

BISON BENCHMARK PROJECT YEAR EIGHT - Gerard Woynarski Project Consultant

INTRODUCTION

The Saskatchewan Bison Association (SBA) and the Canadian Bison Association (CBA), support collection of current cost of production and herd performance information for the bison industry. Updated information provides producers with the ability to compare their bison business performance with the performance of others and identify areas where they could improve and enhance production and profitability. Current production and financial performance information is important to assist new entrants plan entry into the industry, present producers to expand their business, and is helpful for financial institutions to evaluate business proposals as they capitalize the bison industry.

This report summarizes the results of the eighth year of the project, provides suggestions as to how the information can be used and how more producers can get involved.

The SBA and CBA acknowledge the financial support from the Saskatchewan Ministry of Agriculture. Without their contribution and the support of bison producers this project would not be possible.

THE PROCESS

On the foundation of feedback from producers participating in the program as well as people using the information, an updated plan was established for 2018, the data collection format was refined, bison producers to provide data were identified, and data was collected through farm visits from January 1, 2018 to July 31, 2018. The data was analyzed and participants had their information compared to data collected. To preserve the confidentiality of individual producer data, the results of at least three producers were required in each data set.

THE RESULTS & DATA COLLECTED

A total of 51 farms participated in the benchmark project in 2018 and provided information on 128 bison enterprises. Data was collected from 51 enterprises involved in bison cow-calf operations, 42 enterprises were backgrounding operations, and 35 enterprises were finishing operations. The data included herd profile, production costs and investment requirements.

Although eight years of data has been collected, the most recent 3-year average production costs and performance measures are represented in this report. The 3-year average is considered a reasonable historic comparison as it represents the most recent economic and market conditions in the bison industry.

COW-CALF ENTERPRISES

Herd profile data for the cow-calf enterprise includes items such as: breeding herd size (cows and bulls), breeding herd death loss, culled animals, replacements, calving and weaning dates, number of calves weaned and weights, average calf sale prices and weights, whether or not a producer pregnancy tests, whether or not a producer de-horns, whether or not a producer sells breeding stock, bull-to-cow ratio and age distribution of cow herd. In addition, this year the pasture acre average per cow and the average breeding value per cow were collected and are reported in this article.

KEY PERFORMANCE MEASURES

Category (No. of Cows)	COW-CALF				
	2017 <u><100 & >100</u>	Under 100 <u>2017 3-Yr Av</u>		100 Plus <u>2017 3-Yr Av</u>	
Number of Farms:	51	30	30	21	24
Av # of Cows	114	58	60	196	189
Weaning Rate %	83.8	85.0	84.4	82.1	83.8
Av Wean Weight – Bulls	480	476	469	486	472
Av Wean Weight – Heifers	435	430	427	443	428
Av Days from Birth to Wean	269	267	271	272	266
Mortality % in Cow Herd	1.75	2.16	2.71	1.17	1.56
Total Feed Costs per Cow	\$500	\$526	\$466	\$463	\$430
Cash Operating Cost per Cow*	\$1070	\$1166	\$1022	\$934	\$844
Cost of Production per Cow**	\$1264	\$1393	\$1228	\$1081	\$981
Av Cash Return per Cow	\$769	\$696	\$783	\$875	\$948
Av Net Return per Cow	\$575	\$469	\$576	\$728	\$812
Av Capital costs per head	\$3402	\$4354	\$3756	\$2043	\$1794
Av Breeding Herd Value per Cow	\$4424	\$4560	\$4108***	\$4372	\$4063***
Av Pasture Acres per Cow	9.2	10.4	8.4	7.4	7.3

NOTES: * - Cash Operating Costs does not include labor & depreciation

** - Cost of Production includes cash operating costs plus labor & depreciation

*** - 2-Year Average Only

AGE DISTRIBUTION OF COW HERD (2016 vs 2017)

	<u>Under 100 Cows</u>				<u>100 Plus Cows</u>			
	<u>2016</u>		<u>2017</u>		<u>2016</u>		<u>2017</u>	
Total No. of Cows	60		58		186		196	
No. Cows < 5 Yrs.	19	32%	20	34%	50	27%	55	28%
No. Cows 5-12 Yrs.	22	36%	19	33%	77	41%	86	44%
No. Cows 13-17 Yrs.	12	20%	13	22%	41	22%	34	17%
No. Cows > 17 Yrs.	7	12%	6	10%	18	10%	21	11%
Av Age of Bulls	6		6		6		6	
Bull-to-Cow Ratio	15		15		16		16	

WEANING PERFORMANCE (2016 vs 2017)

	Early Wean (Prior to Dec 1 st)					
	All Farms		Under 100		100 Plus	
	<u>2016</u>	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>	<u>2017</u>
No. of Farms	7	5	4	3	3	n/a
Weaning Rate %	82.0	85.2	79.6	84.9	85.3	n/a
Av Wean Weight – Bulls	454	446	447	422	464	n/a
Av Wean Weight – Heifers	408	414	399	388	421	n/a
Av Days - Birth to Wean	207	215	194	201	224	n/a
Av Weaning Date	Nov 11	Nov 17	Nov 6	Nov 15	Nov 18	n/a

NOTE: n/a = less than 3 farms in data set

Normal Wean (Dec 1st to End Feb)

	All Farms		Under 100		100 Plus	
	<u>2016</u>	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>	<u>2017</u>
No. of Farms	40	39	23	23	17	16
Weaning Rate %	83.3	84.3	83.4	85.4	83.2	82.6
Av Wean Weight – Bulls	468	481	473	489	462	470
Av Wean Weight – Heifers	424	439	434	441	411	436
Av Days - Birth to Wean	281	265	285	264	275	266
Av Weaning Date	Jan 17	Jan 10	Jan 20	Jan 11	Jan 14	Jan 8

Late Wean (Mar 1st Plus)

	All Farms		Under 100		100 Plus	
	<u>2016</u>	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>	<u>2017</u>
No. of Farms	6	7	3	4	3	3
Weaning Rate %	82.9	80.3	84.0	82.9	81.8	76.8
Av Wean Weight – Bulls	491	498	493	441	488	573
Av Wean Weight – Heifers	441	431	435	399	447	473
Av Days - Birth to Wean	330	330	324	334	337	325
Av Weaning Date	Mar 21	Mar 15	Mar 17	Mar 22	Mar 26	Mar 7

OTHER FACTORS

Weaning Rates Comparisons With And With Out Pregnancy Testing

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>3-Yr Av</u>
All Cow-Calf Farms	59	53	51	54
% of Preg Testing	37%	32%	22%	30%
Wean Rates w/Preg Test	85.9%	84.1%	82.7%	84.2%
Wean Rates w/o Preg Test	85.5%	82.8%	84.1%	84.1%

De-horning:

In 2017, 18% of the total cow-calf entities in the benchmark project de-horned their animals, compared to 19% in 2016 and 22% in 2015.

Breeding Stock Sold:

In 2017, 18% of the total cow-calf operations sold breeding stock, compared to 19% in 2016 and 20% in 2015. The average number of animals sold for breeding was 4% of total animals on the farm in 2017, while it was 1.4% in 2016 and 3% in 2015.

BACKGROUNDING ENTERPRISES

Herd profile data for the backgrounding enterprise includes: number of acres pastured, number and average weight of backgrounders purchased or retained from own herd, average backgrounder purchase/retained price, days on grass/feed, number of backgrounders sold and retained, average shipping weight, and selling price.

KEY PERFORMANCE MEASURES:

Category (No. of Backgrounders)	BULLS				
	2017 <u><100 & >100</u>	2017 <u><100</u>	2015-17 <u>3-Yr Av</u>	2017 <u>>100</u>	2015-17 <u>3-Yr Av</u>
Number of Farms:	20	17	17	3	5
Av No. of Backgrounders	72	52	51	188	180
Av Wt of Purchased & Retained Head	468	466	465	477	464
Av Shipping Weight (Lbs)	824	815	795	874	853
Mortality Rate %	0.58	0.58	0.69	0.57	0.67
Days on Grass &/or Feeders	275	273	249	288	266
Av Daily Gain (Lb/day)	1.30	1.28	1.33	1.38	1.46
Av. Backgrounder Cost Per Head	\$2263	\$2245	\$1980	\$2313	\$1989
Total Cost of Production per Head	\$2774	\$2769	\$2489	\$2798	\$2484
Av Total Cost per Lb Gained	\$1.49	\$1.53	\$1.63	\$1.22	\$1.30
Total Cost of Feed per Head	\$218	\$210	\$218	\$262	\$251
Av Feed Cost per Lb Gained	\$0.62	\$0.62	\$0.69	\$0.65	\$0.65
Av Cash Return per Head	\$417	\$411	\$510	\$451	\$621
Av Net Return per Head	\$288	\$278	\$379	\$347	\$515
Av Capital Costs per Head	\$2165	\$2298	\$2106	\$1413	\$1378

HEIFERS

Category (No. of Backgrounders)	HEIFERS				
	<u>2017</u> <u><100 & >100</u>	<u>2017</u> <u><100</u>	<u>2015-17</u> <u>3-Yr Av</u>	<u>2017</u> <u>>100</u>	<u>2015-17</u> <u>3-Yr Av</u>
Number of Farms:	22	20	19	n/a	4
Av No. of Backgrounders	65	49	50	n/a	189
Av Wt of Purchased & Retained Head	428	427	422	n/a	412
Av Shipping Weight (Lbs)	716	715	706	n/a	731
Mortality Rate %	0.79	0.87	0.67	n/a	0.67
Days on Grass &/or Feeders	273	276	262	n/a	264
Av Daily Gain (Lb/day)	1.07	1.06	1.07	n/a	1.19
Av. Backgrounder Cost per Head	\$1951	\$1910	\$1643	n/a	\$1614
Total Cost of Production per Head	\$2394	\$2395	\$2126	n/a	\$2087
Av Total Cost per Lb Gained	\$1.70	\$1.73	\$1.73	n/a	\$1.53
Total Cost of Feed per Head	\$178	\$171	\$180	n/a	\$250
Av Feed Cost per Lb Gained	\$0.63	\$0.61	\$0.65	n/a	\$0.80
Av Cash Return Per Head	\$328	\$327	\$450	n/a	\$527
Av Net Return per Head	\$195	\$189	\$305	n/a	\$433
Av Capital Costs per Head	\$2652	\$2758	\$2379	n/a	\$1563

NOTE: n/a = less than 3 farms in data set

FINISHING ENTERPRISES

Herd profile data for the finishing enterprise consists of: number of feeders purchased and placed on feed, average weight of feeders purchased, feeder purchase price, days on feed, number of head sold and retained, average finish/shipping weight at farm, selling price, weight at plant (if available), hot hanging weight, and slaughter age (birth date to slaughter date).

KEY PERFORMANCE MEASURES:

Category (No. of Finish Animals)	BULLS				
	2017 <u><100 & >100</u>	2017 <u><100</u>	2015-17 <u>3-Yr Av</u>	2017 <u>>100</u>	2015-17 <u>3-Yr Av</u>
Number of Farms:	18	16	14	n/a	5
Av No. of Feeders	58	48	53	n/a	171
Av Wt of Feeders Purchased	808	797	779	n/a	841
Av Shipping Wt at Farm (Lbs)	1190	1183	1161	n/a	1194
Mortality Rate %	0.43	0.45	0.50	n/a	0.25
Shrinkage %	7.74	7.47	7.10	n/a	6.97
Dressing % at Plant	60.47	60.24	60.78	n/a	60.91
Dressing % Feedlot to Carcass	55.97	55.75	58.38	n/a	57.03
Hot Hanging Weight	668	661	655	n/a	681
Slaughter Age (Birth to slaughter - months)	27	27	26	n/a	24
Days on Feed	236	243	234	n/a	193
Av Daily Gain (Lb/day)	1.70	1.65	1.65	n/a	1.87
Av. Feeder Cost Per Head	\$2975	\$2947	\$2534	n/a	\$2656
Total Cost of Production per Head	\$3752	\$3737	\$3296	n/a	\$3397
Av Total Cost per Lb Gained	\$2.08	\$2.10	\$2.12	n/a	\$2.12
Total Cost of Feed per Head	\$366	\$368	\$379	n/a	\$396
Av Feed Cost per Lb Gained	\$0.96	\$0.96	\$1.01	n/a	\$1.13
Av Cash Return per Head	\$609	\$586	\$584	n/a	\$717
Av Net Return per Head	\$433	\$408	\$445	n/a	\$584
Av Capital Costs per Head	\$2475	\$2533	\$2044	n/a	\$1509

Category (No. of Finish Animals)	HEIFERS				
	2017 <u><100 & >100</u>	2017 <u><100</u>	2015-17 <u>3-Yr Av</u>	2017 <u>>100</u>	2015-17 <u>3-Yr Av</u>
Number of Farms:	17	15	15	n/a	3
Av No. of Feeders	56	45	44	n/a	180
Av Wt of Feeders Purchased	695	700	667	n/a	695
Av Shipping Wt at Farm (Lbs)	967	967	935	n/a	968
Mortality Rate %	0.14	0.12	0.23	n/a	0.38
Shrinkage %	7.67	7.51	7.11	n/a	7.92
Dressing % at Plant	62.27	62.08	62.21	n/a	62.04
Dressing % Feedlot to Carcass	57.47	57.40	57.69	n/a	57.89
Hot Hanging Weight	557	555	540	n/a	560
Slaughter Age (Birth to slaughter - months)	28	28	27	n/a	25
Days on Feed	267	268	247	n/a	227
Av Daily Gain (Lb/day)	1.09	1.06	1.14	n/a	1.25
Av. Feeder Cost Per Head	\$2058	\$2489	\$1976	n/a	\$2056
Total Cost of Production per Head	\$2762	\$3170	\$2665	n/a	\$2733
Av Total Cost per Lb Gained	\$2.56	\$2.65	\$2.71	n/a	\$2.56
Total Cost of Feed per Head	\$310	\$315	\$325	n/a	\$316
Av Feed Cost per Lb Gained	\$1.21	\$1.25	\$1.29	n/a	\$1.19
Av Cash Return per Head	\$429	\$395	\$480	n/a	\$577
Av Net Return per Head	\$259	\$218	\$323	n/a	\$446
Av Capital Costs per Head	\$2317	\$2373	\$2360	n/a	\$1566

NOTE: n/a = less than 3 farms in data set

SYNTHESIS

The performance measures above reflect the averages in each category. As a producer you are able to compare your bison business results to the averages in this report. By doing this you will be able to identify areas where you are doing very well and you can identify areas where you can improve your operations. For instance, if you have a feeder operation, you can compare your daily gains with the averages. This comparison will give you an indication as to how well you are doing. You can compare other variables as well. Be sure to you are comparing cost data from the same time periods.

Next Steps

The benchmarking program will continue to create value to the bison industry as producers continue to participate. To this end, plans are to continue to use the benchmarking project to support the Bison Forecasting Tool which was developed in 2017 and made available in early 2018. The Forecasting Tool allows producers to input their own bison farm data, compare it to the benchmark results, and then create “what-if” scenarios to determine how changes in production and performance factors will impact returns. The Bison Forecasting Tool can be found on the SBA and CBA websites.

Thank you to all those producers who have contributed to the benchmark project over the past eight years. We look forward to working with those who will continue to support the program in 2019. For producers interested in participating in the benchmark project, please contact Gerard Woynarski at 306-536-9841 or the SBA/CBA office at 306-522-4766.