

BISON BENCHMARK PROJECT YEAR NINE - Gerard Woynarski Project Consultant

INTRODUCTION

The Saskatchewan Bison Association (SBA) and the Canadian Bison Association (CBA), support 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 ninth 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 2019, the data collection format was refined, bison producers to provide data were identified, and data was collected through farm visits from January 1, 2019 to June 30, 2019. 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 2019 and provided information on 132 bison enterprises. Data was collected from 51 enterprises involved in bison cow-calf operations, 46 enterprises were backgrounding operations, and 35 enterprises were finishing operations. The data included herd profile, production costs and investment requirements.

Although nine years of data has been collected, in addition to the current year's results 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 more 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, weaning dates, 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 breeding herd value per cow performance measures were collected and are reported in this article.

KEY PERFORMANCE MEASURES

Category (No. of Cows)	COW-CALF				
	2018 <u><100 & >100</u>	Under 100 <u>2018 3-Yr Av</u>		100 Plus <u>2018 3-Yr Av</u>	
Number of Farms:	51	27	29	24	23
Av # of Cows	121	56	58	193	192
Weaning Rate %	84.2	83.9	84.0	84.6	83.3
Av Wean Weight – Bulls	496	507	485	483	478
Av Wean Weight – Heifers	449	457	439	432	433
Av Days from Birth to Wean	273	287	277	270	269
Mortality % in Cow Herd	1.89	2.12	2.51	1.63	1.58
Total Feed Costs Per Cow	\$550	\$566	\$519	\$533	\$474
Cash Operating Cost Per Cow*	\$1053	\$1139	\$1123	\$956	\$911
Cost of Production Per Cow**	\$1215	\$1311	\$1317	\$1101	\$1059
Av Cash Return Per Cow	\$329	\$294	\$618	\$369	\$764
Av Net Return Per Cow	\$167	\$117	\$416	\$224	\$616
Av Capital costs per head	\$3595	\$4687	\$4227	\$2366	\$2075
Av Breeding Herd Value Per Cow	\$4315	\$4504	\$4240	\$4102	\$4076
Av Pasture Acres Per Cow	8.4	9.0	9.1	7.7	7.4

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

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

AGE DISTRIBUTION OF COW HERD (2017 vs 2018)

	<u>Under 100 Cows</u>		<u>100 Plus Cows</u>	
	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>
Total No. of Cows	58	56	196	193
No. Cows < 5 Yrs	20 34%	20 36%	55 28%	62 32%
No. Cows 5-12 Yrs	19 33%	20 36%	86 44%	80 42%
No. Cows 13-17 Yrs	13 22%	11 20%	34 17%	33 17%
No. Cows > 17 Yrs	6 11 %	5 8%	21 11%	18 9%
Av Age of Bulls	6	5	6	5
Bull-to-Cow Ratio	15	15	16	13

WEANING PERFORMANCE (2017 vs 2018)

Early Wean (Prior to Dec 1st)

	<u>All Farms</u>		<u>Under 100</u>		<u>100 Plus</u>	
	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>
No. of Farms	5	4	3	n/a	n/a	3
Weaning Rate %	85.2	88.3	84.9	n/a	n/a	91.1
Av Wean Weight – Bulls	446	440	422	n/a	n/a	452
Av Wean Weight – Heifers	414	403	388	n/a	n/a	411
Av Days - Birth to Wean	215	210	201	n/a	n/a	212
Av Weaning Date	Nov 17	Nov 13	Nov 15	n/a	n/a	Nov 20

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

Normal Wean (Dec 1st to End Feb)

	All Farms		Under 100		100 Plus	
	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>
No. of Farms	39	34	23	18	16	16
Weaning Rate %	84.3	83.1	85.4	83.0	82.6	83.3
Av Wean Weight – Bulls	481	492	489	504	470	480
Av Wean Weight – Heifers	439	447	441	455	436	438
Av Days - Birth to Wean	265	266	264	266	266	267
Av Weaning Date	Jan 10	Jan 12	Jan 11	Jan 15	Jan 8	Jan 10

Late Wean (Mar 1st Plus)

	All Farms		Under 100		100 Plus	
	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>
No. of Farms	7	13	4	8	3	5
Weaning Rate %	80.3	85.9	82.9	86.5	76.8	84.9
Av Wean Weight – Bulls	498	521	441	528	573	511
Av Wean Weight – Heifers	431	468	399	471	473	463
Av Days - Birth to Wean	330	312	334	345	325	258
Av Weaning Date	Mar 15	Mar 27	Mar 22	Apr 4	Mar 7	Mar 15

OTHER FACTORS

Weaning Rates Comparisons With And With Out Pregnancy Testing

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>3-Yr Av</u>
All Cow-Calf Farms	53	51	51	52
% of Preg Testing	32%	22%	25%	26%
Wean Rates w/Preg Test	84.1%	82.7%	84.8%	83.9%
Wean Rates w/o Preg Test	82.8%	84.1%	84.0%	83.6%

De-horning:

In 2018, 8% of the total cow-calf entities in the benchmark project de-horned their animals, compared to 18% in 2017, 19% in 2016 and 22% in 2015.

Breeding Stock Sold:

In 2018, 16% of the total cow-calf operations in the benchmark project sold breeding stock, compared to 18% in 2017, 19% in 2016 and 20% in 2015. The average number of animals sold for breeding was 3.7% of total animals on the farm in 2018, compared to 4.0% in 2017, 1.4% in 2016 and 3.0% 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				
	2018 <100 & >100	2018 <100	2016-18 3-Yr Av	2018 >100	2016-18 3-Yr Av
Number of Farms:	23	20	18	3	4
Av No. of Backgrounders	75	54	52	212	193
Av Wt of Purchased & Retained Head	492	497	475	460	470
Av Shipping Weight (Lbs)	840	837	816	858	860
Mortality Rate %	1.20	1.24	0.85	0.95	0.92
Days on Grass &/or Feeders	250	248	260	288	266
Av Daily Gain (Lb/day)	1.39	1.36	1.34	1.54	1.47
Av. Backgrounder Cost Per Head	\$2228	\$2243	\$2171	\$2157	\$2183
Total Cost of Production Per Head	\$2796	\$2819	\$2701	\$2599	\$2677
Av Total Cost per Lb Gained	\$1.82	\$1.53	\$1.63	\$1.20	\$1.30
Total Cost of Feed Per Head	\$242	\$243	\$222	\$234	\$247
Av Feed Cost per Lb Gained	\$0.72	\$0.74	\$0.66	\$0.60	\$0.64
Av Cash Return Per Head	(\$160)	(\$170)	\$257	(\$95)	\$315
Av Net Return Per Head	(\$288)	(\$301)	\$123	(\$198)	\$208
Av Capital Costs Per Head	\$2799	\$2982	\$2451	\$1578	\$1402

Category (No. of Backgrounders)	HEIFERS				
	2018	2018	2016-18	2018	2016-18
	<100 & >100	<100	3-Yr Av	>100	3-Yr Av
Number of Farms:	23	20	19	3	4
Av No. of Backgrounders	79	53	50	253	189
Av Wt of Purchased & Retained Head	450	447	429	472	442
Av Shipping Weight (Lbs)	724	717	710	775	743
Mortality Rate %	0.48	0.43	0.53	0.82	0.70
Days on Grass &/or Feeders	250	250	267	253	249
Av Daily Gain (Lb/day)	1.11	1.09	1.08	1.21	1.19
Av. Backgrounder Cost Per Head	\$1906	\$1905	\$1821	\$1909	\$1859
Total Cost of Production Per Head	\$2416	\$2407	\$2312	\$2474	\$2358
Av Total Cost per Lb Gained	\$2.03	\$2.04	\$1.84	\$1.91	\$1.71
Total Cost of Feed Per Head	\$202	\$188	\$176	\$292	\$260
Av Feed Cost per Lb Gained	\$0.76	\$0.73	\$0.65	\$0.97	\$0.88
Av Cash Return Per Head	(\$288)	(\$289)	\$176	(\$285)	(\$180)
Av Net Return Per Head	(\$419)	(\$428)	\$29	(\$359)	(\$92)
Av Capital Costs Per Head	\$2765	\$2868	\$2667	\$2075	\$1694

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				
	2018 <u><100 & >100</u>	2018 <u><100</u>	2016-18 <u>3-Yr Av</u>	2018 <u>>100</u>	2016-18 <u>3-Yr Av</u>
Number of Farms:	19	12	13	7	5
Av No. of Feeders	92	44	51	173	172
Av Wt of Feeders Purchased	794	786	788	808	839
Av Shipping Wt at Farm (Lbs)	1199	1203	1187	1194	1207
Mortality Rate %	0.59	0.45	0.47	0.42	0.40
Shrinkage %	6.69	6.77	6.95	6.56	6.82
Dressing % at Plant	60.26	60.25	60.56	60.28	60.77
Dressing % Feedlot to Carcass	56.22	56.17	56.15	56.90	56.77
Hot Hanging Weight	674	675	667	672	685
Slaughter Age (Birth to slaughter - months)	26	28	27	24	24
Days on Feed	238	252	247	213	198
Av Daily Gain (Lb/day)	1.81	1.75	1.67	1.89	1.92
Av. Feeder Cost Per Head	\$2865	\$2883	\$2826	\$2835	\$2941
Total Cost of Production Per Head	\$3739	\$3816	\$3647	\$3607	\$3678
Av Total Cost per Lb Gained	\$2.25	\$2.37	\$2.16	\$2.05	\$2.03
Total Cost of Feed Per Head	\$460	\$484	\$424	n/a	\$396
Av Feed Cost per Lb Gained	\$1.15	\$1.19	\$1.06	\$1.09	\$1.07
Av Cash Return Per Head	\$513	\$491	\$553	\$551	\$648
Av Net Return Per Head	\$376	\$337	\$394	\$443	\$515
Av Capital Costs Per Head	\$2455	\$2910	\$2418	\$1674	\$1692

HEIFERS

Category (No. of Finish Animals)	2018	2018	2016-18	2018	2016-18
	<u><100 & >100</u>	<u><100</u>	<u>3-Yr Av</u>	<u>>100</u>	<u>3-Yr Av</u>
Number of Farms:	16	16	14	4	3
Av No. of Feeders	77	49	48	162	179
Av Wt of Feeders Purchased	693	701	690	669	680
Av Shipping Wt at Farm (Lbs)	987	998	965	954	963
Mortality Rate %	0.36	0.40	0.27	0.24	0.23
Shrinkage %	7.03	6.80	6.90	7.74	8.13
Dressing % at Plant	62.19	61.68	61.91	63.74	62.88
Dressing % Feedlot to Carcass	57.81	57.48	57.47	58.10	58.28
Hot Hanging Weight	570	573	555	561	561
Slaughter Age (Birth to slaughter - months)	27	27	28	24	24
Days on Feed	263	278	266	219	236
Av Daily Gain (Lb/day)	1.15	1.10	1.08	1.31	1.25
Av. Feeder Cost Per Head	\$2361	\$2367	\$2307	\$2281	\$2244
Total Cost of Production Per Head	\$3168	\$3222	\$3044	\$3007	\$2922
Av Total Cost per Lb Gained	\$2.84	\$2.93	\$2.77	\$2.57	\$2.46
Total Cost of Feed Per Head	\$409	\$428	\$358	\$353	\$324
Av Feed Cost per Lb Gained	\$1.41	\$1.47	\$1.34	\$1.23	\$1.17
Av Cash Return Per Head	\$365	\$344	\$386	\$428	\$522
Av Net Return Per Head	\$222	\$192	\$228	\$314	\$397
Av Capital Costs Per Head	\$2317	\$2736	\$2557	\$1636	\$1673

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. When doing so, be sure 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 nine years. We look forward to working with those who will continue to support the program in 2020. 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.