2017 Regional Silage Variety Trials

AN important component of the annual feed supply for Alberta's cattle producers comes in the form of silage, green feed and swath grazing. It could be argued that there is more grain forage than cereal grain fed to take many market animals from conception to plate. Selection of annual crop varieties which produce the highest forage yield and/or nutritional quality becomes increasingly important.

Participating Organizations (2017)

- Battle River Research Group, Forestburg, AB, (780) 582-7308
- Chinook Applied Research Association, Oyen, AB, (403) 664-3777
- Gateway Research Organization, Westlock, AB, (780) 349-4546
- Lakeland Agricultural Research Association, Bonnyville, AB, (780) 826-7260
- Mackenzie Applied Research Association, Fort Vermilion, AB, (780) 927-3776
- Peace Country Beef and Forage, Fairview, AB, (780) 836-3354
- Smoky Applied Research and Demonstration Association, Falher, AB, (780) 837-2900

Major Sponsors

- Doug McCaulay, AOF Coordinator
- A & L Canada Laboratories Inc.
- Davidson Seeds, Degenhardt Farms, Dyck Seed Farm, Kevin Elmy, Fabian Seeds, Lindholm Seed Farm, Mastin Seeds, Solick Seeds, H. Warkentin

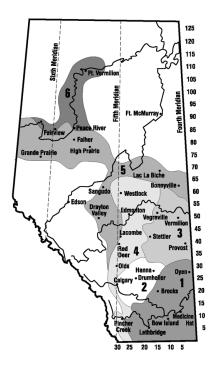
Trial Information

Silage yield and nutritional information was collected by seven applied research associations in 2017 at sites from Oven in the south to Fort Vermilion in the north. Data from additional sites grown during the past six years has been included in the variety summaries below. Varieties of barley, oats, triticale and peas commonly used for silage, green feed and swath grazing were included in the trial. The cereal trials (barley, oats and triticale) were seeded at recommended seeding density rates with recommended fertility. The pulse mixture trial looked at increasing the nutritional value of silage, with a potential side benefit of decreasing future nitrogen costs. The pulse mix plots were seeded with 50 pounds of 11-52-0-0. Peas were seeded at 75 per cent of their recommended seeding rate and cereals at 50 per cent when in mixtures. Growing conditions at the trial sites in 2017 ranged from below average to excessive moisture.

The tables below show a summary of data from 2012 through 2017 as compared to the control variety (in bold). Yield of the test varieties are expressed as wet tons/acre (i.e. 65% moisture, typical of silage production). Data sets which did not meet minimum quality standards and variance levels were excluded.

Test Yield Categories

The defined range for each Test Yield Category is provided in tons per acre. Variety yields are reported as average yields in Low, Medium and High Test Yield Categories. This allows for comparison with the check when growing conditions, management regimes and/or target yields are anticipated to be of low, medium or high productivity. Caution is advised when interpreting the data with respect to new varieties that have not been fully tested. It should also be noted that the indicated yield



levels are those from small plot trials, which can be 15 to 20 per cent higher than yields expected under commercial production. As yield is not the only factor that affects net return, other important agronomic and disease resistance characteristics should also be considered. The genetic yield potential of a variety can be influenced by various management and environmental factors.

Nutritional Analysis

Nutrition was assessed using NIRS for macronutrient assessments and wet chemistry for the micronutrients. Full nutritional analysis was done on each sample, however, only six nutritional categories are reported: crude protein (CP), total digestible nutrients (TDN) which is an estimation of energy, calcium (Ca), phosphorus (P), potassium (K) and magnesium (Mg).

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OAT

			Yield Category:				Nutritional Data:						
Variety	Overall Station Years of Testing	Overall Yield	Low < 8.0 (t/ac)	Medium 8.0 - 11.0 (t/ac)	High > 11.0 (t/ac)	CP (%)	TDN (%)	Ca (%)	P (%)	K (%)	Mg (%)		
	Varieties tested in the 2017 trials (Yield, significant differences and agronomic data only directly comparable to CDC Baler)												
CDC Baler (t/ac)		9.9	5.9	9.9	13.3	9.5	61.4	0.3	0.2	1.8	0.2		
CDC Baler	39	100	100	100	100	100	100	100	100	100	100		
AC Juniper	29	93-	103	78-	93	101	101	94	107	103	106		
AC Morgan	38	101	105	96	101	98	101	100	111	100	97		
AC Mustang	39	98	99	97	99	101	99	99	103	101	99		
CDC Haymaker	34	100	105	97	98	98	100	98	101	103	98		
CDC Seabiscuit	12	98	97	96	101	99	100	88	99	95	97		
CDC SO-1	39	96-	100	93-	95-	102	102	95	103	98	104		
Murphy	33	103	105	101	103	92	95	94	96	103	98		
Waldern	32	103	104	107	98	94	99	105	102	95	98		
	Previously tested	varieties (Yie	eld, significant diffe	erences and agrono	omic data only dire	ctly compa	rable to CI	OC Baler)					
Derby	6	96	XX	XX	XX	89	100	98	99	100	110		
Everleaf	5	94	XX	XX	XX	96	98	105	97	110	92		
Foothills	21	99	99	97	102	99	98	103	103	102	100		
Jordan	20	100	103	100	94	97	100	96	105	97	112		

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					Nutritional Data:						
Variety	Overall Station Years of Testing	Overall Yield	Low < 9.0 (t/ac)	Medium 9.0 - 12.0 (t/ac)	High > 12.0 (t/ac)	CP (%)	TDN (%)	Ca (%)	P (%)	K (%)	Mg (%)
	Varieties test	ted in the 2017	trials (Yield and	agronomic data only dire	ectly comparable to	CDC Aus	stenson)				
CDC Austenson (t/ac)		10.7	6.8	11.4	14.8	10.3	67.2	0.3	0.2	1.4	0.2
CDC Austenson	41	100	100	100	100	100	100	100	100	100	100
Altorado	22	102	107	98	102	98	99	101	103	100	92
Amisk	29	91-	90-	91-	92-	103	102	130	106	104	108
CDC Coalition	33	94-	96	91-	XX	101	100	104	108	105	100
CDC Cowboy	33	101	102	100	XX	96	99	117	110	108	117
CDC Maverick	35	104	106	102	102	96	99	122	108	95	116
CDC Meredith	22	100	102	99	101	95	98	99	101	102	94
Canmore	22	99	101	95	101	99	99	118	102	98	102
Champion	22	102	107	99	102	99	100	103	100	102	99
Claymore	22	100	100	93	105	93	97	119	97	96	99
Conlon	27	86-	82-	88-	XX	97	102	125	113	97	103
Gadsby	33	99	101	98	XX	96	100	127	100	96	101
Ranger	19	94-	91-	96	XX	99	99	161	105	122	128
Sundre	33	93-	91-	94-	XX	102	100	132	106	112	113
	Previousl	y tested variet	es (Yield and agr	onomic data only directl	y comparable to CI	OC Austen	ison)				
Busby	19	93-	87-	97	XX	100	99	128	100	100	103
Chigwell	19	90-	90-	91-	XX	101	99	152	101	105	116
Muskwa	13	90-	89	90-	XX	104	100	167	107	121	127
Ponoka	19	96	95	97	XX	97	99	148	103	104	115
Seebe	19	96-	95	98	XX	103	96	136	109	113	103
Trochu	18	88-	82-	92-	XX	99	101	139	107	109	119
Vivar	19	93-	90-	94	XX	103	100	144	99	104	123
Xena	19	95-	95	95	XX	101	99	111	105	102	106







T0M 2A0







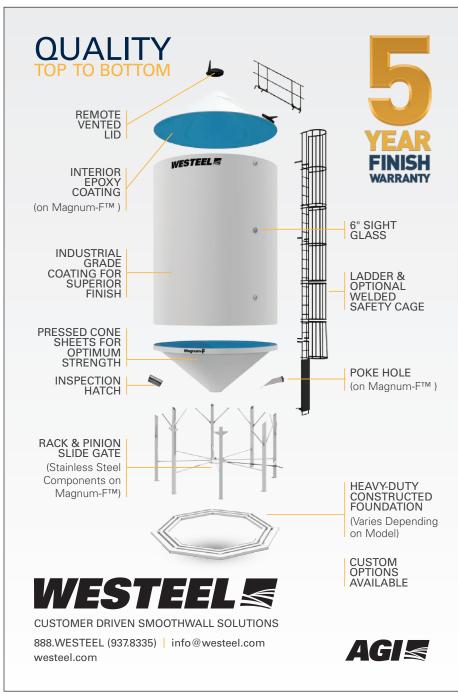
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TRITICALE

				Yield Category:			Nutritional Data:						
Variety	Overall Sta- tion Years of Testing	Overall Yield	Low < 10.0 (t/ac)	Medium 10.0 - 12.5 (t/ac)	High > 12.5 (t/ac)	CP (%)	TDN (%)	Ca (%)	P (%)	K (%)	Mg (%)		
	Varie	ties tested	in the 2017	trials (Yield and	agronomic d	ata only dir	ectly compa	rable to Taz	a)				
Taza (t/ac)		10.9	7.5	11.3	14.7	9	62.7	0.2	0.2	1.4	0.1		
Taza	44	100	100	100	100	100	100	100	100	100	100		
AAC Chiffon	15	104	XX	102	XX	107	100	87	94	109	111		
Bunker	36	99	102	98	98	103	99	109	94	95	115		
Sunray	37	100	100	102	99	104	103	106	102	103	109		
Tyndal	43	99	100	99	99	103	101	100	103	96	105		
	P	reviously te	sted varietie	es (Yield and ag	ronomic data	only directl	ly comparat	le to Taza)					
AAC Innova	8	104	XX	XX	XX	108	100	87	106	109	107		
AAC Ryley	8	97	XX	XX	XX	103	100	95	106	89	117		
AC Ultima	7	103	XX	XX	XX	110	100	101	93	97	122		
Pasteur	8	94	XX	XX	XX	107	103	96	99	107	117		
Pronghorn	21	102	105	8	XX	103	100	102	99	109	106		
Sadash	8	102	XX	XX	XX	99	99	88	91	110	105		



PULSE MIXTURES

			Yield Category:				Nutritional Data:						
Variety	Overall Station Years of Testing	Overall Yield	Low < 8.0 (t/ac)	Medium 8.0 - 10.0 (t/ac)	High > 10.0 (t/ac)	CP (%)	TDN (%)	Ca (%)	P (%)	K (%)	Mg (%)		
	Varieties tested in	the 2017 tria	s (Yield and	agronomic data	only directly co	mparable t	o CDC Aus	stenson)					
CDC Austenson (t/ac)	9	8.4	6.1	9.1	12	10.5	66.8	0.3	0.2	1.5	0.2		
CDC Austenson	9	100	100	100	100	100	100	100	100	100	100		
CDC Baler	9	106	101	XX	XX	95	95	106	106	113	115		
Taza	9	106	107	108	XX	93	95	75	108	101	84		
CDC Austenson/CDC LeRoy	4	86	XX	XX	XX	128	97	167	120	116	119		
CDC Austenson/CDC Meadow	9	100	102	99	XX	116	86	162	110	107	143		
CDC Baler/CDC LeRoy	4	87	XX	XX	XX	107	95	135	108	121	109		
CDC Baler/CDC Meadow	9	96	XX	100	XX	107	96	152	106	120	132		
Taza/CDC LeRoy	4	95	XX	XX	XX	122	95	183	109	98	120		
Taza/CDC Meadow	9	98	108	103	XX	106	95	181	105	103	129		
	Previously teste	ed varieties (rield and agr	onomic data only	directly comp	arable to C	DC Auster	ison)					
CDC Austenson/CDC Horizon	5	105	XX	XX	XX	101	97	156	102	111	133		
CDC Baler/CDC Horizon	5	101	XX	XX	XX	109	94	173	101	123	145		
Taza/CDC Horizon	5	108	XX	XX	XX	116	96	179	106	106	137		
	Varieties tested in	n the 2012 - 2	2014 trials (Y	ield and agronor	nic data only d	irectly comp	arable to	Vivar)					
Vivar (t/ac)		8.6	5.8	9.7	10.3	9.4	63.5	0.5	0.2	1.2	0.2		
Vivar	19	100	100	100	100	100	100	100	100	100	100		
Murphy	18	119+	XX	108	125+	88	94	77	99	129	88		
Pronghorn	19	111	106	105	122	96	101	63	105	103	75		
Murphy/40-10	12	105	XX	XX	XX	142	98	161	129	117	141		
Pronghorn/40-10	12	104	XX	XX	XX	125	98	150	115	103	134		
Vivar/40-10	12	97	XX	XX	XX	140	98	170	107	108	141		
Murphy/CDC Horizon	19	112	121	97	120+	114	94	130	100	124	114		
Pronghorn/CDC Horizon	19	111	120	101	112	125	98	143	105	105	106		
Vivar/CDC Horizon	19	98	103	87-	105	128	97	162	101	107	116		
Murphy/CDC Meadow	7	105	XX	XX	XX	104	95	116	101	123	95		
Pronghorn/CDC Meadow	7	101	XX	XX	XX	122	99	124	113	105	95		
Vivar/CDC Meadow	7	99	XX	XX	XX	115	100	187	89	98	119		

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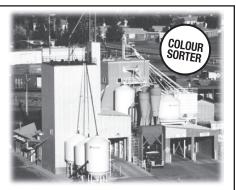
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