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## CORN SILAGE YIELD AND DIGESTIBILITY TRIALS

**November 2013**

High commodity prices continue to reinforce the importance of high quality forage on dairy farms. In order to help our growers improve both their forage quantity and quality we performed a corn silage yield and digestibility trial to provide a non-biased evaluation of leading available corn varieties.

In this, the fourteenth year of our trial, we evaluated thirty-seven seed varieties from eleven companies on five Western New York farms. The host farms were Hi-Land Farms, LLC (Wyoming, long season varieties), R & D Crowell Farms, LLC (South Dayton, short and mid season), Halo Farm (Perry, all varieties) Noblehurst Farms (Linwood, long season), and Breezy Hill Dairy, LLC (Strykersville, short and mid season).

Two plots were located on each farm, one in well-drained soil and the other in marginally drained soil. The cooperator farm planted the corn; we harvested the crop. Two 17-foot, 4-inch areas located at 60-foot intervals from each other were hand harvested and weighed for each variety. A subset of three plants from each harvested section (for a total of 6) were gathered and chopped using a chipper shredder. All samples were then vacuum packed and sent to Cumberland Valley Analytical Lab for 30-hour in-vitro analysis.

Tables A-C compare plant yield, dry matter, composition, fiber digestibility and the combined effect of these factors on milk production using the Milk 2006 index developed by the University of Wisconsin. NDF and starch are expressed as a percentage of total dry matter while NDF digestibility (DNDF) is listed as a percentage of total plant fiber. The varieties are sorted by day length.

**Tables A-C: Average Yield, Digestible NDF (DNDF), and Starch  
Table A: Short Season (83-92 day)**

Variety	Company	Day Length	Yield 30% DM	% DM	Starch % DM	DNDF %	NDF % DM	Milk Per Ton Index	Milk Per Acre Index
835 GT	Schlessman	83	23.76	41.57	39.05	53.95	38.95	3010	21460
269HRQ	RPM	85	23.85	36.03	36.91	54.80	39.53	3236	23155
H5080RC3P	Hubner	87	21.89	35.52	35.43	55.72	40.55	3236	21245
38-04	DeKalb	88	23.70	34.29	36.66	55.57	39.74	3299	23458
327GRB	Doebblers	89	24.05	34.74	37.35	54.83	38.86	3292	23757
40R30SS RIB	FS InVision	90	23.56	32.66	35.95	56.70	39.17	3344	23631
40R27VT3P RIB	FS InVision	90	24.64	33.79	38.82	56.12	37.14	3388	25047
901 GT	Schlessman	90	26.77	33.18	38.01	55.02	37.43	3388	27205
428AMX	RPM	91	24.42	33.80	39.35	55.93	36.60	3392	24851
H6040RCSS	Hubner	91	23.35	31.06	33.89	55.29	41.53	3277	22952
312SLR	Doebblers	91	23.36	29.72	29.84	57.75	43.55	3287	23038

**Table B: Mid Season (94-100 day)**

Variety	Company	Day Length	Yield 30% DM	% DM	Starch % DM	DNDF %	NDF % DM	Milk Per Ton Index	Milk Per Acre Index
5431RRN	Chemgro	94	22.84	31.04	33.58	58.95	40.56	3428	23491
H4157RC2P	Hubner	94	25.34	31.17	35.13	57.26	39.96	3436	26121
F2F343	Mycogen	94	21.43	30.79	34.47	71.56	39.41	3715	23880
D34VN19	Dyna-Gro	94	21.64	29.84	33.21	60.27	40.58	3465	22493
455GRV	Doebblers	95	24.13	31.09	32.45	55.54	41.66	3311	23961
H5151RC3P	Hubner	95	24.92	31.56	33.65	55.48	41.21	3339	24959
46R26SS RIB	FS InVision	96	24.47	29.70	33.33	57.61	40.94	3378	24800
46-20	DeKalb	96	25.01	31.64	32.57	57.55	41.33	3262	24471
TMF2Q413	Mycogen	97	25.22	30.87	33.17	58.20	41.37	3386	25620
4811VP3	FS InVision	98	27.26	31.70	33.15	54.34	41.72	3302	27003
49-29	DeKalb	99	23.81	29.45	31.98	56.45	41.91	3316	23682

**Table C: Long Season (101-114 day)**

Variety	Company	Day Length	Yield 30% DM	% DM	Starch % DM	DNDF %	NDF % DM	Milk Per Ton Index	Milk Per Acre Index
TMF2L538	Mycogen	101	22.14	33.32	32.03	57.55	41.93	3227	21435
NK-45P	NK	101	22.15	35.81	37.47	57.97	37.31	3338	22187
H5222VT3	Hubner	101	22.99	34.19	35.97	58.01	38.79	3334	22994
516GT	Schlessman	103	22.93	31.13	33.52	60.99	40.28	3456	23777
D43VN22	Dyna-Gro	103	22.86	34.49	35.88	57.80	38.38	3342	22923
53-45	DeKalb	103	21.58	33.91	34.67	59.01	40.14	3308	21414
554GRQ	Doebblers	105	25.38	34.50	36.62	59.03	37.82	3441	26201
6538G3N	Chemgro	105	24.97	32.80	33.24	55.43	41.43	3290	24643
NK-53W	NK	105	26.38	31.71	33.70	56.15	40.25	3379	26739
5667GT3	FS Invision	106	27.21	34.11	36.07	57.09	38.32	3389	27671
H5333RC3P	Hubner	107	28.33	34.00	35.13	58.67	38.49	3433	29178
TMF2H699	Mycogen	108	24.94	30.18	27.41	55.48	45.73	3177	23767
56R60	Dyna-Gro	108	27.35	32.19	34.49	53.14	40.40	3275	26873
F2F626	Mycogen	109	25.51	30.12	30.93	66.73	41.85	3551	27180
P1449XR	Pioneer	114	26.93	28.36	31.92	62.86	38.77	3455	27913

Tables D-F compare the average yields for each variety on well-drained soils and marginally drained soils.

**Tables D-F: Average Yield in Well Drained and Marginally Drained Soils**  
**Table D: Short Season**

Variety	Company	Well Drained	Marginally Drained	Difference in Yield (WD-MD)
835 GT	Schlessman	23.95	23.57	0.38
269HRQ	RPM	24.23	23.48	0.75
H5080RC3P	Hubner	22.20	21.57	0.63
38-04	DeKalb	24.19	23.21	0.98
327GRB	Doeblers	24.81	23.30	1.52
40R30SS RIB	FS InVision	22.75	24.36	-1.61
40R27VT3P RIB	FS InVision	24.02	25.26	-1.25
901 GT	Schlessman	27.85	25.68	2.17
428AMX	RPM	24.89	23.96	0.94
H6040RCSS	Hubner	22.74	23.95	-1.21
312SLR	Doeblers	24.59	22.13	2.46

**Table E: Mid Season**

Variety	Company	Well Drained	Marginally Drained	Difference in Yield (WD-MD)
5431RRN	Chemgro	24.10	21.58	2.52
H4157RC2P	Hubner	25.93	24.75	1.18
F2F343	Mycogen	22.34	20.51	1.83
D34VN19	Dyna-Gro	22.03	21.25	0.78
455GRV	Doeblers	25.05	23.21	1.84
H5151RC3P	Hubner	25.74	24.09	1.65
46R26SS RIB	FS InVision	25.76	23.19	2.56
46-20	DeKalb	25.97	24.04	1.93
TMF2Q413	Mycogen	25.75	24.69	1.06
4811VP3	FS InVision	27.81	26.70	1.11
49-29	DeKalb	23.11	24.50	-1.39

**Table F: Long Season**

<b>Variety</b>	<b>Company</b>	<b>Well Drained</b>	<b>Marginally Drained</b>	<b>Difference in Yield (WD-MD)</b>
TMF2L538	Mycogen	26.13	18.16	7.97
NK-45P	NK	25.74	18.57	7.18
H5222VT3	Hubner	24.91	21.06	3.85
516GT	Schlessman	24.93	20.93	4.01
D43VN22	Dyna-Gro	23.83	21.90	1.94
53-45	DeKalb	22.61	20.54	2.07
554GRQ	Doebblers	26.51	24.44	2.07
6538G3N	Chemgro	25.08	24.86	0.22
NK-53W	NK	27.77	24.98	2.79
5667GT3	FS Invision	28.23	26.20	2.02
H5333RC3P	Hubner	29.07	27.59	1.47
TMF2H699	Mycogen	27.82	22.06	5.76
56R60	Dyna-Gro	27.32	27.38	-0.05
F2F626	Mycogen	28.10	22.92	5.18
P1449XR	Pioneer	26.90	26.96	-0.07

Before deciding on a variety, take time to look at other silage trials. Be sure to review your variety selection criteria with your nutritionist and crop consultant before making your final choice.

We would like to thank Chemgro Seeds, DeKalb Genetics Corporation, Doebblers Pennsylvania Hybrids, Inc., Dyna-Gro Seed, FS Growmark, Hubner Seeds, Mycogen Seeds, NK, Pioneer, and Schlessman Seed Company for their participation and financial support in the trial. A special thank you to our cooperators, Roger and Brad Almeter, David and Greg Chamberlain, Rob Noble, Dan and Anna Crowell, and Walt Faryna for their time planting the plots and for the use of their land.

## Timely CAFO Advice

By Jared Norton

As we rapidly approach the end of the year, there are a few things to keep in mind.

### Farmstead Record Keeping

Every year, Western New York Crop Management provides its member CAFO farms with an Annual Farmstead Record Keeping book. This year is no exception. We are finishing the assembly of all the necessary documents, so be expecting a call from your planner. These record books, as you know, cover the required records to be kept under the permits. Please be sure to complete records for this year and begin with the new book next year. This is definitely a focal point during EPA and DEC inspections, so be diligent in completing any necessary forms, and remember, five years of records may be requested.

### Annual Compliance Reports

As we approach the end of the year, your planner is putting together all the paperwork necessary to complete the Annual Compliance Report for your facility. These reports are required by DEC every year to cover your operation from the previous year. We are not able to begin work on these documents until 2014, but expect a call from your planner at the beginning of next year to set up an appointment for data gathering. The required information will include

maximum number of animals confined at the facility for the year, amount of exported wastes, any practices that may have been planned or completed during the year, and record keeping requirements.

### DEC Inspections

There have been many inspections carried out by DEC this year, and it is possible that more will be scheduled. DEC typically gives notice a week in advance of the inspection. In addition to an inspection of the farmstead, items that are looked at include farmstead records contained within your farmstead record keeping book, spreading records and recommendations, export records, operation and maintenance records, DEC permit documentation including Notices of Intent and Annual Compliance Reports, as well as engineering documents for structures on the facility. Review your own records to ensure that you have everything you need. Your planner will also schedule a pre-inspection visit with you to go over these items and walk the farmstead to try to resolve any issues before DEC arrives.

These are just a few things to keep in mind as we finish 2013 and begin 2014. If you have any concerns, please contact your planner.

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