CORN SILAGE VARIETY TRIAL

Corn production in Alberta has been steadily growing as producers explore its potential for silage, grain, and feedstock purposes. However, Alberta's unique climatic conditions, including its shorter growing season, variable weather patterns, and diverse soil types present distinct challenges that make hybrid selection critical for success.

In the past, GRO has struggled to accurately place seed corn in trials, since the only method available was to hand seed it, extremely limiting the plots available for research or demonstration. As a result, GRO was restricted to planting only one small contract corn plot. In the fall of 2023, GRO was fortunate to acquire a used 2-row precision planter equipped with variable row spacing and discs capable of precisely planting seeds of all sizes, from corn to canola.

In 2024, GRO conducted two small-plot corn trials. One of these trials was sponsored by an industry partner, and as such, the data remains confidential. The second trial was executed in collaboration with seed distributors who provided the seed to compare hybrid performance. This trial was designed to evaluate the performance of commercially available corn hybrids in a side-by-side comparison. Approximately 90% of the hybrids featured in GRO's Corn Silage Variety Trial are commercially available.

Agronomics:

Seeding Date: May 31, 2024
Target Plant Population: 32,000 plants/acre
Row Spacing: 30"
Fertilizer:
    Spring Deep Banded: 28.5-4.75-11.4-4.75-1 Mg @ 526 lbs/ac
        149.6 lbs/ac actual N; 25 lbs/ac actual P; 60 lbs/ac actual K; 25 lbs/ac actual S; 5.4 lbs/ac actual Mg
Pesticides:
    Glyphosate + Heat @ 270 g ae/ac +10.5 g/ac on May 29
    Glyphosate @ 270 g ae/ac on June 18
    Glyphosate @ 180 g ae/ac on July 04
Rainfall recorded from June 1 to October 15, 2024: 222.3 mm
Harvest Date: October 18, 2024

Important Acronyms Used in the Table:

- **CP (Crude Protein):** The percentage of protein present in the corn, important for assessing the feed quality for livestock. Higher CP content indicates better nutritional value for animals.
- **ADF (Acid Detergent Fiber):** A measure of the fiber content that affects the digestibility of the corn. Lower ADF values typically suggest better digestibility and higher feed quality.
- **NDF (Neutral Detergent Fiber):** Represents the total fiber content, including lignin, cellulose, and hemicellulose, which influences the digestibility and feed intake by livestock. Lower NDF values are generally preferred for better forage quality.
- **TDN (Total Digestible Nutrients):** Indicates the overall digestibility of the corn as feed. A higher TDN value reflects more energy available for livestock.
- **Mineral Content (Calcium, Phosphorus, Potassium, Magnesium):** Essential minerals that contribute to the nutritional value of the corn, impacting livestock health and productivity.
- **RFV (Relative Forage Value):** A composite score that evaluates the overall quality of the corn for use as animal feed, considering digestibility, nutrient content, and fiber levels. Higher RFV values are indicative of better forage quality.

Unfortunately, the trial site experienced hail damage on July 24, which may have resulted in yield and quality losses. Therefore, the data presented may not fully reflect the potential performance of each hybrid under ideal conditions. ***It is important to note that hybrid performance can vary significantly depending on your specific farm conditions, and we recommend conducting thorough diligence before making decisions based solely on this data.***

Acknowledgements:
We would like to express our sincere gratitude to BrettYoung, Pioneer, and Bayer for their generous support in providing seeds for testing. Their contributions have been invaluable in making this trial possible.

Corn Variety Trial - 2024

Trt #	Trt Name	Height (cm)	Yield (tons/ac) @ 65% moisture	% Dry Matter								
				CP	ADF	NDF	TDN	Calcium	Phosphorus	Potassium	Magnesium	RFV
1	P7958	228	10.2	6.1	22.2	35.2	67.0	0.21	0.16	0.45	0.14	177
2	P6909	237	11.1	5.8	20.3	34.0	68.7	0.21	0.16	0.54	0.14	188
3	P6910	229	9.2	5.4	31.7	48.6	60.5	0.20	0.17	0.93	0.15	116
4	P7202	232	11.2	6.2	14.9	27.0	72.5	0.21	0.15	0.40	0.13	250
5	P7211	237	11.0	6.4	21.7	33.7	67.8	0.21	0.15	0.49	0.14	187
6	DKC24-05 RR2	231	10.1	5.2	27.4	43.2	63.4	0.20	0.16	0.78	0.15	136
7	DKC21-36 RIB	239	7.6	5.9	22.8	41.2	66.9	0.22	0.17	0.70	0.14	151
8	DKC20-23 RIB	225	9.7	6.7	16.3	29.0	71.7	0.20	0.15	0.49	0.14	230
9	DKC072-12 RIB	227	11.1	6.5	21.0	33.4	68.6	0.22	0.16	0.42	0.14	191
10	BY Brava RR2	242	9.6	5.3	22.8	39.4	67.2	0.23	0.17	0.76	0.14	159
11	BY Belmont RR2	232	8.7	6.3	20.3	36.6	68.8	0.22	0.17	0.60	0.14	175
12	BY Guernsey VT2P RIB	248	9.6	5.7	22.9	38.5	66.7	0.22	0.16	0.67	0.14	161
13	BYM 2432001BV	227	7.8	5.9	25.8	40.7	64.9	0.22	0.16	0.50	0.15	148
14	BYM 2428002TV	244	10.4	5.8	19.6	34.1	69.4	0.22	0.16	0.57	0.14	189