0.52	4.48	0.70	5.18
Velocity	1.35	1.15	1.35	0.61	4.46	0.68	5.13
Pioneer 55V12	1.43	1.02	1.30	0.61	4.36	0.61	4.98
Pioneer 55V48	1.38	1.02	1.30	0.59	4.29	0.54	4.83
DK140	1.34	1.10	1.27	0.49	4.20	0.63	4.83
DKA4313	1.23	1.09	1.22	0.58	4.12	0.63	4.74
Vernal	1.28	0.96	1.27	0.48	3.99	0.61	4.60
Mean	1.45	1.16	1.36	0.57	4.53	0.68	3.28
CV%	22	20	9	20	15	33	17
LSD 5%	NS	0.37	0.20	0.19	1.10	NS	NS

Location: Lake City Exp. Station, Lake City  
 Design: RCB, plot size: 3 x 25'(3 x 22' harvested)  
 Seeded: 24-Apr-09  
 Cuttings: two in 2009  
 Soil Type: Nester sandy loam  
 Insects: dimethoate applied prior to cut one and two  
 \*\*Seeded as an experimental cultivar with breeder selected seed

Table 6.

**Michigan State Alfalfa Variety Trial Yields (DM tons/acre)**  
**Lake City, Missaukee Co., Mich. State Univ.**

Sown May 2010

Non-irrigated

Entry	29-Jul	8-Oct	2010
403T	0.76	0.99	1.75
4A415	0.77	0.93	1.70
4S417	0.63	0.91	1.54
5312	0.62	0.91	1.53
PLH-resistant check	0.63	0.82	1.45
DG4210	0.65	0.72	1.37
Syngenta 6305Q	0.60	0.75	1.35
HybriForce-2400	0.53	0.74	1.27
Vernal	0.54	0.71	1.25
Garst 6417	0.50	0.69	1.19
DG3210	0.50	0.59	1.09
Mean	0.61	0.80	1.41
CV%	20	16	17
LSD 5%	0.2	0.18	0.35

Location: Lake City Exp. Station, Lake City  
 Design: RCB, plot size: 3 x 25'(3 x22' harvested)  
 Seeded: 17-May-10  
 Soil Type: Nester sandy loam  
 Insects: dimethoate applied prior to cut one



Table 7.

**Michigan State Alfalfa Variety Trial Yield (DM tons/acre)**  
**North Branch, Lapeer Co.**  
 Sown Apr 2008  
 Non-irrigated

Entry	27-May	24-Jun	29-Jul	30-Aug	14-Oct	2010	2009	total
Pioneer 55V48	2.16	1.71	2.36	1.24	0.85	8.31	8.44	16.75
Ameristand 407TQ	2.12	1.72	2.38	1.14	0.72	8.07	8.45	16.52
FSG505	2.18	1.62	2.39	1.32	0.71	8.22	8.16	16.37
PGI 459	2.11	1.71	2.60	1.21	0.70	8.33	7.80	16.12
Garst 6552	2.06	1.68	2.30	1.30	0.78	8.12	7.95	16.07
WL363HQ	2.05	1.60	2.35	1.28	0.75	8.03	7.96	15.99
Ascend	2.04	1.62	2.31	1.17	0.67	7.81	7.97	15.78
WL343HQ	2.07	1.61	2.30	1.24	0.62	7.84	7.92	15.76
FSG351	2.03	1.46	2.22	1.21	0.66	7.57	7.93	15.50
Genoa	2.12	1.63	2.31	1.13	0.72	7.91	7.57	15.49
FSG528SF	2.00	1.51	2.12	1.15	0.74	7.52	7.86	15.38
FSG406	2.14	1.56	2.11	1.05	0.58	7.43	7.93	15.36
Garst 6417	1.91	1.51	2.24	1.15	0.73	7.53	7.76	15.29
DKA43-13	2.10	1.52	2.14	1.20	0.69	7.64	7.61	15.25
DK140	2.01	1.44	2.11	1.08	0.61	7.24	7.95	15.19
Velocity	1.98	1.53	2.14	1.14	0.65	7.43	7.73	15.16
FSG408DP	2.05	1.47	2.15	1.21	0.62	7.50	7.36	14.86
5312	1.99	1.28	1.96	1.19	0.66	7.07	7.53	14.60
PLH-resistant check	1.89	1.23	1.82	0.88	0.49	6.32	7.53	13.85
Vernal	1.84	1.28	1.92	1.05	0.57	6.66	6.90	13.56
Mean	2.04	1.53	2.21	1.17	0.67	6.95	7.81	14.77
CV%	9	10	10	14	17	8	8	7
LSD 5%	0.24	0.21	0.32	0.22	0.13	0.89	0.84	1.60

Location: Chris Howland Farm  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 4/24/2008  
 Cuttings: four cuttings in 2009  
 Soil Type: Brookston Loam  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: Dimethoate applied after cut 1

Table 8.

**Michigan State Alfalfa Variety Trial Yield (DM tons/acre)**  
**East Lansing, Ingham Co.**  
 Sown Apr 2007  
 Non-irrigated

Entry	25-May	28-Jun	26-Jul	27-Aug	11-Oct	2010	2009	2008	2007	tot
FG 44M125*	2.03	1.65	1.48	1.11	0.98	7.24	7.00	6.30	1.25	21.79
FG 44M318*	1.81	1.72	1.40	1.11	0.93	6.97	6.99	6.09	1.04	21.09
Velocity**	1.89	1.63	1.31	0.93	0.83	6.60	6.82	6.28	1.21	20.90
WL343 HQ	1.94	1.67	1.33	0.96	0.86	6.76	6.62	6.03	1.17	20.58
Pioneer 55V48	2.00	1.67	1.26	0.83	0.89	6.65	6.54	6.09	1.30	20.57
FG 44M317*	1.82	1.71	1.36	0.96	0.89	6.74	6.49	5.77	0.99	19.99
SpringGold	1.72	1.59	1.26	0.81	0.80	6.18	6.19	5.99	1.41	19.77
Falcon**	1.81	1.40	1.13	0.75	0.74	5.83	6.14	5.88	1.33	19.18
DS 711-BR*	1.87	1.50	1.09	0.80	0.64	5.90	5.90	5.98	1.24	19.02
DS 712-M*	1.81	1.36	1.04	0.85	0.66	5.72	6.06	5.89	1.12	18.79
Garst 6415	1.73	1.53	1.16	0.86	0.69	5.97	6.16	5.56	1.05	18.74
DS705-M*	1.77	1.41	1.03	0.73	0.58	5.52	5.65	5.89	1.60	18.66
5312	1.82	1.32	1.01	0.72	0.68	5.54	5.79	5.79	1.30	18.42
DK140	1.68	1.48	1.06	0.69	0.60	5.50	5.67	5.88	1.27	18.33
Vernal	1.53	1.08	0.65	0.41	0.25	3.92	4.54	5.05	0.99	14.50
Mean	1.82	1.51	1.17	0.83	0.74	6.07	6.17	5.90	1.22	19.36
CV%	9	13	9	22	15	9	9	8	23	8
LSD 5%	0.23	0.23	0.27	0.14	0.27	0.84	0.80	0.66	0.40	2.3

Location: Mich. State Univ. Exp. Station, East Lansing  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 4/20/2007  
 Cuttings: Two in 2007, four in 2008 & 2009  
 Soil Type: Capac loam, tile drainage  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: dimethoate applied prior to cuts two and three

\*Experimental Cultivar

\*\*Seeded as an experimental cultivar with breeder selected seed

Table 9.

**Michigan State Alfalfa Variety Trial Yield**  
**East Lansing Potato Leafhopper-Resistant Alfalfa Trial**  
 Sown Apr 2007  
 Non-irrigated

Entry											% of
	28-May	28-Jun	26-Jul	27-Aug	11-Oct	2010	2009	2008	2007	tot	Check
Pioneer 53H92	1.68	1.74	1.13	0.75	0.64	5.94	7.01	6.85	1.83	21.63	135
4P24	1.40	1.55	1.05	0.77	0.64	5.40	6.63	6.36	1.54	19.93	125
Garst 6426	1.45	1.71	1.20	0.85	0.63	5.83	6.40	6.48	1.24	19.95	125
5312	1.79	1.66	1.05	0.80	0.68	5.97	5.56	5.75	0.87	18.15	113
Vernal	1.42	1.33	0.76	0.64	0.45	4.59	5.04	5.61	0.76	16.00	100
Mean	1.55	1.60	1.04	0.76	0.61	5.55	6.13	6.21	1.25	19.13	
CV%	12	9	12	9	12	10	10	9	22	9	
LSD 5%	0.28	0.22	0.38	0.31	0.39	1.47	0.96	0.89	0.42	3.30	

Location: Mich. State Univ. Exp. Station, East Lansing  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 4/20/2007  
 Soil Type: Capac loam, tile drainage  
 Cuttings: Two in 2007, four in 2008 & 2009  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: low PLH pressure in 2010

Table 10.

**Michigan State Alfalfa Variety Trial Yield (DM tons/acre)**  
**East Lansing, Ingham Co.**  
 Sown Aug 2008  
 Non-irrigated

Entry	25-May	28-Jun	26-Jul	27-Aug	8-Oct	2010	2009	total
FG45M322	1.94	2.45	1.79	1.73	1.11	9.02	7.81	16.83
FG45M116	2.01	2.16	1.59	1.47	1.01	8.24	8.15	16.39
HybriForce 2400**	1.92	2.04	1.38	1.27	1.13	7.74	8.52	16.26
4S417**	2.14	1.92	1.41	1.25	0.88	7.60	8.17	15.77
Pioneer 55V48	1.97	1.86	1.50	1.12	1.02	7.48	7.79	15.27
msSunstra 807	2.09	1.81	1.28	1.20	0.88	7.26	7.96	15.22
Velocity	1.86	2.00	1.40	1.30	1.03	7.58	7.45	15.04
L447HD	1.77	1.69	1.30	1.31	0.98	7.05	7.96	15.01
Garst 6417	1.64	1.95	1.43	1.39	1.00	7.40	7.47	14.87
WL363HQ	1.62	1.90	1.44	1.34	1.07	7.37	7.46	14.83
Garst 6431	1.72	1.79	1.27	1.27	0.98	7.04	7.70	14.73
Genoa	1.96	1.94	1.41	1.29	0.98	7.57	7.15	14.72
GH727	1.95	1.94	1.35	1.19	0.89	7.33	7.20	14.53
DKA4313	1.55	1.87	1.40	1.26	1.04	7.12	7.34	14.46
Garst 6415	1.82	1.73	1.24	1.21	0.86	6.86	6.81	13.67
PGI 459	1.77	1.85	1.29	0.91	0.90	6.72	6.93	13.65
Garst 6552	1.73	1.71	1.36	1.19	0.96	6.96	6.64	13.60
L333HD	1.57	1.54	1.11	0.99	0.82	6.03	7.28	13.31
5312	1.65	1.47	0.98	0.81	0.69	5.61	6.64	12.25
Vernal	1.47	1.40	0.95	0.83	0.60	5.25	5.92	11.17
Mean	1.81	1.85	1.34	1.22	0.94	7.16	7.42	14.58
CV%	12	9	8	14	13	8	7	6
LSD 5%	0.30	0.24	0.15	0.23	0.16	0.77	0.68	1.2

Location: Mich. State Univ. Exp. Station, East Lansing  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 8/5/2008  
 Soil Type: Capac loam, tile drainage  
 Cuttings: four in 2009  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: dimethoate applied prior to cuts two and three

\*Experimental Cultivar

\*\*Seeded as an experimental cultivar with breeder selected seed

Table 11.

**Michigan State Alfalfa Variety Trial Yield**  
**East Lansing Potato Leafhopper-Resistant Alfalfa Trial**  
 Sown Apr 2008  
 Non-irrigated

Entry	25-May	28-Jun	26-Jul	27-Aug	8-Oct	2010	2009	total	% of Check
Commercial Check†	1.94	2.31	1.57	1.05	0.87	7.75	4.58	12.33	169
Pioneer 53H92	1.84	1.85	1.33	0.86	0.69	6.57	5.59	12.16	167
Garst 6426	1.60	2.03	1.40	0.81	0.76	6.59	5.40	11.99	164
Evergreen 3	1.67	1.83	1.26	0.87	0.72	6.35	5.35	11.70	160
Vernal	0.94	1.12	0.85	0.52	0.44	3.87	3.43	7.30	100
Mean	1.60	1.83	1.28	0.82	0.70	6.23	4.87	11.10	
CV%	10	10	15	19	22	11	10	10	
LSD 5%	0.23	0.29	0.30	0.24	0.24	1.10	0.77	1.70	

Location: Mich. State Univ. Exp. Station, East Lansing  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 4/28/2008  
 Soil Type: Capac loam, tile drainage  
 Cuttings: four in 2009  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: low PLH pressure in 2010  
 † High yielding, non-PLH

Table 12.

**Michigan State Alfalfa Variety Trial Yield (DM tons/acre)**  
**East Lansing, Ingham Co.**  
 Sown May 2009  
 Non-irrigated

Entry	26-May	28-Jun	27-Jul	30-Aug	8-Oct	2010	2009	total
Syngenta 6422Q**	1.38	2.56	1.61	1.49	1.12	8.15	3.24	11.39
FG 46M446*	1.62	2.39	1.50	1.52	1.21	8.24	2.90	11.14
Pioneer 55V48	1.60	2.21	1.43	1.44	1.23	7.90	3.18	11.08
HybriForce 2400	1.58	2.20	1.30	1.29	0.94	7.31	3.76	11.07
Radiance HD**	1.49	2.25	1.45	1.41	1.13	7.74	3.26	10.99
Chesapeake	1.43	2.32	1.41	1.37	0.99	7.53	3.34	10.87
Pioneer 55V12	1.50	2.33	1.27	1.30	0.97	7.35	3.52	10.87
WL363HQ	1.47	2.34	1.45	1.31	1.07	7.65	3.21	10.86
AmeriStand 407TQ	1.49	2.28	1.40	1.36	1.11	7.64	3.15	10.79
PLH-resistant check	1.66	2.09	1.20	1.15	0.94	7.05	3.72	10.77
msSunstra-901*	1.74	1.99	1.32	1.34	1.04	7.42	3.31	10.73
5454	1.80	2.04	1.23	1.25	0.88	7.20	3.28	10.48
4S417	1.66	1.86	1.27	1.33	0.88	7.00	3.28	10.29
Pioneer 54Q32	1.50	2.11	1.31	1.34	0.98	7.23	2.97	10.21
DK140	1.66	1.91	1.26	1.13	0.88	6.84	3.36	10.20
LegenDairy 5.0	1.46	2.14	1.32	1.27	0.99	7.19	2.97	10.16
HybriForce 807exp*	1.52	1.86	1.19	1.28	0.90	6.75	3.36	10.11
AmeriStand 403T Plus	1.53	2.11	1.23	1.10	0.72	6.70	3.05	9.75
Velocity	1.55	1.83	1.26	1.22	0.93	6.79	2.81	9.60
CW044026*	1.41	1.97	1.26	1.24	1.06	6.94	2.64	9.59
Everlast II	1.45	1.82	1.20	1.16	0.96	6.58	2.81	9.39
KingFisher 243	1.48	1.80	1.20	1.20	1.07	6.75	2.47	9.22
5312	1.55	1.64	1.05	1.04	0.84	6.12	2.75	8.87
OneidaVR	1.55	1.55	1.00	1.01	0.80	5.91	2.55	8.46
Vernal	1.36	0.98	0.81	0.86	0.69	4.70	1.98	6.68
Mean	1.54	2.02	1.28	1.26	0.97	7.07	3.07	10.14
CV%	9	20	13	11	12	12	17	12
LSD 5%	0.20	0.58	0.23	0.21	0.16	1.10	0.75	1.70

Location: Mich. State Univ. Exp. Station, East Lansing  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 5/12/2009  
 Cuttings: three in 2009  
 Soil Type: Capac loam, tile drainage  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: dimethoate applied prior to and after cut 1

\*Experimental Cultivar

\*\*Seeded as an experimental cultivar with breeder selected seed

Table 13.

**Michigan State Alfalfa Variety Trial Yield**  
**East Lansing Potato Leafhopper-Resistant Alfalfa Trial**  
 Sown May 2009  
 Non-irrigated

Entry	DM tons/acre					2010	2009	total	% of Check*
	26-May	29-Jun	27-Jul	30-Aug	8-Oct				
non-PLHR check†	1.95	1.66	1.30	1.06	1.07	7.04	1.06	8.10	145
Pioneer 53H92	2.00	1.59	1.11	0.89	0.82	6.41	1.35	7.76	139
FSG420LH	1.60	1.74	1.13	1.04	0.85	6.36	1.07	7.43	133
WL353LH	1.83	1.49	1.06	1.15	0.80	6.33	0.96	7.29	130
FG44H375	1.56	1.56	1.08	0.98	0.82	6.00	1.16	7.16	128
5454	1.88	1.44	1.08	1.12	0.74	6.26	0.62	6.88	123
Vernal	1.37	1.49	0.76	0.93	0.63	5.18	0.42	5.60	100
Mean	1.74	1.57	1.07	1.02	0.82	6.23	0.95	7.17	
CV%	10	23	10	12	12	10	32	11	
LSD 5%	0.25	0.51	0.16	0.18	0.13	0.81	0.45	1.10	

Location: Mich. State Univ. Exp. Sta., East Lansing

Design: RCB, plot size 3 x 25' (3 x 22' harvested)

Seeded: 5/12/2009

Cuttings: two in 2009

Soil Type: Capac loam, tile drainage

Fertility: 0-78-234 + 3 boron lbs/acre

Insects: low PLH pressure in 2010

\*percent yield of Vernal

† High yielding, non-Potato leafhopper resistant check

Table 14.

**Michigan State Alfalfa Variety Trial Yield (DM tons/acre)**  
**East Lansing, Ingham Co.**  
 Sown April 2010  
 Non-irrigated

Entry	29-Jun	3-Aug	8-Oct	2010
DSA08M*	2.44	2.06	1.31	5.81
4S417	2.33	1.90	1.09	5.32
WL363HQ	2.29	1.86	0.91	5.07
PLH-resistant check	2.31	1.82	0.88	5.01
HybriForce-2400	2.19	1.82	1.08	5.09
Garst 6417	2.03	1.86	0.99	4.88
5312	2.12	1.73	0.91	4.77
Kingfisher 4020	1.93	1.84	1.10	4.87
WL343HQ	2.04	1.73	0.90	4.67
FG 46M329*	1.87	1.82	1.02	4.71
DG 4210	1.92	1.77	1.07	4.76
FG 46M126*	1.87	1.76	0.96	4.58
FG 46M328*	1.81	1.82	0.99	4.61
DKA4313	1.83	1.68	0.99	4.51
Vernal	1.87	1.54	0.93	4.34
Mean	2.06	1.80	1.01	4.87
CV%	12	7	11	7
LSD 5%	0.34	0.16	0.16	0.49

Location: Mich. State Univ. Exp. Station, East Lansing  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 4/2/2010  
 Soil Type: Capac loam, tile drainage  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: dimethoate applied prior to and after cut 1

\*Experimental Cultivar

\*\*Seeded as an experimental cultivar with breeder selected seed



Table 15.

**Michigan State Alfalfa Variety Trial Yield**  
**East Lansing Potato Leafhopper-Resistant Alfalfa Trial**  
 Sown Apr 2010  
 Non-irrigated

Entry	DM tons/acre				% of Check*
	29-Jun	3-Aug	8-Oct	2010	
Pioneer 53H92	2.04	1.70	0.98	4.72	125
Garst 6426	1.90	1.60	0.94	4.44	118
non-PLH-R check	1.80	1.46	1.00	4.26	113
Syngenta 6475H	1.62	1.54	0.99	4.15	110
Vernal	1.49	1.38	0.90	3.77	100
Mean	1.77	1.53	0.96	4.27	
CV%	8	4	11	6	
LSD 5%	0.22	0.09	0.17	0.40	

Location: Mich. State Univ. Exp. Sta., East Lansing  
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)  
 Seeded: 4/2/2010  
 Soil Type: Capac loam, tile drainage  
 Fertility: 0-78-234 + 3 boron lbs/acre  
 Insects: low PLH pressure in 2010

\*percent yield of Vernal

† High yielding, non-Potato leafhopper resistant check