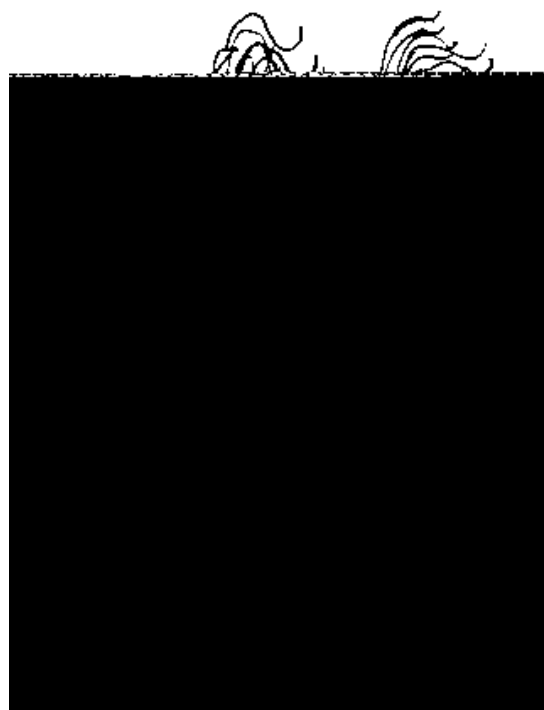


2012 Long Season Corn Silage Variety Trial



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2012 Long

Table 2. Long season silage corn varieties evaluated in Alburgh, VT. 3 g.ETQM /P 0 g[3 g.ETQ nBT/F2 3 g.ETQM /P651.34

Company	Variety	RM (days)	Traits
Dekalb	DKC40-22RIB	90	SSX/RIB
Dekalb	DKC43-48	93	GenVT3P

applied at a rate of 200 lbs per acre. Plots were 250RQJDQGFRQVLVWHGRIMZ rows. They were planted with a John Deere 1750 planter on 18-May. The seeding rate was 34,000 seeds per acre. The plot design was a randomized complete block with two replications. Treatments were twenty-four varieties. Lumax (S-metolachlor, atrazine, and mesotrione) was sprayed at 3 pints per acre post emergence for weed control. Urea was side-dressed at a rate of 200 lbs. per acre on 23-Jun. On 17-Sep and 2- Oct, depending on RM, the corn was harvested with a John Deere 2-row chopper, and the forage wagon was weighed on a platform scale. A subsample of the harvested material was collected, dried, ground, and then sent to Cumberland Valley Analytical Services in Hagerstown, MD for quality analysis. Dry matter yields were calculated and then adjusted to 35% dry matter.

Table 3. 2012 long season corn trial specifics for Alburgh, VT.

	Borderview Research Farm Alburgh, VT
Soil type	Benson rocky silt loam
Previous crop	Corn
Row width (in.)	30
Planting date	

consumed, the contents of the ration, feeding practices, the level of her production, and many other factors. Most labs calculate NEL at an intake of three times maintenance. Starch can also have an effect on NEL, where the greater the starch content, the higher the NEL (measured in Mcal per pound of silage), up to a certain point. High grain corn silage can have average starch values exceeding 40%, although levels greater than 30% are not considered to affect energy content, and might in fact have a negative impact on digestion. Starch levels vary from field to field, depending on growing conditions and variety.

The silage performance indices of milk per acre and milk per ton were calculated using a model derived from the spreadsheets developed by researchers at the University of Wisconsin. Milk per ton measures the pounds of milk that could be produced from a ton of silage. This value is generated by approximating a balanced ration meeting animal energy, protein, and fiber needs based on silage quality. The value is based on a standard cow weight and level of milk production. Milk per acre is calculated by multiplying the milk per ton value by silage dry matter yield. Therefore, milk per ton is an overall indicator of forage quality and milk per acre an indicator of forage yield and quality. Milk per ton and milk per acre calculations provide relative rankings of forage samples, but should not be considered as predictive of actual milk responses in specific situations for the following reasons:

- 1) Equations and calculations are simplified to reduce inputs for ease of use,
- 2) Farm to farm differences exist,
- 3) Genetic, dietary, and environmental differences affecting feed utilization are not considered.

Yield data and stand characteristics were analyzed using mixed model analysis using the mixed procedure of SAS (SAS Institute, 1999). Replications within trials were treated as random effects, and hybrids were treated as fixed. Hybrid mean comparisons were made using the Least Significant Difference (LSD) procedure when the F-test was considered significant ($p < 0.10$).

Variations in yield and quality can occur because of variations in genetics, soil, weather, and other growing conditions. Stat 1 165.02 419.7 (u s (t)-44 389.95 Tm{t)-4conusi)-6(s)9((m)17(ks)TJETBT1 0 0 1 28.614 331.73

RESULTS

Weather data is recorded with a Davis Instrument Vantage PRO2 weather station, equipped with a WeatherLink data logger at Borderview Research Farm in Alburgh, VT (Table 4). Though May was warmer and wetter than normal (based on 1981-2010 data), June, July, and August all had less precipitation than normal. There were an accumulated 2,717 Growing Degree Days (GDDs), at a base temperature of 50 degrees Fahrenheit. This was 324 more than the historical 30-year average for May-September.

Table 4

SW3788RRYGCRW	97	21.7
DKC48-12	98	20.6
SW4704RR	102	19.7
DKC46-61RIB	96	

Table 6. Forage quality of 24 long season corn silage varieties - Alburgh, VT, 2012.

Variety	RM	Forage quality characteristics						Milk	
		CP	ADF	NDF	dNDF	Starch	NEL	Ton	acre
		% of DM	% of DM	% of DM	% of NDF	%	Mcal lb ⁻¹	lb	lb
SW5501L	105	8.8	23.1	40.1	58.8	35.5	0.77	3071	29870
F2F626	108	8.5	25.7	44.7	68.3*	31.6	0.77	3200	29824
SW6604LRR	108	8.2	25.6	44.2	57.7	32.8	0.75	2913	29466
DKC43-48	93	7.9	20.9	35.7	56.7	40.4	0.79	3082	28086
SW6801L	110	7.6	26.1	44.4	55.0	33.4	0.75	2842	27334
DKC40-22RIB	90	7.7	26.9	45.5	55.3	29.9	0.74	2894	25986

Figure 2 displays the relationship between milk per ton and milk per acre for varieties trialed in Alburgh, VT. The dotted lines dividing the figure into four quadrants represent the mean milk per ton and milk per acre for the location. Hybrids that fall above or to the right of the lines performed better than the average, and hybrids below or to the left of the lines performed below average. There were many varieties at the Alburgh location that ranked above average in yield and quality. However,

DISCUSSION

All varieties reached proper maturity for harvest at Borderview Research Farm in Alburgh, VT. Given the above average GDDs for 2012 this does not come as a surprise. There was no severe lodging of corn stalks like there had been in previous years. Overall, the long season corn yielded an average of 22.5 tons per acre. The range of yields was between 15.2 and 29 tons per acre, showing the importance of proper varietal selection to maximize long season corn yields. Forage quality did not differ significantly by variety with the exception of the BMR hybrids that had higher dNDF when compared to the conventional hybrids.

ACKNOWLEDGEMENTS

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