



# Western Beef Development Centre

## WHAT SIZE OF COWHERD EARNS THE HIGHEST RETURNS?

### **Introduction**

This fact sheet compares the economics of Saskatchewan cow-calf production according to three herd sizes: 1) 34 -132 cows (average of 91 cows); 2) 132 – 190 cows (average of 160 cows); and 3) 191 – 938 cows (average of 396 cows). Data was obtained from 53 Saskatchewan producers participating in the Western Beef Development Centre's (WBDC) cost of production study. Table 1 details total costs of production and margins earned for each herd size, while Table 2 outlines the differences in yardage (overhead) costs between the three groups.

### **Background**

Total costs of production and margins earned are expressed in both dollars per cow (\$/cow) as well as dollars per pound of calf weaned (\$/lb). Production costs listed in Tables 1 & 2 are for the cowherd enterprise only, and do not include the costs associated with growing crops, baling feed, etc. given all feed and bedding was assigned its market value sitting in the bin, stack, pit, etc. The costs of rolling, grinding, processing and transporting feed to the animals are included in the yardage category. Grazing was based on the producer's discretion as to its fair market value. Grazing was valued according to "supervised" market prices, meaning the cost of the grazing day included someone checking the cattle, fences, water, etc.

All production costs associated with the bulls (feed, bedding grazing, etc.) have been included and absorbed by the cowherd. Furthermore, interest payments are included as a production cost; however principal debt payments have not been included.

Breeding stock depreciation was only calculated on the breeding stock culled or determined to be a cull during 2003 (open, stifled, etc.). Obviously the BSE crisis resulted in the Saskatchewan breeding herd devaluing substantially from the beginning to end of 2003. However, the true market devaluation was beyond the scope of this study for a couple of reasons. First, the limited trading of breeding stock in the second half of 2003 resulted in many producers being uncertain as to the value of their breeding stock. Second, the cow culling rate of 6.3%-7.7% (depending on herd size) was lower

than in past years (because of poor cull prices and extended breeding seasons) and thus resulted in the breeding stock depreciation per cow being calculated on a smaller percentage of the herd than normal.

## **Results**

### **Value of Production**

Value of production is simply the value of weaned calves (net of trucking and marketing deductions) less breeding stock depreciation. Weaned calf values ranged from 538 lbs/head @ \$1.05/lb in the medium sized herds to 496 lbs/head @ \$1.17/lb in the larger herds.

### **Total Production Costs**

The major difference in total costs of production between the three herd sizes centered on total yardage costs (Table 2). Total yardage costs including unpaid labour varied from \$189/cow (\$0.39/lb) in the smaller sized herds to \$110/cow (\$0.24/lb) in the larger herds. Excluding unpaid labour as a production cost resulted in yardage costs ranging from \$108/cow (\$0.23/lb) to \$78/cow (\$0.17/lb), in the small and large sized herds respectively.

Total production costs ranged from \$587/cow (\$1.22/lb) for the small herds to \$471/cow (\$1.02/lb) for the larger herds. When unpaid labour was not included as a production cost, the variation in costs of production between the different herd sizes was less, however the high cost producers were still @ 1.05/lb as compared to the larger herds @ \$0.95/lb.

## **Conclusions**

After analyzing the 2003 costs of production data for 53 producers throughout Saskatchewan, it appears larger sized cowherds were able to produce a pound of weaned calf cheaper than smaller sized herds. This result was also seen in the 2002 WBDC analysis.

To participate in the WBDC cost of production program (cow-calf and/or feedlot) or to obtain further information regarding this and many other articles pertaining to this topic, contact Tim Highmoor at (306) 966-2627, [www.wbdc.sk.ca](http://www.wbdc.sk.ca) or email [thighmoor@wbdc.sk.ca](mailto:thighmoor@wbdc.sk.ca).

**Table 1. 2003 Saskatchewan Cow Calf Herd Size Analysis**

	Small	Medium	Large			
# of Herds	18	18	17			
Range of Cows Expected to Calve in 2003	34 – 132	133 - 190	191 – 938			
Cows Expected to Calve in 2003	91	160	396			
Number of Calves Weaned	85	152	369			
Avg. Weaning Weight	511	538	496			
Avg. Winter Feeding Days/Cow	171	174	150			
Avg. Pasture Grazing Days/Cow	156	144	173			
Avg. Aftermath Grazing Days/Cow	29	26	19			
Avg. Swath/Corn Grazing Days/Cow	9	21	23			
Bull Culling Rate	14.4%	19.3%	14.5%			
Cow Culling Rate	6.3%	7.7%	6.6%			
Cow Deaths	1.5%	1.0%	1.0%			
Bull Deaths	2.6%	3.2%	1.9%			
<b>Value of Production</b>	<b>\$/cow</b>	<b>\$/lb</b>	<b>\$/cow</b>	<b>\$/lb</b>	<b>\$/cow</b>	<b>\$/lb</b>
Value of Weaned Calves Less Trucking & Marketing	526.96	1.10	537.13	1.05	542.30	1.17
Breeding Stock Depreciation	-63.77	-0.13	-53.13	-0.10	-64.34	-0.14
<b>Total Value of Production (A)</b>	<b>\$463.19</b>	<b>\$0.96</b>	<b>\$484.00</b>	<b>\$0.95</b>	<b>\$477.96</b>	<b>\$1.03</b>
<b>Production Costs</b>						
Winter Feed & Bedding	219.30	0.46	220.25	0.43	161.10	0.35
Pasture Grazing	115.13	0.24	112.62	0.22	142.42	0.31
Aftermath Grazing	12.40	0.03	11.37	0.02	6.94	0.02
Swath/Corn Grazing	8.18	0.02	17.46	0.03	20.58	0.04
Veterinary & Medicine	26.21	0.05	22.27	0.04	21.86	0.05
Operating Interest	2.85	0.01	2.37	0.00	3.64	0.01
Capital Interest	13.40	0.03	13.09	0.03	4.21	0.01
Yardage	189.56	0.39	160.66	0.31	110.80	0.24
<b>Total Production Costs (B)</b>	<b>\$587.03</b>	<b>\$1.22</b>	<b>\$560.69</b>	<b>\$1.09</b>	<b>\$471.55</b>	<b>\$1.02</b>
<b>Margin (A-B)</b>	<b>-\$123.84</b>	<b>-\$0.26</b>	<b>-\$76.09</b>	<b>-\$0.15</b>	<b>\$6.41</b>	<b>\$0.01</b>
<b>Total Production Costs Less Unpaid Labour</b>	<b>\$505.69</b>	<b>\$1.05</b>	<b>\$508.74</b>	<b>\$0.99</b>	<b>\$439.04</b>	<b>\$0.95</b>

**Table 2. 2003 Saskatchewan Cow-Calf Herd Size Yardage Analysis**

<b>Herd Size</b>	<b>Small</b>		<b>Medium</b>		<b>Large</b>	
Avg. Winter Feeding Days/Cow	171		174		150	
Cows Expected to Calve in 2003	91		160		396	
<b>Yardage Costs</b>	<b>\$/cow</b>	<b>\$/lb</b>	<b>\$/cow</b>	<b>\$/lb</b>	<b>\$/cow</b>	<b>\$/lb</b>
Fuel	13.53	0.03	10.93	0.02	8.83	0.02
Repairs – Machinery	12.52	0.03	10.14	0.02	8.44	0.02
Repairs – Buildings	5.64	0.01	5.67	0.01	3.29	0.01
Utilities & Miscellaneous	20.66	0.04	20.34	0.04	14.14	0.03
Custom Work	9.95	0.02	9.55	0.02	5.51	0.01
Paid Labour	8.80	0.02	25.61	0.05	17.53	0.04
Unpaid Labour	81.34	0.17	51.35	0.10	32.51	0.07
Taxes & Insurance	11.00	0.02	5.38	0.01	3.56	0.01
Building & Machinery Depreciation	24.84	0.05	19.31	0.04	14.73	0.03
Machinery Lease Payments	1.28	0.00	2.38	0.00	2.27	0.00
<b>Total Yardage Costs</b>	<b>\$189.56</b>	<b>\$0.39</b>	<b>\$160.66</b>	<b>\$0.31</b>	<b>\$110.81</b>	<b>\$0.24</b>
<b>Total Yardage Costs/Winter Feeding Day</b>	<b>\$1.11</b>		<b>\$0.93</b>		<b>\$0.74</b>	
<b>Total Yardage Costs Less Unpaid Labour</b>	<b>\$108.22</b>	<b>\$0.23</b>	<b>\$109.31</b>	<b>\$0.21</b>	<b>\$78.30</b>	<b>\$0.17</b>
<b>Total Yardage Cost/Winter Feeding Day Less Unpaid Labour</b>	<b>\$0.63</b>		<b>\$0.63</b>		<b>\$0.52</b>	
<b>Investment (\$/cow)</b>						
Buildings	221		154		94	
Machinery	201		157		118	



Ducks Unlimited Canada

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