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CORN SILAGE YIELD AND DIGESTIBILITY TRIAL

Every dairy farmer knows the importance of maximizing milk production while controlling input costs. One method of achieving these goals is to increase the amount of forage fed in the ration. In order to make this change, high quality forages and high forage yields are necessary. With this in mind, we performed a corn silage yield and digestibility trial to provide a non-biased evaluation of leading available corn varieties.

In the eleventh year of our trial we evaluated twenty-seven seed varieties from ten companies on five Western New York farms. The host farms were; R. L. Jeffres & Sons, Inc. (Wyoming, long season varieties), Breeze Acres (Ellington, short and mid season), Halo Farm (Perry, all varieties) Mae-Len Farms (Marilla, long season) and Breezy Hill Dairy Farm (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 cooperater 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. Varieties one and two on the A side of the Perry plot were excluded from this analysis due to accidental chopping. Populations and Milk Lines were not recorded at the Wyoming plot.

Table A-C compares 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.

**Table A-C: Average Yield, Digestible NDF (DNDF), and Starch
Table A: Short Season (91-95 day)**

Variety	Company	Day Length	Yield 30% DM	% DM	Starch % DM	DNDF %	NDF % DM	Milk Per Ton Index	Milk Per Acre Index
F2F297	Mycogen	89	21.59	36.21	38.92	71.63	35.73	3729	24157
491BMB	Doebler	91	20.50	32.13	37.53	74.62	36.27	3701	22755
38H08	Pioneer	92	22.41	34.47	38.39	59.62	37.26	3652	24557
946LLRR	LICA	94	18.73	31.19	30.60	63.10	42.45	3479	19546
V3593VT3	Dyna-Gro	95	23.02	32.51	37.44	62.26	38.43	3700	25549
38P43	Pioneer	95	21.20	34.42	37.78	58.87	39.11	3649	23201

Table B: Mid Season (98-103 day)

Variety	Company	Day Length	Yield 30% DM	% DM	Starch % DM	DNDF %	NDF % DM	Milk Per Ton Index	Milk Per Acre Index
MC515	Masters Choice	98	20.36	29.70	33.01	60.32	40.81	3517	21487
99S7	LICA	99	22.18	30.63	32.60	60.39	40.69	3555	23652
54T42	Dyna-Gro	100	24.72	29.30	33.47	61.03	40.32	3604	26723
501XRR	RPM	100	23.89	29.69	34.20	61.06	40.00	3598	25787
UFO105B6	LICA	100	19.76	29.58	30.80	68.72	40.68	3536	20965
36Y26	Pioneer	101	21.44	31.26	33.99	63.40	39.22	3621	23290
515HXR	RPM	101	24.00	30.85	34.55	60.63	40.60	3618	26048
55V48	Dyna-Gro	102	26.48	32.89	35.36	59.44	39.88	3621	28763
36V53	Pioneer	102	23.49	30.77	34.83	61.25	39.58	3647	25699
TMF2R521RR	Mycogen	102	25.31	31.84	34.28	57.87	39.90	3551	26957
N53W3000GT	NK	103	27.92	31.61	34.58	60.31	38.69	3601	30155
553GRB	Doebblers	103	26.54	31.57	35.98	60.52	37.86	3637	28955
86T823000GT	Garst	103	26.42	32.03	35.63	60.45	38.29	3629	28762

Table C: Long Season (105-110 day)

Variety	Company	Day Length	Yield 30% DM	% DM	Starch % DM	DNDF % DM	NDF % DM	Milk Per Ton Index	Milk Per Acre Index
35F44	Pioneer	105	28.06	33.26	35.49	60.93	38.81	3680	30975
558BMB	Doebblers	105	23.41	32.37	32.68	73.30	40.71	3670	25772
2W587RR	Mycogen	105	27.48	33.58	36.15	60.63	38.78	3679	30322
1056S55	LICA	105	26.80	31.73	29.99	58.63	43.14	3387	27232
5018RR	Seedway	106	27.45	33.66	33.02	55.37	43.06	3423	28190
1084LHX	LICA	108	27.14	31.29	28.81	59.22	45.33	3420	27848
F2F622	Mycogen	109	24.75	28.72	30.22	72.96	42.72	3676	27296
34A89	Pioneer	110	29.50	32.21	31.68	58.15	42.05	3472	30723

Table D-F compares the average yields for each variety on well drained soils and marginally drained soils. Wet weather during July and August resulted in a very wide difference between the well drained and marginally drained test plots this year. Therefore, the information from this year's trial should be especially useful in selecting corn varieties for fields that have less than ideal drainage.

Table 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)
F2F297	Mycogen	22.67	20.51	2.16
491BMB	Doebler	20.92	20.07	0.85
38H08	Pioneer	25.95	18.87	7.09
946LLRR	LICA	21.71	15.74	5.97
V3593VT3	Dyna-Gro	26.51	19.52	6.99
38P43	Pioneer	24.25	18.14	6.11

Table E: Mid Season

Variety	Company	Well Drained	Marginally Drained	Difference in Yield (WD-MD)
MC515	Masters Choice	23.77	16.95	6.82
99S7	LICA	25.68	18.68	7.00
54T42	Dyna-Gro	27.54	21.89	5.65
501XRR	RPM	26.01	21.77	4.25
UFO105B6	LICA	22.83	16.70	6.13
36Y26	Pioneer	23.30	19.57	3.73
515HXR	RPM	26.33	21.67	4.66
55V48	Dyna-Gro	28.37	24.59	3.78
36V53	Pioneer	25.42	21.56	3.86
TMF2R521RR	Mycogen	25.70	24.92	0.78
N53W3000GT	NK	27.99	27.84	0.15
553GRB	Doebler's	28.71	24.36	4.35
86T823000GT	Garst	28.94	23.89	5.06

Table F: Long Season

Variety	Company	Well Drained	Marginally Drained	Difference in Yield (WD-MD)
35F44	Pioneer	32.03	24.08	7.95
558BMB	Doebler's	25.20	21.61	3.59
2W587RR	Mycogen	29.76	25.19	4.57
1056S55	LICA	28.87	24.72	4.16
5018RR	Seedway	29.44	25.46	3.98
1084LHX	LICA	30.26	24.02	6.24
F2F622	Mycogen	27.46	22.05	5.41
34A89	Pioneer	31.86	27.14	4.71

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.

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