BISON BENCHMARK PROJECT YEAR TWELVE - Gerard Woynarski Project Consultant

INTRODUCTION

The Saskatchewan Bison Association (SBA) and the Canadian Bison Association (CBA), support collecting 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 information is also valuable to develop agricultural policy impacting the bison industry.

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. Thank you to all those producers who have contributed to the benchmark project over the past eleven years. Without your support the programs success would not have been possible.

This report summarizes the results of the twelfth year of the project and provides suggestions as to how the information can be used.

THE PROCESS

On the foundation of feedback from producers participating in the program as well as people and organizations using the information, an updated plan was developed for 2022. For this twelfth year, the program focused on maintaining the quality of the data gathered, similar to 2021. With the resources available, the number of participants was reduced with a focus on Cow-calf and Finishing bison enterprises.

The data collection format was refined, bison producers were identified, and data was collected between February 1, 2022 and July 31, 2022 mainly through long distant phone conversations with farm visits as required. The data were 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 27 farms participated in the benchmark project in 2022 and provided information on 53 bison enterprises. Data was collected from 27 enterprises involved in bison cow-calf operations and 26 enterprises were finishing operations. The data included herd profile, production costs and investment requirements.

In addition to the current year's benchmarking 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 trend of 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, 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 COW-CALF

Category (No. of Cows)	2021 <100 &100 Plus	Under 100 2019-21 2021	Under 100 2019-21 3-Yr Av	100 Plus 2019-21 2021	100 Plus 2019-21 3-Yr Av
Number of Farms:	27	12	17	15	17
Av # of Cows	152	63	62	223	214
Weaning Rate %	85.4	85.4	86.8	85.4	84.5
Av Wean Weight – Bulls	502	497	509	507	498
Av Wean Weight – Heifers	457	448	459	464	454
Av Days from Birth to Wean	275	266	276	283	273
Mortality % in Cow Herd	1.96	1.52	1.81	2.31	1.93
Total Feed Costs Per Cow	$603	$604	$571	$603	$527
Cash Operating Cost Per Cow*	$1073	$1172	$1092	$993	$901
Cost of Production Per Cow**	$1247	$1350	$1248	$1165	$1055
Av Cash Return Per Cow	($303)	($437)	$(174)	($195)	($78)
Av Net Return Per Cow	($477)	($615)	($351)	($367)	$341
Av Capital costs per head	$3062	$4013	$3953	$2302	$2264
Av Breeding Herd Value Per Cow	$2454	$2355	$3400	$2533	$3334
Av Pasture Acres Per Cow	8.6	9.1	9.2	8.3	7.8

NOTES: * - Cash Operating Costs does not include labor & depreciation
** - Cost of Production includes cash operating costs plus labor & depreciation

AGE DISTRIBUTION OF COW HERD (2020 vs 2021)

	Under 100 Cows				100 Plus Cows			
	2020		**2021**		**2020**		**2021**	
Total No. of Cows	63		63		211		223	
No. Cows < 5 Yrs	25	40%	25	40%	83	40%	99	44%
No. Cows 5-12 Yrs	26	41%	26	41%	73	35%	75	34%
No. Cows 13-17 Yrs	10	16%	9	16%	43	20%	40	18%
No. Cows > 17 Yrs	2	3%	3	3%	12	5%	9	4%
Av Age of Bulls	6		6		7		8	
Bull-to-Cow Ratio	16		16		16		16	

WEANING PERFORMANCE (2020 vs 2021)

	Early Wean (Prior to Dec 1st)					
	All Farms		**Under 100**		**100 Plus**	
	2020	**2021**	**2020**	**2021**	**2020**	**2021**
No. of Farms	5	3	n/a	n/a	4	n/a
Weaning Rate %	89.8	87.8	n/a	n/a	87.9	n/a
Av Wean Weight – Bulls	481	488	n/a	n/a	483	n/a
Av Wean Weight – Heifers	436	440	n/a	n/a	435	n/a
Av Days - Birth to Wean	216	200	n/a	n/a	217	n/a
Av Weaning Date	Nov 15	Nov 4	n/a	n/a	Nov 17	n/a

Normal Wean (Dec 1st to End Feb)

	All Farms		Under 100		100 Plus	
	2020	**2021**	**2020**	**2021**	**2020**	**2021**
No. of Farms	23	19	11	8	11	11
Weaning Rate %	85.5	84.4	88.2	83.3	83.0	85.3
Av Wean Weight – Bulls	506	495	515	509	498	486
Av Wean Weight – Heifers	456	452	458	456	454	450
Av Days - Birth to Wean	277	272	279	268	275	275
Av Weaning Date	Jan 23	Jan 17	Jan 25	Jan 18	Jan 21	Jan 16

Late Wean (Mar 1st Plus)

	All Farms		Under 100		100 Plus	
	2020	**2021**	**2020**	**2021**	**2020**	**2021**
No. of Farms	n/a	5	n/a	n/a	n/a	3
Weaning Rate %	n/a	87.4	n/a	n/a	n/a	84.6
Av Wean Weight – Bulls	n/a	537	n/a	n/a	n/a	592
Av Wean Weight – Heifers	n/a	481	n/a	n/a	n/a	527
Av Days - Birth to Wean	n/a	333	n/a	n/a	n/a	337
Av Weaning Date	n/a	Mar 19	Mar 23	n/a	n/a	Mar 21

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

OTHER FACTORS

Weaning Rates Comparisons With And With Out Pregnancy Testing

	2019	2020	2021	3-Yr Av
All Cow-Calf Farms	51	29	27	36
% of Preg Testing	24%	21%	30%	25%
Wean Rates w/Preg Test	91.7%	88.1%	85.5%	88.4%
Wean Rates w/o Preg Test	85.1%	86.0%	85.3%	85.5%

De-horning:

In 2021, four percent of the total cow-calf entities in the benchmark project de-horned their animals, compared to seven percent in 2020, seven percent in 2019, and eight percent in 2018. The average over the most recent past 3 years is 6%.

Breeding Stock Sold:

In 2021, nineteen percent of the total cow-calf operations in the benchmark project sold breeding stock, compared to 14% in 2020, 15% in 2019, and 16% in 2018; an average of 16% from 2019 to 2021, inclusive. The average number of animals sold for breeding was 0.9% of total animals on the farm in 2021, compared to 1.1% in 2020, 1.7% in 2019, and 3.7% in 2018. This is an average of 1.2 percent over the most recent past three years.

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:

		BULLS			
Category (No. of Finish Animals)	**2021 <100 & >100**	**2021 <100**	**2019-21 3-Yr Av**	**2021 >100**	**2019-21 3-Yr Av**
Number of Farms:	13	7	9	6	6
Av No. of Feeders	133	68	62	209	200
Av Wt of Feeders Purchased	815	792	804	842	838
Av Shipping Wt at Farm (Lbs)	1257	1260	1257	1253	1237
Mortality Rate %	0.69	0.69	0.81	0.68	0.90
Shrinkage %	7.05	7.04	6.64	7.08	7.11
Dressing % at Plant	59.35	59.67	60.22	58.98	59.98
Dressing % Feedlot to Carcass	55.16	55.48	56.22	54.79	55.70
Hot Hanging Weight	695	702	708	686	688
Slaughter Age (Birth to slaughter - months)	27	29	29	26	25
Days on Feed	273	311	305	229	221
Av Daily Gain (Lb/day)	1.64	1.52	1.51	1.78	1.85
Av. Feeder Cost Per Head	$1555	$1496	$1873	$1623	$1956
Total Cost of Production Per Head	$2802	$2856	$3046	$2739	$2922
Av Total Cost per Lb Gained	$2.89	$2.90	$2.66	$2.88	$2.55
Total Cost of Feed Per Head	$769	$896	$723	$620	$531
Av Feed Cost per Lb Gained	$1.75	$1.88	$1.61	$1.60	$1.41
Av Cash Return Per Head	$662	$624	$723	$706	$793
Av Net Return Per Head	$507	$482	$571	$537	$646
Av Capital Costs Per Head	$1957	$2011	$2060	$1895	$1795

		HEIFERS			
Category (No. of Finish Animals)	**2021 <100 & >100**	**2021 <100**	**2019-21 3-Yr Av**	**2021 >100**	**2019-21 3-Yr Av**
Number of Farms:	13	8	10	5	5
Av No. of Feeders	108	58	55	188	198
Av Wt of Feeders Purchased	718	691	697	760	739
Av Shipping Wt at Farm (Lbs)	1038	1039	1030	1035	1018
Mortality Rate %	0.89	0.97	1.09	0.78	0.98
Shrinkage %	6.89	7.07	6.72	6.79	7.21
Dressing % at Plant	61.40	61.90	61.50	60.61	61.16
Dressing % Feedlot to Carcass	57.17	57.53	57.36	56.59	56.97
Hot Hanging Weight	593	598	590	586	580
Slaughter Age (Birth to slaughter - months)	28	29	28	27	27
Days on Feed	301	321	305	270	260
Av Daily Gain (Lb/day)	1.15	1.19	1.15	1.07	1.13
Av. Feeder Cost Per Head	$1232	$1201	$1432	$1282	$1476
Total Cost of Production Per Head	$2386	$2433	$2492	$2312	$2376
Av Total Cost per Lb Gained	$3.69	$3.65	$3.31	$3.76	$3.31
Total Cost of Feed Per Head	$676	$714	$562	$614	$523
Av Feed Cost per Lb Gained	$2.15	$2.11	$1.73	$2.22	$1.91
Av Cash Return Per Head	$483	$492	$596	$467	$574
Av Net Return Per Head	$295	$286	$379	$308	$431
Av Capital Costs Per Head	$2567	$2902	$2895	$2030	$1880

SYNTHESIS

The performance measures above reflect the averages in each category. As a producer you can 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 finishing 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.

Conclusion

The benchmarking data of this year's program will be used to support the Bison Forecasting Tool which was developed in 2017 and made available in early 2018. The Forecasting Tool provides producers the opportunity 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.

The benchmarking program has been in existence for 12 years, providing information for the benefits of bison producers and the bison industry in general. The continuance of this project will be dependent on market needs and the support of the stakeholders in the bison industry. For those who have questions about the bison benchmark project, please contact the SBA/CBA office at 306-522-4766 for additional information.