2010

Upper Peninsula Crop Research and Demonstration Report

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Contents:

Introduction

In 2010 the MSU Upper Peninsula Research Center conducted small grain, corn, small grain/pea mixtures, alfalfa and reed canarygrass variety trials. The purpose of these trials was to evaluate each variety to determine which consistently performs the best in the soil and climatic conditions of the Upper Peninsula. Yield is the single largest determinant of return per acre for forage, corn and small grain production. Selecting varieties with high yield potential is fundamental to obtaining high yields and economic profitability. The yield advantage realized with good varieties quickly minimizes their greater seed cost. When choosing a variety, always try to evaluate it based on multi-year yield performance when possible. Yield will vary from year to year as a result of several environmental factors such as soil type, amount of rainfall, temperature, disease and insect incidence. A producer needs to take care when interpreting the information from variety trials. The more years represented, as well as the extent of similarity between the test and grower's field environments, the more reliable the information will be.

Methods

The results shown are the average of four replications grown in close proximity to each other. Two or more plots of the same variety in the same field may produce somewhat different results because of variability in the soil and other environmental factors. Replication and randomization of the entries are two methods used to account for this variation. The value calculated as the "least significant difference" or "LSD" is the amount that an individual hybrid would have to differ from another hybrid in the same test to be considered significantly different from that hybrid. The CV, or coefficient of variation, is indicative of a trial's precision. Trials with low levels of error variation have lower CV values. NS stands for not significant. Each of the trials was treated with the recommended seeding, fertility and herbicide rates per species. Pure live seed (PLS) was used when determining seeding rate. Pure live seed refers to the amount of live seed in a lot of bulk seed. The formula is purity (%) multiplied by germination (%) divided by 100 equals the % of pure live seed in a lot of bulk seed. Target population for the corn variety trial was 36,000 seeds/acre.

Discussion

Once again weather was highly variable across the Upper Peninsula in the 2010 growing season. The weather information for Chatham is reported in Table 1. For further information, please call 906-439-5188 or contact your local county extension educator. For state wide variety trial results on the Web please use this address: www.css.msu.edu/varietytrials/. The corn grain results are reported as follows- 1. Moisture content at harvest (%H_20). 2. Yield (in bushels per acre) of shelled corn corrected to 15.5 percent moisture (Bu/A). 3. Test weight at harvest moisture (Twt). 4. Percent of stalk lodging (plants broken below the ear and/or 45 degrees off vertical at harvest) (%SL). The corn silage results are reported as follows- 1. IVD= (in vitro) digestible dry matter. IVD is a measure of forage digestibility. 2. ADF=acid detergent fiber. ADF represents the less digestible portion of the corn forage, containing cellulose, lignin, and heat damaged protein. Lower ADF implies the forage is more digestible. 3. NDF=neutral detergent fiber. NDF is a measure of the feed intake of the corn forage. It is less digestible than non-fiber constituents of the forage. Forages with high NDF levels have lower energy. NDF is also a measure of potential forage intake. High NDF levels decrease the potential forage intake. 4. NDFD=neutral detergent fiber digestibility. NDFD is the portion of neutral detergent fiber digested by animals at a specified level of feed intake. High NDFD is desirable. 5. CP=crude protein. Forages are generally supplemented with high protein concentrates such as soybean meal to increase the protein content of ruminant diets. Corn hybrids with high protein levels require less supplementation and therefore result in lower feed costs.

Table 1. 2010 Precipitation (inches)

Chatham

	Norm*	2010	dev
April	2.46	0.95	-1.51
May	3.15	1.61	-1.54
June	3.61	6.82	3.21
July	3.56	5.73	2.17
August	3.55	1.96	-1.59
September	4.16	8.62	4.46
October	3.24	2.18	-1.06
Total	23.7	27.8	4.17

*30 yr avg.

Fig 1.

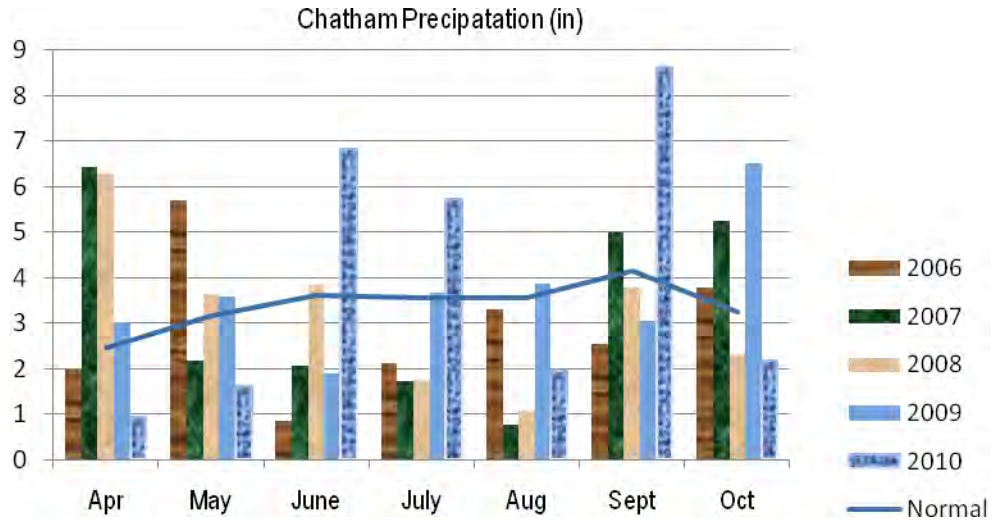

Table 2. *Michigan Oats Variety Trial 2010*
MSU Upper Peninsula Research Center, Chatham, MI

Variety	*Moisture (%)*	*Test wt (lbs/bu)*	*Ht (in)*	*Bu/acre**	*3 yr avg*	*Heading Date*	*Origin*
Buckskin	*14.7*	*35.1*	*36.2*	*76.8*	*84.6*	*7/5/2010*	*Illinois*
Colt	*15.0*	*34.7*	*35.1*	*62.4*	*NA*	*6/30/2010*	*Illinois*
Corral	*14.0*	*36.1*	*33.2*	*76.7*	*NA*	*7/8/2010*	*Illinois*
Esker	*14.0*	*30.4*	*37.5*	*78.7*	*86.2*	*6/30/2010*	*Wisconsin*
Excel	*14.9*	*31.8*	*36.7*	*75.0*	*NA*	*7/2/2010*	*Indiana*
Ida	*14.4*	*33.3*	*38.6*	*82.5*	*88.8*	*7/5/2010*	*Michigan*
Kame	*14.5*	*30.3*	*35.7*	*74.3*	*80.5*	*7/1/2010*	*Wisconsin*
Ogle	*14.0*	*32.1*	*36.5*	*78.6*	*90.7*	*6/30/2010*	*Illinois*
Saber	*14.3*	*33.7*	*31.5*	*76.5*	*NA*	*7/1/2010*	*Illinois*
Spurs	*14.6*	*35.0*	*33.5*	*68.9*	*78.5*	*7/1/2010*	*Illinois*
Mean	*14.4*	*33.2*	*35.4*	*75.0*	*4.2*		
CV%	*1.6*	*2.9*	*4.5*	*8.9*	*5.0*		
LSD 5%	*0.35*	*1.4*	*2.3*	*9.6*	*6.4*		

Design: RCB, plot size 3 x 20', (3 x 18' harvested) *Harvested: 8-16-2010*
Soil type: Eben Very Cobbly Sandy Loam *Herbicide: 1.5 pts of Buctril/ac*
Seeded: 5-12-2010 (96 lbs/ac) *Fertility: 150 lbs/ac 46-0-0*

**Yield adjusted to 14% moisture*

Discussion: The average yield of oats in 2010 was 75.0 bu/A, which was lower than the last three-year average (84.8 bu/A). The highest and lowest yield varieties were "Ida" (82.5 bu/A) and "Colt" (62.4 bu/A) respectively.

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Table 3. *Michigan Spring Wheat Variety Trial 2010*
MSU Upper Peninsula Research Center, Chatham, MI

Variety	Moisture (%)	Test wt (lbs/bu)	Ht (in)	Bu/acre*	3 yr avg	Heading Date	Origin
Ada	13.9	55.9	30.7	29.6	29.2	7/3/2010	Minnesota
Brick	14.8	61.2	34.6	36.2	NA	6/30/2010	South Dakota
Faller	14.3	59.3	34.2	37.7	NA	7/3/2010	North Dakota
Glenn	14.9	61.9	35.3	28.3	NA	7/1/2010	North Dakota
RB07	14.2	58.0	30.6	30.3	34.9	7/2/2010	Minnesota
Sabin	14.3	59.6	32.6	41.2	NA	7/4/2010	Minnesota
Tom	14.9	60.8	32.6	36.8	31.8	7/2/2010	Minnesota
Mean	14.5	59.5	32.9	34.3	31.9		
CV%	1.3	1.5	3.4	9.4	10.0		
LSD 5%	0.29	1.3	1.6	4.7	5.5		

Design: RCB, plot size 3 x 20', (3 x 18' harvested) *Harvested:* 8-17-2010
Soil type: Eben Very Cobbly Sandy Loam *Herbicide:* 1.5 pts of Buctril/ac
Seeded: 5-12-2010 (150 lbs/ac) *Fertility:* 150 lbs/ac 46-0-0

*Yield adjusted to 13% moisture

Discussion: Spring wheat yield ranged from 28.3 to 41.2 bu/A in 2010 (average: 34.3 bu/A), which was higher than the tree-year Average yield of 31.9 bu/A. The highest and lowest yield varieties of spring wheat were "Sabin" and "Glenn", respectively.

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Table 4. *Michigan Barley Variety Trial 2010*

MSU Upper Peninsula Research Center, Chatham, MI

Variety	Moisture (%)	Test wt (lbs/bu)	Ht (in)	Bu/acre*	3 yr avg	Heading Date	% lodging***	Type	Origin
B0007	14.5	47.7	21.6	40.7	NA	7/7/2010	1	Malting	BAR LLC**
B0075	14.6	47.7	22.6	44.5	NA	7/6/2010	2	Malting	BAR LLC
B0572	14.4	49.0	22.2	40.0	NA	7/4/2010	1	Malting	BAR LLC
B0717	14.3	46.9	21.7	42.0	NA	7/3/2010	1	Malting	BAR LLC
CDC Clyde	14.8	45.8	22.2	35.5	46.8	7/6/2010	7	Malting	Canada
CDC Mayfair	14.7	46.2	22.1	31.5	NA	7/7/2010	4	Malting	Canada
Celebration	14.5	48.0	24.0	44.5	NA	7/7/2010	2	Malting	BAR LLC
Innovation	14.5	49.2	23.7	47.2	NA	7/1/2010	1	Malting	BAR LLC
Lacey	14.7	48.8	22.3	36.5	48.3	7/5/2010	2	Malting	Minnesota
Pinnacle	15.3	48.5	23.0	42.0	NA	7/7/2010	2	Malting	North Dakota
Quest	14.7	47.2	24.1	38.5	NA	7/6/2010	4	Malting	Minnesota
Rasmusson	14.7	47.4	21.0	36.0	49.4	7/6/2010	1	Malting	Minnesota
SR 424	14.7	46.0	20.6	37.2	NA	7/7/2010	5	Malting	Canada
SR 425	14.7	46.3	23.8	44.7	NA	7/5/2010	8	Malting	Canada
Stellar-ND	14.5	47.5	24.5	41.2	48.0	7/4/2010	5	Malting	North Dakota
Tradition	14.5	49.3	23.2	42.0	50.5	7/5/2010	1	Malting	BAR LLC
Mean	14.6	47.6	22.6	40.2	48.6				
CV%	1.2	1.9	6.5	18.9	7.6				
LSD 5%	0.2	1.3	2.1	10.8	5.7				

Design: RCB, plot size 3 x 20', (3 x 18' harvested) *Harvested:* 8-17-2010

Soil type: Eben Very Cobbly Sandy Loam *Herbicide:* 1.5 pts of Buctril/ac

Seeded: 5-12-2010 (120 lbs/ac) *Fertility:* 150 lbs/ac 46-0-0

*Yield adjusted to 14.5% moisture **Busch Agricultural Resources

***% lodging based on a 1-10 scale-1=0-10% lodged, 9=90-100% lodged

Discussion: The average yield of spring barley in 2010 was 40.2 bu/A, which was lower than the last three-year average (48.6 bu/A). the highest yielding variety for malting was "Innovation" (47.2 bu/A) and the lowest yielding variety was "CDC Mayfair" (31.5 bu/A), respectively.

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Table 5. Michigan Spring Triticale-Peas Mixture Variety Trial
Yield (DM ton/ac) and Forage Quality
MSU Upper Peninsula Research Center, Chatham, MI

Variety/Mixture	2010 yield	% Crude Protein	% ADF	% NDF	% TDN	RFV
Trical 2700 Triticale	1.30	17.8	34.3	53.0	62.1	109.0
Triticale (VNS)*/Nugget Pea	1.59	18.6	34.2	47.4	62.2	122.3
Trical 2700 Triticale/Arvica forage peas	1.41	17.2	36.1	51.0	60.7	111.5
Trical 2700 Triticale/Henriks forage peas	1.42	17.9	35.1	50.3	61.5	113.9
Triticale (VNS)/LC 6040 forage peas	1.21	21.0	31.5	44.4	64.3	135.0
Mean	1.39	18.5	34.2	49.2	62.1	118.3
CV	22.8	11.8	4.2	6.8	1.8	7.9
LSD	0.48	4.1	2.7	6.3	2.1	17.7

Design: RCB, plot size 3 x 20', (3 x 18' harvested) *Harvested:* 6-30-2010 (Feekes stage 10.1)
Soil type: Eben Very Cobbly Sandy Loam *Fertility:* 150 lbs/ac 46-0-0
Seeded: 5-3-2010 *Seeding rate:* Mixture 120 lbs/ac, small grain alone 100 lbs/ac

*Variety not stated

(See discussion under table 6.)

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Table 6. Michigan Spring Oat-Peas Mixture Variety Trial
Yield (DM ton/ac) and Forage Quality
MSU Upper Peninsula Research Center, Chatham, MI

Variety/Mixture	2010 yield	% Crude Protein	% ADF	% NDF	% TDN	RFV
ForagePlus Oats	2.50	12.2	40.1	63.0	57.6	85.2
Oat (VNS)*/Nugget Pea	2.74	13.1	37.6	57.4	59.5	97.2
ForagePlus Oats/Arvica forage peas	2.65	12.4	41.2	60.2	56.7	87.5
ForagePlus Oats/Henriks forage peas	2.54	16.3	37.3	54.1	59.8	102.6
Caliber Oats/LC 6040 forage peas	2.45	16.7	37.2	53.9	59.8	104.0
Mean	2.57	14.1	38.7	57.7	58.7	95.3
CV	11.5	10.9	5.3	5.3	2.7	8.2
LSD	0.45	2.9	3.9	5.8	3.0	14.7

Design: RCB, plot size 3 x 20', (3 x 18' harvested) *Harvested:* 7-14-2010 (Feekes stage 10.5)
Soil type: Eben Very Cobbly Sandy Loam *Fertility:* 150 lbs/ac 46-0-0
Seeded: 5-3-2010 (120 lbs/ac) *Seeding rate:* Mixture 120 lbs/ac, Small grain alone 100 lbs/ac

*Variety not stated

Discussion: There was no significant yield difference in both small grain/pea mixture trials (tables 5 and 6). The average yield of forage oats + forage peas was higher than the triticale + forage peas (2.6 versus 1.4 dry mater tons/A). In contrast, crude protein, total digestible nutrients and relative forage value in triticale + forage peas treatments were higher than the forage oats + forage peas treatments.

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Table 7. *Michigan Alfalfa Variety Trial Yield*
(DM tons/acre)
MSU Upper Peninsula Research Center, Chatham, MI

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*

Design: RCB, plot size: 3 x 24 (3 x 21 harvested) *Seeded: 8-1-08, 20 lbs PLS/ac*
Soil type: Eben Cery Cobbly Sandy Loam *Fertility: 0-84-252/ac*

Discussion: The average yield of alfalfa in 2010 as the second production year (seeded in 2008) was 4.13 dry matter ton/A, which was higher than 2009 (3.27 dry matter ton/A). There was no significant difference in alfalfa yield among 10 different varieties tested.

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Table 8.

Michigan Alfalfa Variety Trial Yield
(DM tons/acre)
MSU Upper Peninsula Research Center, Chatham, MI
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*

Design: RCB, plot size: 3 x 20 (3 x 17 harvested) *Seeded: 7-30-09, 20 lbs PLS/ac*
Soil type: Eben Very Cobbly Sandy Loam *Fertility: 0-84-252/ac*

Discussion: The average yield of alfalfa in 2010 as the first production year (seeded in 2009) was 3.97 dry matter ton/A. There was no significant difference in alfalfa yield among 12 different varieties tested.

Sponsored by MSU AgBioResearch and MSU Extension.

Table 9.

Reed Canarygrass Biomass Variety Trial
(DM tons/acre)
MSU Upper Peninsula Research Center, Chatham, MI

Variety	Non-irrigated DM ton/A
Bellevue	1.0
Goose Pond	1.8
Marathon	1.6
Palaton	1.8
Rival	1.6
SW Bamse	1.8
Vantage	1.8
Winnebago	2.0
Mean	1.7
CV%	16.9
LSD 5%	0.4

Design: RCB, plot size: 3 x 20 (3 x 17 harvested) Seeded: 8-13-09, 10 lbs PLS/ac Harvested: 10-06-10
Soil type: Eben Very Cobbly Sandy Loam Fertility: 46-0-0, 150 lbs/ac

Discussion: There was a significant difference in eight different varieties of reed canarygrass for biomass. The average yield of reed canarygrass in 2010 was 1.7 dry matter tons/A. The highest and lowest yield varieties were “Winnegago” (2.0 dry matter tons/A) and “Bellevue” (1.0 dry matter tons/A), respectively.

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Table 10.

Michigan Corn Variety trial 2010

Menominee County Silage Trials
(89-103 Day)

			Yield		% Quality						MILK 2006	
BRAND / HYBRID	RM	%DM	GT/A	DT/A	IVD	ADF	NDF	NDFD	CP	STR	MK/T	MK/A
DAIRYLAND STEALTH-1898	98	35.8	24.7	8.6	78.9	24.4	45.8	53.8	6.3	36.2	3071	26510
DAIRYLAND STEALTH-9196	96	32.8	23.1	7.6	78.2	24.6	46.2	52.7	6.7	36.9	3027	22968
DYNAGRO CX09100	101	31.0	28.4	8.8	77.7	26.2	48.4	54.0	6.6	35.4	2979	26075
DYNAGRO D34VN19	94	32.3	22.3	7.0	79.5	24.2	46.5	55.8	6.7	33.8	3094	21785
DYNAGRO D39QN29	99	33.8	24.5	8.3	79.4	23.5	44.2	53.4	7.1	38.2	3113	25818
G2 GENETICS 5X-100 RR/HXT	100	29.6	29.6	8.7	79.0	26.6	45.0	53.3	6.3	33.0	2954	25549
GARST 86J49-3000GT Brand	103	29.3	28.1	8.2	75.6	28.6	51.1	52.2	6.3	31.2	2835	23286
GOLDEN HARVEST H-7891 3000GT Brand	103	30.1	27.1	8.1	77.5	27.2	50.4	55.3	6.5	30.5	2942	23775
GREAT LAKES 5090G3VT3	100	30.8	25.3	7.8	77.9	25.5	47.3	53.2	6.2	34.4	3001	23331
HYLAND SEEDS HLB42R	95	30.8	26.8	8.2	75.8	27.3	49.7	51.3	6.0	33.6	2861	23588
MYCOGEN F2F488	98	30.8	22.5	7.0	83.0	23.1	45.9	63.0	6.9	34.8	3289	23146
MYCOGEN TMF2R522	98	31.0	27.9	8.7	78.1	24.6	45.8	52.2	6.4	36.5	3028	26208
NK Brand N29T GT/CB/LL Brand	92	45.9	19.3	8.8	79.4	20.2	43.2	52.8	6.3	41.2	3128	24836
NuTech 3T-603 VT3	103	30.9	26.6	8.2	76.5	26.0	48.2	51.1	6.2	33.9	2913	23820
NuTech 5N-803 GT/CB/LL/RW	103	31.5	28.9	9.1	79.9	25.3	46.5	56.7	6.1	35.5	3118	28365
PIONEER 36V53	102	29.2	27.5	8.1	77.3	26.7	48.7	53.4	6.6	32.6	2950	23821
PIONEER P0115XR	101	30.2	27.7	8.4	76.9	26.8	49.0	53.0	6.4	33.2	2931	24655
RENK RK302GTCBLL	89	38.7	22.6	8.7	76.6	26.3	48.3	51.9	6.2	36.4	2923	23420
RENK RK563CBLLRW	98	33.8	21.4	7.1	75.4	29.4	53.1	53.7	6.4	29.7	2801	18384
RENK RK565GTCBLLRW	99	32.4	26.3	8.6	76.0	26.6	48.3	50.5	6.5	33.8	2885	24929
WOLF RIVER VALLEY WRV 2702L	100	32.6	27.7	9.0	77.4	26.1	48.6	53.5	6.6	32.6	2958	26635
AVERAGE		32.5	25.6	8.2	77.9	25.7	47.6	53.6	6.4	34.5	2991	24329
CV (%)		6.2	9.5	10.8	3.3	9.3	8.8	4.3	5.4	10.3	6	12
LSD (5%)		2.9	3.5	1.3	3.7	3.4	5.9	3.2	0.5	5.0	242	3971

Discussion: Seed companies are invited to enter hybrids in the trials; a fee is charged to cover expenses incurred while conducting the trials. A complete, state-wide MSU Extension report on corn trials can be found in Extension Bulletin E-431, "2010 Michigan Corn Hybrids Compared"

The average yield of corn silage in this trial was 25.6 gross tons/A with average percent dry matter of 32.5%, or an average yield of 8.2 dry matter tons/A. There are significant differences between many hybrids. The highest yielding hybrid was NuTech 5N-803 GT/CB/LL/RW (9.1 dry matter tons//A) and the lowest yielding hybrids were Dynagro D34VN19 and Mycogen F2F488 (both at 7.0 dry matter tons/A).

Sponsored by: MSU Extension, seed corn companies and Johnson Farms LLC

Table 11. *Michigan Corn Variety trial 2010*
Menominee County Silage Trials
(87-96 Day)

2010		*Yield*			*% Quality*						*MILK 2006*	
BRAND / HYBRID	*RM*	*%DM*	*GT/A*	*DT/A*	*IVD*	*ADF*	*NDF*	*NDFD*	*CP*	*STR*	*MK/T*	*MK/A*
CROPLAN 2871VT3	*88*	*36.8*	*20.5*	*7.5*	*79.8*	*22.3*	*42.5*	*52.6*	*6.5*	*39.9*	*3141*	*23697*
DAIRYLAND Hi DF-3187-7	*87*	*35.4*	*24.2*	*8.6*	*80.2*	*23.2*	*44.0*	*54.9*	*6.4*	*38.1*	*3144*	*26832*
G2 GENETICS 5H-891 RR/HX	*91*	*42.9*	*19.8*	*8.5*	*78.5*	*23.6*	*43.6*	*50.7*	*6.2*	*42.7*	*3058*	*25921*
MYCOGEN 2C302	*89*	*36.5*	*21.3*	*7.8*	*76.1*	*25.1*	*47.0*	*49.1*	*6.2*	*37.1*	*2885*	*24231*
MYCOGEN TMF2Q298	*89*	*35.3*	*22.8*	*8.0*	*79.8*	*23.1*	*44.2*	*54.4*	*6.9*	*36.7*	*3121*	*26287*
NuTech 1B-887 CB/LL	*87*	*42.7*	*18.8*	*8.0*	*80.1*	*21.4*	*41.7*	*52.1*	*6.4*	*41.5*	*3164*	*25407*
NuTech 3C-889 RR/YGCB	*89*	*40.2*	*22.7*	*9.1*	*80.7*	*21.8*	*42.1*	*54.1*	*6.1*	*41.8*	*3195*	*29074*
NuTech 5B-290 GT/CB/LL	*90*	*42.7*	*18.6*	*8.0*	*76.1*	*23.9*	*48.5*	*50.9*	*5.8*	*40.1*	*2876*	*22779*
PIONEER 38H08	*92*	*39.3*	*19.9*	*7.8*	*74.0*	*29.8*	*53.1*	*51.2*	*5.6*	*33.9*	*2711*	*21257*
PIONEER 39V07	*80*	*48.0*	*15.6*	*7.5*	*76.5*	*26.8*	*49.1*	*52.3*	*6.5*	*36.3*	*2888*	*21586*
PIONEER P8906HR	*89*	*42.9*	*18.6*	*8.0*	*77.1*	*24.9*	*45.9*	*50.1*	*6.1*	*40.4*	*2956*	*23511*
PIONEER P9380XR	*93*	*38.1*	*21.9*	*8.3*	*79.0*	*24.9*	*42.6*	*50.9*	*6.0*	*41.7*	*3096*	*25781*
WOLF RIVER VALLEY WRV 2087L	*87*	*35.0*	*20.1*	*6.9*	*76.1*	*27.3*	*50.2*	*52.3*	*6.6*	*31.8*	*2853*	*19752*
WOLF RIVER VALLEY WRV 2096L	*96*	*31.6*	*25.7*	*8.1*	*79.8*	*23.7*	*45.2*	*55.2*	*6.7*	*34.7*	*3110*	*25183*
AVERAGE		*39.1*	*20.8*	*8.0*	*78.1*	*24.4*	*45.7*	*52.2*	*6.3*	*38.3*	*3014*	*24379*
CV (%)		*7.1*	*9.6*	*9.5*	*3.8*	*9.6*	*9.0*	*6.9*	*5.1*	*8.2*	*7*	*12*
LSD (5%)		*4.0*	*2.8*	*1.1*	*4.3*	*3.3*	*5.9*	*5.1*	*0.5*	*4.5*	*289*	*4158*

Discussion: Seed companies are invited to enter hybrids in the trials; a fee is charged to cover expenses incurred while conducting the trials. A complete, state-wide MSU Extension report on corn trials can be found in Extension Bulletin E-431, "2010 Michigan Corn Hybrids Compared"

The average yield of corn silage in this trial was 20.8 gross tons/A with average percent dry matter of 39.1%, or an average yield of 8.0 dry matter tons/A. There are significant differences between many hybrids. The highest yielding hybrid was NuTech 3C-889 RR/YGCB (9.1 dry matter tons//A) and the lowest yielding hybrid was Wolf River Valley WRV 2087L (6.9 dry matter tons/A).

Sponsored by: MSU Extension, seed corn companies and Johnson Farms LLC

Table 12. *Michigan Corn Variety trial 2010*

Alger County Silage Trials (87-96 Day)

2010		*Yield*			*% Quality*						*MILK 2006*	
BRAND / HYBRID	*RM*	*%DM*	*GT/A*	*DT/A*	*IVD*	*ADF*	*NDF*	*NDFD*	*CP*	*STR*	*MK/T*	*MK/A*
CROPLAN 2871VT3	*88*	*27.0*	*25.7*	*6.9*	*80.6*	*23.3*	*44.8*	*56.5*	*7.3*	*32.8*	*3175*	*21913*
DAIRYLAND Hi DF-3187-7	*87*	*25.7*	*29.2*	*7.7*	*79.9*	*23.7*	*45.2*	*55.5*	*7.1*	*30.1*	*3137*	*21659*
G2 GENETICS 5H-891 RR/HX	*91*	*30.0*	*28.1*	*8.4*	*80.3*	*22.0*	*43.0*	*54.3*	*6.8*	*35.5*	*3183*	*26730*
MYCOGEN 2C302	*89*	*29.1*	*25.4*	*7.4*	*80.1*	*22.6*	*44.4*	*55.0*	*6.9*	*34.6*	*3154*	*23345*
MYCOGEN TMF2Q298	*89*	*25.5*	*22.5*	*5.7*	*79.5*	*24.8*	*47.2*	*56.5*	*7.5*	*28.6*	*3090*	*17703*
NuTech 1B-887 CB/LL	*87*	*27.9*	*28.3*	*7.9*	*79.1*	*23.6*	*45.0*	*53.5*	*7.0*	*32.2*	*3093*	*24417*
NuTech 3C-889 RR/YGCB	*89*	*29.0*	*30.1*	*8.7*	*79.8*	*23.5*	*45.4*	*55.6*	*7.0*	*32.5*	*3132*	*27253*
NuTech 5B-290 GT/CB/LL	*90*	*26.9*	*29.7*	*8.0*	*78.9*	*24.1*	*44.9*	*52.9*	*7.1*	*32.5*	*3083*	*24548*
PIONEER 38H08	*92*	*27.8*	*28.4*	*7.9*	*79.6*	*22.6*	*42.0*	*51.3*	*6.6*	*36.5*	*3152*	*24782*
PIONEER 39V07	*80*	*36.2*	*17.2*	*6.3*	*79.6*	*23.3*	*43.8*	*53.5*	*6.7*	*39.5*	*3136*	*20910*
PIONEER P8906HR	*89*	*33.9*	*23.8*	*8.2*	*79.6*	*22.3*	*43.1*	*52.5*	*6.9*	*38.0*	*3140*	*25808*
PIONEER P9380XR	*93*	*28.8*	*26.3*	*7.6*	*80.2*	*22.4*	*43.0*	*53.9*	*6.9*	*34.4*	*3176*	*24008*
WOLF RIVER VALLEY WRV 2087L	*87*	*24.6*	*29.0*	*7.1*	*77.3*	*26.2*	*48.7*	*53.3*	*7.0*	*30.1*	*2958*	*22820*
WOLF RIVER VALLEY WRV 2096L	*96*	*25.2*	*28.1*	*7.1*	*80.6*	*23.2*	*44.4*	*56.4*	*7.3*	*31.0*	*3184*	*22546*
AVERAGE		*28.4*	*26.6*	*7.5*	*79.6*	*23.4*	*44.6*	*54.3*	*7.0*	*33.5*	*3128*	*23460*
CV (%)		*9.5*	*10.9*	*13.4*	*2.0*	*9.2*	*6.9*	*2.9*	*5.9*	*9.9*	*4*	*13*
LSD (5%)		*3.9*	*4.2*	*1.4*	*2.2*	*3.1*	*4.4*	*2.2*	*0.6*	*4.7*	*164*	*4348*

Discussion: Seed companies are invited to enter hybrids in the trials; a fee is charged to cover expenses incurred while conducting the trials. A complete, state-wide MSU Extension report on corn trials can be found in Extension Bulletin E-431, "2010 Michigan Corn Hybrids Compared"

The average yield of corn silage in this trial was 26.6 gross tons/A with average percent dry matter of 28.4%, or an average yield of 7.4 dry matter tons/A. There are significant differences between many hybrids. The highest yielding hybrid was NuTech 3C-889 RR/YGCB (8.7 dry matter tons//A) and the lowest yielding hybrid was MYCOGEN TMF2Q298 (5.7 dry matter tons/A).

Sponsored by: MSU Extension, MSU AgBioResearch and seed corn companies

Table 13.

Michigan Corn Variety trial 2010
Delta and Menominee County Grain Trials
(81-92 Day)

2010		Delta				Menominee - Early			
BRAND / HYBRID	RM	%H2O	BU/A	Twt	%SL	%H2O	BU/A	Twt	%SL
BAYSIDE 7080	80	18.0	142.8	49.8	23.1	15.9	138.7	51.4	23.6
BAYSIDE 9081GT	81	20.7	163.6	50.1	24.0	16.9	155.7	51.4	35.7
DAIRYLAND STEALTH-6382	82	18.7	170.9	51.9	22.6	16.6	166.1	51.9	22.7
DAIRYLAND STEALTH-7985	85	21.1	156.6	50.3	85.2	17.4	150.9	51.3	73.5
DEKALB DKC30-20 (VT3)	80	18.0	167.5	55.0	3.4	16.5	170.4	55.3	3.4
DEKALB DKC35-43 (VT3)	85	19.5	176.4	54.5	17.3	17.6	183.8	55.6	48.1
DEKALB DKC36-34 (VT3)	86	20.5	184.7	51.9	1.5	18.7	197.1	52.6	4.6
DEKALB DKC37-39 (VT3)	87	21.1	194.8	50.3	9.7	19.3	194.0	52.3	7.6
DEKALB DKC38-89 (VT3)	88	24.6	192.6	48.6	0.9	20.2	199.2	51.7	0.8
DEKALB DKC42-72 (VT3)	92	21.4	185.8	49.0	13.8	18.5	184.5	51.5	6.7
G2 GENETICS 5H-885 RR/HX	85	19.8	193.7	50.1	9.2	17.2	175.8	52.3	60.0
HYLAND SEEDS HLB32R	90	20.2	170.4	51.6	91.5	17.4	160.9	51.9	61.7
HYLAND SEEDS HLCVR48	90	20.5	203.6	54.8	2.7	19.1	192.6	54.8	8.1
HYLAND SEEDS HLCVR68	98	25.8	183.2	47.7	9.7	22.0	182.8	51.7	17.0
NuTech 0A-183	83	20.4	156.6	51.9	72.4	16.5	164.2	51.9	25.1
NuTech 3C-889 RR/YGCB	89	21.5	194.1	51.1	18.0	18.3	169.3	52.0	60.2
NuTech 3T-482 VT3	82	19.6	180.0	56.8	4.3	18.1	169.3	54.7	11.8
NuTech 3T-484 VT3	84	22.7	198.1	50.1	9.0	18.7	187.3	51.2	13.9
PIONEER 39D97	79	19.1	161.6	55.5	12.4	16.2	169.6	54.8	17.4
PIONEER P8906HR	89	20.1	198.0	51.9	14.4	18.4	202.4	53.2	9.7
AVERAGE		20.7	178.7	51.6	22.2	18.0	175.7	52.7	25.6
CV (%)		4.1	8.2	2.3	39.7	3.4	8.0	2.4	74.6
LSD (5%)		1.2	20.7	1.7	12.5	0.9	19.8	1.8	27.0

Discussion: Seed companies are invited to enter hybrids in the trials; a fee is charged to cover expenses incurred while conducting the trials. A complete, state-wide MSU Extension report on corn trials can be found in Extension Bulletin E-431, "2010 Michigan Corn Hybrids Compared"

The average yield of corn grain in this trial was 178.7 bu/A (corrected to 15.5% moisture) with average grain moisture at harvest of 20.7%. There are significant differences between many hybrids. The highest yielding hybrid was HYLAND SEEDS HLCVR48 (203.6 bushels/acre) and the lowest yielding hybrid was BAYSIDE 7080 (142.8 bushels/acre).

Sponsored by: MSU Extension, MSU AgBioResearch, seed corn companies, Herioux Farms and Johnson Farms, LLC

Table 14. *Michigan Corn Variety trial 2010*
Menominee County Grain Trials
(80-97 Day)

BRAND / HYBRID	RM	%H2O	BU/A	Twt	%SL
BAYSIDE 3090GT CBLL	90	18.9	201.6	50.1	13.7
BAYSIDE 4090	90	19.1	160.3	50.4	39.9
BAYSIDE 7080	80	15.3	132.8	50.4	49.7
BAYSIDE 8081 3000GT	81	16.5	174.8	54.0	4.1
BAYSIDE 9081GT	81	16.7	155.7	51.5	47.5
CROPLAN 2871VT3	88	18.8	174.4	54.6	34.3
DAIRYLAND STEALTH-7985	85	18.5	153.1	49.7	53.1
DAIRYLAND STEALTH-9286	86	18.8	180.0	50.9	20.7
DAIRYLAND STEALTH-9789	89	20.0	175.9	51.4	15.1
DEKALB DKC36-34 (VT3)	86	18.5	183.9	53.4	23.9
DEKALB DKC37-39 (VT3)	87	18.6	196.5	53.7	12.9
DEKALB DKC38-89 (VT3)	88	20.2	191.1	51.0	2.6
DEKALB DKC42-72 (VT3)	92	18.5	210.6	51.7	7.8
DEKALB DKC43-27 (VT3)	93	20.0	186.9	51.4	18.1
DEKALB DKC45-52 (GENVT3P)	95	19.9	208.1	50.8	6.7
DYNAGRO 52V01	87	18.0	187.1	51.8	45.2
DYNAGRO CX10194	97	18.6	198.1	50.4	10.4
DYNAGRO D32RR29	92	18.3	186.4	51.6	26.3
G2 GENETICS 5H-885 RR/HX	85	17.6	176.5	52.0	41.0
G2 GENETICS 5H-891 RR/HX	91	17.6	214.3	51.8	21.8
GARST 89K65-3000GT Brand	89	18.3	179.7	52.9	62.4
HYLAND SEEDS HL8454	92	19.3	180.7	49.7	21.6
HYLAND SEEDS HLB32R	90	16.8	166.0	51.0	50.7
HYLAND SEEDS HLCVR54	92	19.3	176.9	49.3	19.5
MYCOGEN 2J337	92	20.4	189.6	50.9	13.2
MYCOGEN 2T224	86	18.9	202.8	50.9	17.2
NK Brand N29T GT/CB/LL Brand	92	18.6	179.9	49.9	54.2
NuTech 1B-592 CB/LL	92	19.7	179.0	50.7	7.6
NuTech 3A-889 RR	89	18.4	177.1	52.2	35.1
NuTech 3C-889 RR/YGCB	89	18.8	171.8	52.5	35.3
NuTech 3T-294 VT3	94	20.9	190.7	51.3	13.1
NuTech 3T-484 VT3	84	18.3	188.6	51.3	14.7
NuTech 5N-593 GT/CB/LL/RW	93	19.1	173.9	50.5	23.1
PIONEER 38N88	92	18.8	191.3	53.9	8.9
PIONEER P9380XR	93	18.6	195.6	51.8	17.4
RENK RK212	82	17.1	163.9	52.2	12.8
RENK RK292GTCBLLRW	85	18.3	175.4	52.6	16.6
RENK RK302GTCBLL	89	17.9	182.6	51.1	61.8
RENK RK334RR	89	18.0	198.4	50.6	12.8
RENK RK570VT3	95	19.6	187.9	48.8	15.1
AVERAGE		18.6	182.5	51.4	25.2
CV (%)		3.0	7.9	2.3	82.9
LSD (5%)		0.8	20.2	1.7	29.2

Discussion

The average yield of corn grain in this trial was 182.5 bu/A (corrected to 15.5% moisture) with average grain moisture at harvest of 18.6%. There are significant differences between many hybrids. The highest yielding hybrid was G2 GENETICS 5H-891 RR/HX (214.3 bushels/acre) and the lowest yielding hybrid was BAYSIDE 7080 (132.8 bushels/acre).

Sponsored by: MSU Extension, MSU AgBioResearch, seed corn companies, Herioux Farms and Johnson Farms, LLC

Table 15. Agronomic information on corn trial locations

County	*Planting Date*	*Harvest date (grain)*	*Harvest date (silage)*	*Previous Crop*	*Fertility N-P-K*	*Soil Type*	*Farm Cooperator*
Alger	*5/18/2010*	*NA*	*9/15/2010*	*Peas-oats*	*97-8-2 +6K manure*	*Eben Very Cobbly Sandy Loam*	*MSU U.P. Research Center, Chatham, MI*
Delta	*5/18/2010*	*11/1/2010*	*NA*	*Corn*	*126-8-2*	*Onaway Fine Sandy Loam*	*Herioux Farms LLC*
Menominee	*5/18/2010*	*11/1/2010*	*9/15/2010*	*Alfalfa-grass*	*97-8-2 +9K manure*	*Onaway Sandy Loam*	*Johnson Farms LLC*