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Corn for Grazing 2004 – 2006

Project #: 2004-C

Cooperators: Marvin Jackson in 2004, Bob Aasman in 2005, Shane Matthews in 2006

Sponsor: Grey Wooded Forage Association

Funded: funded through the Alberta Opportunities Fund

2006 Update

Over the past few years there has been a growing interest in corn grown for forage. While much of GWFA country is usually short on corn heat

units, a measurement of the amount of time during growing season that the temperature is suitable for growing corn, we occasionally have a year that corn works for us. This year looks like one of those, at least up on a southwest slope near Eckville.

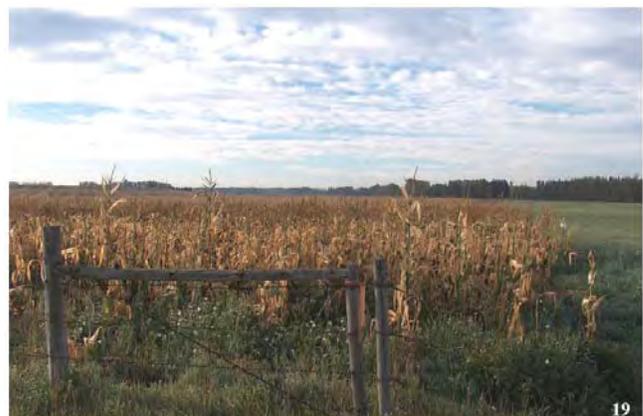
This is the third year and the third site at which we've attempted to demonstrate the potential of corn for grazing in the West Country. The previous sites were at Marvin Jackson's near Sundre in 2004 (Canamaize only) and Bob Aasman's near Rocky Mountain House in 2005 (Canamaize and Pickseed 2230). Our attempt near Rocky Mountain House in 2005 gave us our worst results. We attribute that mainly to the lack of corn heat units in 2005 at that site. Rocky Mountain House typically would not have enough heat units for successful corn crops. In recent years, corn breeders and seed growers have been working at developing corn types and varieties that will reach sufficient maturity to yield a decent crop of forage corn in low heat unit conditions. These can be used for silage, grazing or swath grazing.

Thank-you!

We really appreciate all the Sponsors for their contributions to this project as well as our Cooperator, Shane Matthews and Allan Sunde who helped with seeding.

Our Sponsors:

- **Benalto Ag Services** - Fertilizer
- **Monsanto** - 26-78 Round-Up ready Corn seed
- **Pickseed** - Hybrid 2230 Round-Up Ready Corn seed
- **Canamaize** - CM 533 Round-Up Ready Corn seed
- **Eckville Co-op** - Chemical - Round-Up Transorb
- **Lance Knudsen** - Custom Spraying



The chosen 10 acre site was previously cropped with cereals. While direct seeding is normally recommended, our seed suppliers recommended that we till soil on which we plan to grow corn. The field preparations were done by Shane Matthews and valued at \$10/acre*

The seeding was done on May 25, 2006 at a value of \$10/Acre*. Three corn varieties were used for the project in 2006. The first is Pickseed 2230 (donated by Pickseed) in the northern strip and Dekalb 2678 (donated by Monsanto) in the middle strip and Canamaize CM533 (donated by Canamaize Seeds) in the southern strip. Seed costs: Pickseed RR2230 @ \$62.92/acre, Dekalb 2678 @ \$60/acre and Canamaize CM533 @ \$60/acre. Seed costs were based on current corn seed prices for these varieties at the recommended seeding rate.

The goal for the Pickseed and Dekalb varieties was to have 2 seeds/ foot of row at 30" spacing. The goal for the Canamaize was to have 2 seeds/ foot of row at 12" spacing. Canamaize is recommended to be seeded as a 'solid stand' and can be seeded successfully with most seeders used for cereals. Seeding was done with a Melroe Disc Drill supplied by our co-operator, Shane Matthews. We had trouble with the seed not flowing properly so we ended up with lots of missed areas. We found that the seed metering wheels on this machine were too small for the large corn seed.

The amount of fertilizer used in lbs/ acre is as follows N: 134.9 P: 18.0 K: 58.0 S:12.0. The cost per acre for fertilizer was \$95.02 and was supplied by Benalto Agri-Services at a significant discount for the project. The fertilizer was applied around 9:00 pm on May 24 and incorporated May 25 prior to seeding. All 3 corn varieties are Round-Up Ready and were sprayed with Round-up Transorb (An \$86 value donated by Eckville Co-op Agro-Centre) during the week of June 11-18th and July 10 – 14th, 2006 . Custom spraying was donated by Lance Knudsen (LAN KARAG Ltd.). His usual custom rate for spraying is a minimum of \$250/Acre and \$5.10/Acre after that. We used \$5.10/acre x two applications = \$10.20 for our variable costs calculations.

We monitored precipitation at the site and received a total of 296 mm or 11.7 inches of rainfall. We also attempted to record the high and low temperatures each week but had equipment problems preventing us from getting useful information.

Red Deer had 1838 corn heat units and Rocky Mountain House had 1533 heat units from seeding date (May 25) to killing frost. The site would be more similar to Red Deer than Rocky Mountain House. Feed quality was very similar between the three varieties. Protein was about 9 %, Digestible Energy at 2.95 and TDN at 66.5.

With the input costs being virtually the same for the three varieties, the cost per dry matter ton of feed was dependant mainly on yield. Due to our seeding difficulties, we realized that we would not be getting any useful yield information based on animal unit days. We were, however, still able to get reasonably good results by using yield clips. Therefore, our information in this report is based solely on yield clips and does not factor in any waste or deterioration losses from and prior to grazing.

The yield results, as shown in Table 1, are quite interesting. The Canamaize CM533, while being the shortest statured corn at the site, yielded the highest of the three at the bottom and mid-slope of the site. We contribute the high yield of the Canamaize corn mainly on the use of 12 inch row spacing rather than the 30 inch row spacing used for the Pickseed 2230 and the Dekalb 2678 varieties. As expected, none of the varieties produced well in the sandy soil at the top of the site. It was quite obvious that the soil at the lower parts of the slope held more water and possibly nutrients available to the plants.

It is also interesting to note the correlation between yield and cost per ton of feed produced when comparing Table 1 and Table 2. Obviously, for grazing corn to be a viable feeding option, the yield must be high.

2004C Corn For Grazing		2006 Yields and Costs					
Cooperator: Shane Matthews							
Sample	Wet Wt (g)	Dry Wt (g)	Yield in lbs of Dry matter /Acre	Yield in Tons of Dry Matter /Acre	Variable Cost/Acre	Cost/lb of Dry Matter	Cost/Ton of Dry Matter Yield
Bottom (Sandy Loam on Clay subsoil)							
#1							
Pickseed 2230	2267.98	476.28	16998.28	8.50	\$196.74	\$0.0116	\$23.15
Decalb 2678	3231.75	678.67	24221.64	12.11	\$193.82	\$0.0080	\$16.00
Canamaize	4422.50	928.73	33146.20	16.57	\$193.82	\$0.0058	\$11.69
Middle (Loamy sand on clay subsoil)							
#2							
Pickseed 2230	3061.75	642.97	22947.51	11.47	\$196.74	\$0.0086	\$17.15
Decalb 2678	3969.00	833.49	29747.26	14.87	\$193.82	\$0.0065	\$13.03
Canamaize	4025.75	845.41	30172.59	15.09	\$193.82	\$0.0064	\$12.85
Top (Sandy Soil on sand subsoil)							
#3							
Pickseed 2230	2721.50	571.52	20397.37	10.20	\$196.74	\$0.0096	\$19.29
Decalb 2678	2494.75	523.90	18697.90	9.35	\$193.82	\$0.0104	\$20.73
Canamaize	2381.35	500.08	17847.98	8.92	\$193.82	\$0.0109	\$21.72

