



# Western Beef Development Centre

## The Western Beef Development Centre Backgrounding Report

### Introduction

Every fall cow-calf producers have a variety of options when considering what to do with their soon to be weaned calf crop. Should I sell my calves straight off the cow, background them for a while or finish them out? These are all questions that a cow-calf producer asks himself as the fall season begins. To discuss the pros and cons of each of these options in the space allotted for this article would be very difficult. Therefore we will focus only on the revenues and expenses the Western Beef Development Centre (WBDC) incurred in the winter of 2001-02, while backgrounding it's 2001 calf crop.

### March – September 2001

The majority of the WBDC's cowherd calved in March and April, with "stragglers" extending into early July. The calves originated from predominantly Black Angus cows and heifers, bred to Black Angus and Gelbvieh bulls. Of the 427 head that calved in 2001, 200 were first calf Black Angus heifers bred to Black Angus bulls.

On September 10, 2001, 120 calves were weaned. Forty of the largest steer calves in this group were sold the day they were weaned. These 40 steers had an average weight of 563 lbs. and sold for \$1.62/lb. The remaining 80 calves weaned on September 10 were sorted according to sex and started on a backgrounding ration. The rest of the calf crop (276 head) was weaned September 26 and 27, 2001. These 276 calves along with the 80 calves weaned September 10 were then sorted into 6 separate pens based on (1) size and (2) the particular research trials being conducted. Ideally, our calves would have been grouped according to both body weight and sex, however due to limited pen space, sorting according to body weight was the only grouping method employed.

The result of mixing the calves that were weaned on September 10 with those weaned on September 26 and 27 definitely caused some problems. For example, the first group of weaned calves were scheduled to be placed on a ration that would allow them to gain close to 2 lbs/day, when the second group of calves were weaned. Mixing newly weaned calves with calves already started on feed resulted in the ration for the entire pen of calves being "backed off," so all calves could become adjusted to being on feed. From September 27 to November 1, the backgrounding ration for this group of calves was slowly increased. Once settled in the feedlot, calves weighing 500-650 lbs were intended to gain 2.12 lbs/day, the 450-500 lb. calves were to gain 1.94 lbs/day and the 300-450 lb. calves were to gain 1.99 lbs/day.

### November 30, 2001

To facilitate a steady source of cash flow, it was decided these 356 weaned calves would be sold in groups throughout the winter. The first group of backgrounded calves were sold November 30, 2001. This package consisted of 92 steers and 105 heifers. On sale day, the steers weighed in at 654 lbs/head and sold for \$1.36/lb., while the heifer calves weighed in at 646 lbs/head and sold for \$1.28/lb. When these calves were weaned (either September 10 or 27) the steers and heifers had an average weight of 514 and 523 lbs./head respectively (assuming a 2% shrink). The steers were valued at \$813.18/head (\$1.58/lb) and the heifers at \$753.72/head (\$1.44/lb).

During the time period these calves were in the feedlot, the steers and heifers gained 2.02 and 1.78 lbs/day respectively. The estimated costs and returns of backgrounding these calves from their weaning date to November 30<sup>th</sup> are shown in

**Table 1.** The “bottom line” of Table 1 is that backgrounding these 197 calves resulted in our feedlot enterprise **losing \$49.39 - \$53.51/head.**

**Table 1. Backgrounding Returns for Calves on Feed from September 2001 to November 30, 2001**

Costs	\$/Head		
Value of Steers Entering Feedlot (514 lbs. @ \$1.58/lb.)	813.18		A
Value of Heifers Entering Feedlot (523 lbs. @ \$1.44/lb.)	753.72		B
	\$/Head/Day	\$/Head	
Custom Tub Grinding	0.04	2.56	
Vet Supplies and Services	0.12	8.40	
Feed	0.66	46.28	
Bedding	0.02	1.37	
Labour	0.17	12.23	
Fuel/Utilities	0.06	4.21	
Repairs	0.10	7.01	
Management	0.01	0.70	
Manure Removal	0.07	4.91	
Depreciation	0.05	3.51	
Actual Death Loss (0.5%)	0.06	4.24	
<b>Total Costs</b>	1.36	95.41	C
<b>Cost of Backgrounding Steers</b>		908.59	A + C
<b>Cost of Backgrounding Heifers</b>		849.13	B + C
<b>Steer Revenue Less Trucking and Marketing</b>		859.20	D
<b>Heifer Revenue Less Trucking and Marketing</b>		795.62	E
<b>Steer Returns</b>		-49.39	D - A - C
<b>Heifer Returns</b>		-53.51	E - B - C
	Average Daily Gain		
<b>Total Gain</b>	Pounds		
Steers	140	2.02 lbs/day	
Heifers	123	1.78 lbs/day	
<b>Cost/lb. Of Gain</b>			
Steers		\$0.68/lb.	
Heifers		\$0.78/lb.	

**Note:** In this analysis both opportunity costs and principal and interest payments on any outstanding land, cattle, equipment and facilities have not been taken into consideration. It has also been assumed the steers and heifers had identical production costs (i.e. steers and heifers consumed the same amount of feed, received the same vaccinations, etc.)

## February 8, 2002

On February 8, 2002, another 55 steers and 57 heifers were marketed. This was the “second cut” of calves from the backgrounding enterprise. These steers and heifers each averaged 445 pounds when entering the feedlot in September 2001. The steers were valued at \$1.75/lb. (\$778.75/head) and the heifers at \$1.61/lb. (\$716.45/head). When sold, the 55 steer calves weighed 681 lbs/head and on average sold for \$1.34/lb. The 57 heifer calves weighed in at 665 lbs/head and on average sold for \$1.25/lb. These steers and heifers gained approximately 1.72 and 1.60 lbs/day respectively, while in the feedlot. The costs and returns of backgrounding these calves from September to February 8 are presented in **Table 2.** The important point to note from Table 2 is the feedlot enterprise **lost \$76-\$98/head** backgrounding these 112 calves.

## March 22, 2002

The third and final cut of calves consisted of 43 head. This group was made up of the smallest and poorest calves coming off pasture in September 2001. Upon entering the feedlot, the steers had an average weight of 341 lbs/head and were valued at \$1.85/lb. (\$631.48/head), while the heifers weighing in at 351 lbs/head were valued at \$1.73/lb. (\$607.80/head). When sold on March 22, the steers and heifers weighed 668 lbs/head (\$1.30/lb.) and 609 lbs/head (\$1.20/ lb.) respectively. These weights represented an average daily gain of 1.85 lbs/day for the steers and 1.46 lbs/day for the heifers. The revenues and costs associated with this group of calves are displayed in **Table 3.** Feeding this group of calves resulted in a **loss of \$113 - \$121/head** for the feedlot enterprise. Combining the losses from calves sold in November, February and March resulted in a **total loss of \$25, 021.42** for the WBDC backgrounding enterprise.

Although it would be nice to argue the backgrounding enterprise lost money because feed prices were high, the reality is that high feed costs were not our biggest problem. In comparison to what other producers in Saskatchewan were forced to pay for feed in 2001-02, our ingredient costs for the rations fed were actually quite low. The reason for this is we “locked in” the majority of our feed costs in June of 2001. **Table 4** provides a description of the WBDC feed ingredient costs for 2001-02.

**Table 2. Backgrounding Returns for Calves on Feed from September 2001 to February 8, 2002**

Costs			\$/Head
Value of Steer Entering Feedlot (445lbs.@ \$1.75/lb.)			778.75 A
Value of Heifers Entering Feedlot (445lbs.@ \$1.61/lb.)			716.45 B
	<b>\$/Head/Day</b>	<b>\$/Head</b>	
Custom Tub Grinding	0.04	5.36	
Veterinary Supplies and Services	0.06	8.40	
Feed	0.67	92.11	
Bedding	0.03	4.36	
Labour	0.17	23.98	
Fuel/Utilities	0.06	8.25	
Repairs	0.10	13.75	
Management	0.01	1.37	
Manure Removal	0.07	9.62	
Depreciation	0.05	6.87	
Actual Death Loss (0.9%)	0.05	5.98	
<b>Total Costs</b>	1.31	180.06	C
<b>Cost of Backgrounding Steers</b>		958.81	A + C
<b>Cost of Backgrounding Heifers</b>		896.51	B + C
<b>Steer Revenue Less Marketing and Trucking</b>		882.43	D
<b>Heifer Revenue Less Marketing and Trucking</b>		798.09	E
<b>Steer Returns</b>		-76.38	D - A - C
<b>Heifer Returns</b>		-98.42	E - B - C
		<b>Average Daily Gain</b>	
<b>Total Gain</b>	<b>Pounds</b>		
Steers	236	1.72 lbs/day	
Heifers	220	1.60 lbs/day	
<b>Cost/lb. Of Gain</b>			
Steers	\$0.76/lb.		
Heifers	\$0.82/lb.		

**The Advantages of Having a Cowherd and Backgrounding the Calves Produced**

Many would ask how there could ever be any advantage to the WBDC backgrounding calves, when this enterprise appears to have lost money on every animal it fed during the winter of 2001-02. This is a valid question, however there are still advantages to having this enterprise as part of our farm.

**Table 3. Backgrounding Returns for Calves on Feed from September 2001 to March 22, 2002**

Costs			\$/Head
Value of Steers Entering Feedlot (341 lbs. @ \$1.85/lb.)			631.48 A
Value of Heifers Entering Feedlot (351 lbs. @ \$1.73/lb.)			607.80 B
	<b>\$/Head/Day</b>	<b>\$/Head</b>	
Custom Tub Grinding	0.04	6.56	
Vet Supplies and Services	0.07	12.40	
Feed	0.78	137.75	
Bedding	0.04	6.89	
Labour	0.17	30.80	
Fuel/Utilities	0.06	10.60	
Repairs	0.10	17.66	
Management	0.01	1.77	
Manure Removal	0.07	12.36	
Depreciation	0.05	8.83	
Actual Death Loss (2.3%)	0.08	14.83	
<b>Total Costs</b>	1.48	260.14	C
<b>Cost of Backgrounding Steers</b>		891.62	A + C
<b>Cost of Backgrounding Heifers</b>		867.94	B + C
<b>Steer Revenue Less Marketing and Trucking</b>		778.39	D
<b>Heifer Revenue Less Marketing and Trucking</b>		746.98	E
<b>Steer Returns</b>		-113.23	D - A - C
<b>Heifer Returns</b>		-120.96	E - B - C
		<b>Average Daily Gain</b>	
<b>Total Gain</b>	<b>Pounds</b>		
Steers	327	1.85 lbs/day	
Heifers	258	1.46 lbs/day	
<b>Cost/lb. Of Gain</b>			
Steers	\$0.80/lb.		
Heifers	\$1.01/lb.		

**Table 4. Feed Ingredient Costs**

Ingredient	Value (\$)	Unit
Alfalfa – Brome Hay	65	Ton
Feed Straw	35	Ton
Pellets	88	Ton
Bedding Straw	25	Ton
Grass Hay	65	Ton
Oats	95	Tonne

The first benefit of backgrounding calves is that **machinery and facility depreciation expenses** (fixed costs), can be allocated to both the feedlot and cowherd enterprises. Traditionally the cowherd was wintered in the facilities where the calves were backgrounded in the fall of 2001 and winter of 2002. However, many of the WBDC research trials are now geared towards minimizing the costs associated with wintering the cowherd. Therefore the cowherd is now wintered in surrounding fields and pastures. If the pen space and associated equipment were not used for backgrounding, much of it would be sitting idle until spring when the cowherd is moved into the yard for calving. Idle feedlots and equipment still depreciate in value; an expense that would be solely allocated to the cowherd if we were not backgrounding calves. Backgrounding these calves has enabled us to use the feedlot and machinery for the entire winter and offset approximately **\$1840** of depreciation costs that would have otherwise been allocated to our cowherd.

The second benefit of backgrounding is that some of the **utility costs** normally allocated to the cowherd, are now shared with the feedlot enterprise. For example, if we were not using the feedlot, there would still be costs associated with 1) having the lights around the yard and feedlot on, 2) heating the water bowls in the feedlot and 3) heating the shop where machinery used for feeding is stored. Approximately **\$356** of the WBDC's utility costs charged to the feedlot enterprise (\$1/head), would have been allocated to the cowherd if we did not background these calves.

Reduced **labour costs** for the cowherd, are the third benefit of backgrounding calves. As a research farm we pay for all of our labour and find it necessary to have three capable farm staff hired on a full-time basis. If all calves were sold directly off the cow at weaning, there would be an excess supply of labour throughout much of the winter.

Backgrounding these 356 calves has kept the farm staff busy and also transferred **\$6,419** of labour to the feedlot enterprise, all of which would have otherwise been allocated to the cowherd.

Finally, if these 356 calves had been sold directly off the cow, the cowherd would have been allocated approximately \$28 - \$31/head in **trucking and marketing expenses**. This translates into a savings of **\$10,680** (356 head @ \$30/head) for the cowherd.

Combining depreciation (**\$1,840**), utility (**\$356**) and labour costs (**\$6,419**) allocated to the feedlot enterprise, and including the \$30/head marketing and trucking expenses not charged to the cowherd (**\$10,680**), results in savings of **\$19,295** for the cowherd. Thus from a whole farm analysis, the backgrounding enterprise's total loss of **\$25,021.42** is partially offset by the **\$19,295** in reduced expenses for the cowherd. Therefore, feeding these 356 calves during the fall and winter of 2001-02 resulted in a **loss of \$16.08/head** (Equations 1 & 2) for the WBDC.

#### Equation 1

\$25,021.42 backgrounding loss - \$19,295 offset expenses = - **\$5,726.42**

#### Equation 2

\$5,726.42 loss / 356 head = **\$16.08/head loss**

#### Conclusions

Based on the fact the WBDC lost money backgrounding calves in 2001-02, it would have made economic sense to have sold every calf straight off the cow on September 10 and 27, 2001. However, as a research facility dedicated to cow-calf production and backgrounding, it is our duty to provide economic analysis of various scenarios to producers so they have real numbers with which to compare their operation against.