

Evaluating Silage corn varieties in Interlake region

Project duration

2018

Objectives

To see production potential of different silage corn varieties in Interlake region.

Collaborators

Manitoba Corn Growers Association

Results

Silage corn varietal evaluations were done at Elm Creek, St. Pierre and Arborg sites during 2018 season. With the dry spring, both the Elm Creek and St. Pierre trials had variable emergence and early plant growth. High winds prior to harvesting caused some lodging at both the St. Pierre and Arborg sites. All three trials were taken to yield. Harvesting at Arborg was delayed by wet field conditions.

Silage corn varieties tested in the trial did differ in term of yield (Table 1). The yield ranged from 11.8 – 16.5 Mt/acre and variety PV61079 RIB produced higher yield. The trial CV was 7.1% showing that the results are presentable. Different corn varieties varied in the moisture level at harvest and it ranged from 46.7 -59.0%. Please see table on the page 21 for more detailed results.

Project Findings

These results are based on one year of testing. Please use caution while using these results. For more information, please contact Manitoba Corn Growers Association.

Background / References / Additional resources

Now with the short-season corn varieties available, producers have more options to grow silage corn in Manitoba especially in Interlake region. Manitoba Corn Growers Association coordinates varietal evaluation of potential new silage corn varieties in the province. These varietal trials were done at different sites in the province and Arborg was one of the site. This trial was conducted to see production potential of different silage corn varieties in Interlake region.

Materials and Methods

Experimental Design – Randomised block design with three replications

Treatments – 27 silage corn varieties (see table 1)

Plot size – 15m²

Data collected – plant stand, plant height, yield

Agronomic info

Stubble, soil type – cereal, heavy clay

Fertilizer applied –N – 80, P – 40 lbs/acre were applied at seeding.

Pesticides applied – Glyphosate @ 0.67L/acre

Seeding/harvesting date – May 29 / Oct 18

During harvesting, 500 grams of silage sample were taken from each plot and were sent to laboratory for quality analysis. These samples were assessed for % TDN, ADF and NDF. Yield data were analyzed using ANOVA and the means were separated using least significant difference (LSD test) at $p = 0.05$.

SILAGE CORN 2018 - ARBORG

Comments:

The silage corn hybrid trial was tested and the data donated by the Manitoba Corn Committee. The data presented is for one year only. Use with caution. All hybrids were evaluated at a plant population of 32,000 plants per acre. Plots are planted at a higher rate and thinned to achieve the target population. Yields are corrected to 65% moisture content.

| CHU 1 | | Hybrid | Technology/Genetic Trait 2 | Distributor | 65% Yield (Mt/ac) | Moisture3 (%) | 50% Silk | TDN (%) | ADF (%) | NDF (%) | Milk/Acre4 (lbs/ac) | Beef/Acre5 (lbs/ac) | NE/Gain Mcal/kg | NE/Lact Mcal/kg |
|--------------|------------|----------|----------------------------|----------------|-------------------|---------------|----------|---------|---------|------------------|---------------------|---------------------|-----------------|-----------------|
| ARBORG | | | | | | | | | | | | | | |
| 2100 | TH6875 | VT2P | RR2/VT2PRIB | Thunder Seed | 15.6 | 48.5 | -- | 57.5 | 24.04 | 44.58 | 13814 | 1151 | 1.13 | 1.67 |
| 2100 | E4H12 | R | GENVT2P | Elite Seeds | 14.2 | 52.2 | -- | 58.2 | 32.14 | 54.74 | 12199 | 1062 | 0.89 | 1.46 |
| 2125 | PS 2210 | VT2P RIB | GENVT2P | DLF Pickseed | 15.0 | 51.9 | -- | 60.9 | 29.32 | 52.26 | 14395 | 1174 | 0.97 | 1.53 |
| 2150 | AS1017 | RR2 | RR2 | PRIDE Seeds | 16.1 | 46.7 | -- | 56.2 | 25.66 | 45.03 | 13412 | 1163 | 1.09 | 1.63 |
| 2150 | A414 | RR2 | RR2 | PRIDE Seeds | 13.8 | 51.7 | -- | 63.3 | 32.57 | 56.26 | 14010 | 1119 | 0.87 | 1.45 |
| 2150 | PV 60075 | RIB | VTDpro,RR2 | Proven Seed | 14.8 | 51.2 | -- | 63.6 | 31.29 | 54.16 | 15159 | 1206 | 0.91 | 1.48 |
| 2150 | NSTRExp31 | 086 | GTCBLBL | NorthStar Seed | 13.6 | 50.9 | -- | 60.8 | 29.57 | 52.55 | 12669 | 1060 | 0.97 | 1.53 |
| 2175 | TH EXS1876 | | RR2 | Thunder Seed | 11.9 | 58.3 | -- | 65.9 | 25.76 | 44.82 | 13406 | 1004 | 1.08 | 1.63 |
| 2200 | PS 2320 | RR2 | RR2 | DLF Pickseed | 11.8 | 49.6 | -- | 60.3 | 26.96 | 49.63 | 11174 | 914 | 1.05 | 1.59 |
| 2200 | NSTRExp47 | 068 | GTCBLBL | NorthStar Seed | 15.5 | 51.4 | -- | 58.2 | 31.23 | 55.31 | 13218 | 1160 | 0.92 | 1.48 |
| 2200 | QS 1878 | GT | GT | Quarry Seed | 14.3 | 55.2 | -- | 66.6 | 29.21 | 51.84 | 15526 | 1220 | 0.98 | 1.54 |
| 2225 | LR 9474 | VT2PRIB | VT2PRIB | Legend Seeds | 16.0 | 47.9 | -- | 51.4 | 30.32 | 53.52 | 10865 | 1053 | 0.94 | 1.51 |
| 2225 | TH7578 | VT2P | RR2/VT2PRIB | Thunder Seed | 14.5 | 52.9 | -- | 63.0 | 32.12 | 56.05 | 14430 | 1169 | 0.89 | 1.46 |
| 2250 | TH4126 | RR | RR2 | Thunder Seed | 13.4 | 52.2 | -- | 58.9 | 27.76 | 50.07 | 12454 | 1013 | 1.02 | 1.57 |
| 2250 | HZ 1885 | | Agrisure 3010 | Horizon Seeds | 13.7 | 55.7 | -- | 60.4 | 27.27 | 49.91 | 12982 | 1064 | 1.04 | 1.59 |
| 2250 | DALTON | R | RR2 | Elite Seeds | 15.7 | 51.6 | -- | 61.0 | 29.02 | 51.86 | 14797 | 1225 | 0.98 | 1.54 |
| 2250 | PV 61079 | RIB | VTDpro,RR2 | Proven Seed | 16.5 | 51.6 | -- | 57.6 | 29.49 | 51.25 | 14240 | 1217 | 0.97 | 1.53 |
| 2250 | PV 61180 | RIB | VTDpro,RR2 | Proven Seed | 15.2 | 58.0 | -- | 61.3 | 27.86 | 50.06 | 14723 | 1196 | 1.02 | 1.57 |
| 2275 | PS 2333 | RR2 | RR2 | DLF Pickseed | 12.4 | 55.2 | -- | 59.0 | 27.86 | 48.55 | 11286 | 939 | 1.02 | 1.57 |
| 2300 | A4705 | HIMRR | RR2 | PRIDE Seeds | 12.8 | 55.6 | -- | 57.8 | 31.52 | 56.53 | 11026 | 948 | 0.91 | 1.47 |
| 2300 | XP1807 | 8G2 | VT2P | PRIDE Seeds | 16.1 | 55.7 | -- | 59.3 | 25.40 | 46.78 | 15217 | 1230 | 1.09 | 1.64 |
| 2300 | NSTRExp13 | 110 | GTCBLBL | NorthStar Seed | 15.6 | 54.7 | -- | 66.6 | 26.62 | 47.19 | 17480 | 1332 | 1.06 | 1.60 |
| 2310 | LR 9957 | 7RR | RR | Legend Seeds | 13.7 | 56.1 | -- | 60.8 | 28.82 | 50.13 | 12937 | 1066 | 0.99 | 1.55 |
| 2350 | HZ 675 | | Agrisure 3010 | Horizon Seeds | 13.9 | 59.0 | -- | 65.1 | 31.33 | 54.50 | 14794 | 1164 | 0.91 | 1.48 |
| 2350 | PV 62282 | RIB | VTDpro,RR2 | Proven Seed | 15.2 | 52.8 | -- | 61.2 | 29.44 | 51.30 | 14645 | 1192 | 0.97 | 1.53 |
| Site Average | | | | | 14.3 | 52.8 | | | | | | | | |
| CV | | | | | 7.12 | 4.94 | | | | | | | | |
| Sign Diff | | | | | Yes | Yes | | | | | | | | |
| LSD | | | | | 1.7 | 4.3 | | | | | | | | |
| | | | | | | | | | | May 29, 2018 | | | | |
| | | | | | | | | | | October 18, 2018 | | | | |

1 Each company assigns a corn heat unit (CHU) rating to each of their hybrids. The CHU rating is a measure of relative maturity and is one criteria for choosing a hybrid which is suitable for your growing region.

2 The Canadian Seed Trade Association (CSTA) website provides a database for corn hybrids available in Canada, available at <https://seedinnovation.ca/corn-hybrids-database>. Information provided includes technology brand name and refuge requirements.

3 Moisture content at harvest.

4 Milk per Acre was calculated using Milk 2006, a model developed by the University of Wisconsin Extension Service.

5 Beef per acre was calculated on the assumption that one pound of beef is produced for every six pounds of TDN.