



Saskatchewan  
Agriculture, Food  
and Rural  
Revitalization

# **Backgrounding Beef Cattle in Saskatchewan**

# Foreword

The objective of this publication is to provide basic market, production, and financial information on a cattle backgrounding enterprise. Example budgets are provided to assist individuals in assessing the economic opportunity for establishing a cattle backgrounding enterprise.

This publication is intended to be used by producers who are:

- interested in learning more about the economics of backgrounding cattle as a farm enterprise; or
- already in production and would like to compare their enterprise to the industry production and financial guidelines in order to make further management decisions.

This publication was written by Saskatchewan Agriculture, Food and Rural Revitalization. Producers are cautioned that the information in this publication is based on information available at the time and will require interpretation and adjustment for individual situations. A special thank you is extended to those who assisted in the preparation and review of this publication.

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## Introduction

Backgrounding refers to the growing, feeding and managing of steers and heifers from weaning until they enter a feedlot and are placed on a high concentrate finishing ration. Backgrounding increases the value of cattle, utilizes local feed supplies, and keeps more cattle in the province for local feedlots to access.

Backgrounding is an emerging sector of the cattle industry. Feedlots are purchasing backgrounded cattle because there is reduced sickness, decreased input time (because they are not weaning calves), and consistent weight gains already established. The process of backgrounding is used to control weight gains so cattle gain enough muscle and bone before gaining fat covering and marbling. For example, a backgrounding operation could feed 500 pound steers to gain 1.50-2.25 pounds per day for approximately 150-200 days to produce 750-900 pound feeders. The average daily gain of the steers will depend on management, feed ingredients, genetics, and pasture grass production (if applicable). For gains of greater than two pounds per day, calves are usually fed in a drylot only.

The profit a producer makes from backgrounding is based on margins (the difference between the selling price and the buying price) and the weight put onto

the feeder. The variability between cattle prices at 500-600 pounds is much greater than the prices at 800-900 pounds. This variation will result in changes to the margin. Less variation in prices means less price risk. This means that it is very important to calculate your best options based on the margin between cattle prices at 500-600 pounds and the prices at 800-900 pounds. Know your production costs.

Backgrounding is an option for farmers who would like to utilize excess roughages or put added weight on calves after weaning. Backgrounding is an alternative for farmers who have good quality roughage available, extra time during the year to work cattle, and the desire to have a flexible cattle business. Backgrounding can be used by the producer to take advantage of the fact that feedlot operators are often willing to pay more for a continual supply of uniform, top performance feeder cattle.

The cattle cycle in North America is based on changes in supply and demand. Reduced cattle supplies invoke higher slaughter prices. Large cattle supplies invoke lower slaughter prices. When the cost per pound of gain in the feedlot become high relative to finished cattle prices, calf prices are lowered relative to both yearling and fed cattle prices. Cheap calf prices, in relation to yearling prices, favour

backgrounding, which results in many producers gradually shift into backgrounding enterprises. The calf crop decreases over time due to low calf prices, first depressing prices further during the cow herd reduction and eventually increasing beef prices as supply decreases. When slaughter prices are high in relation to cost of gains in the feedlots, calf prices rise faster and higher than yearling prices, which is unfavourable to backgrounding. This causes cow herds to expand and feedlots to place younger, lighter cattle on feed and more feed grain is used. Eventually, as beef supplies and calf crops become larger, and feed grain usage increases, beef prices decrease. This also leads to lower calf prices and higher grain price. The industry again shifts to backgrounding (Canfax, 1995).

There are two ratios that must be monitored in making a decision to background cattle. The beef steer/barley price ratio is the price of AAA slaughter steers per hundredweight (cwt) divided by barley price per bushel. This ratio is a simple but accurate indicator of shifts in cost of feedlot gain in relation to beef cattle prices.

Increases in the ratio favour selling calves at weaning and decreases in the ratio favour retaining calves for backgrounding to a heavier weight.

The ratio of yearling to calf prices is the second ratio. This ratio is very important for producers to keep track of market trends, especially since prices are set in mid-west USA. There has been an inverse relationship between the beef steer barley ratio and the ratio of yearling to calf prices. (An inverse relationship means when one increases the other decreases.) When the steer barley price ratio goes up, the yearling to calf price ratio goes down.

The Canadian beef cattle herd distribution for 1994 has 43% in Alberta, 23% in Saskatchewan, 13% in Manitoba, 10% in Ontario and 2% in British Columbia (Anne Dunford, Canfax). Dunford also predicted a 5% increase in the feeding industry in 1995. In 1994, feeders were being imported into Canada from the U.S. The decline in the dollar has strengthened Canadian cattle prices over the past few years. In addition, there has been an increase in demand for feeders in western Canada due to a need to fill increasing pen space.

Beyond 1995, the feeder market will be affected by longer term influences such as higher break-even points, higher barley prices, higher interest rates, and fluctuating exchange rates. Recent cattle prices are strong as the Canadian dollar remains low. Currently, for every cent the dollar moves lower, cattle

prices increase one dollar per hundredweight (\$1/cwt) (Canfax, 1995).

The preferred body type for backgrounding calves is a small to medium framed animal. By the time the backgrounding process is complete, these calves should meet the feedlot demand for cattle that weigh 800 to 900 pounds. The energy level of the feed should be increased or decreased for the feeders to gain at the desired rate. A consistent group of calves is important. They must be consistent in size and quality when the backgrounding process is complete. Some medium framed and all large framed animals have too large a frame size to background and then put into a feedlot. They finish at weights that are too heavy at slaughter time. This increases the feeding period and therefore the costs of production which costs you money.

## **Economics of Backgrounding**

Profit potential of the backgrounding operation will be the primary factor in deciding whether to background cattle or not. Desired end weights will usually be weights where the feeders can be placed on a finishing program without finishing at too light or too heavy a weight. The target weights may vary with the type of animal fed. Weaned calves are still in an immature growth

stage and must gain a substantial amount of weight before they are ready for finishing. If small to medium frame calves are pushed with high energy rations too early after weaning, it results in early fattening and light weights at slaughter. On the other hand, keeping large frame calves on a growing ration too long can cause very heavy finishing weights. Beef carcasses that are off-weight will result in reduced profit due to lower feed efficiency and to packer discounts. The energy level of the feed should be adjusted up or down periodically for the feeders to reach the desired weight at the desired time.

There are several different systems which may be used to background cattle.

- Calves can be bought in the spring, fed for 30-60 days in a feedlot at a lower rate of gain, grazed over the summer (summer backgrounded), and sold in the fall at 800 to 900 pounds or fed to finish.
- Calves can be retained from the cow herd or bought in the fall, wintered in a feedlot at a lower rate of gain, grazed over the summer, and sold at 800 to 900 pounds or fed to finish.
- Calves can be retained from the cow herd or can be bought in the fall, fed in a feedlot at a lower rate of

gain (winter backgrounding), and sold in four to six months or fed to finish.

Some producers buy and sell backgrounded cattle throughout the year. This helps to maximize the use of equipment and facilities. Consistency is very important when buying and selling cattle, since feedlots demand consistent packages of cattle.

### ***Backgrounding Calves on Feed***

Backgrounding programs are intended to control the growth of the calves. Rations are based on good quality forage with very little poor quality feeds such as straw, chaff, or grain screening pellets. This type of feeding program reduces the number of light weight carcasses by giving the calves time to develop sufficient frame and muscle, which results in the calves being placed on finishing rations at the proper stage of growth.

### ***Backgrounding Calves on Pasture***

Feeders are placed on a good quality, tame forage pasture about mid-May. Since larger numbers of cattle are usually backgrounded, rotational grazing is often used. Rotational grazing and other good management practises can lead to increased stocking rates. In drought years, supplementary feed may also be used to

increase gain (however, this also may decrease margins).

Feeders are often grazed on forage until early September and sold at about 800 to 900 pounds. August and September are usually high market months, and traditionally, buyers purchase the bulk of grass cattle at this time. If feeders are retained, they can be left on pasture for a longer period of time or placed in the feedlot in September so they are ready for market in November.

### ***Retained Ownership Self Finishing***

This involves the producer deciding to finish the feeders on the farm. Home feedlots allow producers to utilize barley (or other feedstuffs) as a feed source and to maximize returns from existing labour and management. Self finishing also allows the increased use of facilities and machinery that may otherwise be idle for the better part of the year.

### ***Custom Finishing***

Many producers decide to custom finish their cattle to take advantage of increased feeding and marketing expertise, and specialized services a feedlot may provide. This may also provide the producer with increased profits and with an additional market for on-farm feed grain. The decision to custom feed also depends on the perceived value of services

that the feedlot will provide, and the additional market opportunity in owning the cattle to heavier weights.

Custom feeding cattle for someone else can increase economies of size, as costs are spread out over additional cattle. This also helps decrease risk since there is no initial investment in animals.

### ***Options for Purchasing Calves or Light-Weight Yearlings***

The type, weight, and sex of the cattle purchased should fit with the objectives of your operation, and your marketing plan. Different classes of cattle may be hard to find at certain times of the year; calves may be more easily sourced in October to December, whereas light yearlings may be sourced in February through April depending on demand. It is essential that the yearlings are bought at a light weight to avoid overweight animals once the backgrounding process is complete. Feedlots do not want to purchase overweight animals since these animals represent less "finishing opportunity". In addition, some packers say they will discount overweight carcasses in the future, resulting in reduced profits. The weight of the cattle upon completion of backgrounding may also dictate which market you sell into, Canadian or USA.

It may be difficult for some producers to choose the rate of

gain that is most economical in a backgrounding program. Faster rates of gain reduce interest costs and the amount of feed needed for a pound of gain. Some backgrounding production costs, such as buying, selling, and vaccination, are on a per head basis, therefore, decreasing the cost per pound of gain as more weight is put on to feeders. Steers selected for backgrounding usually weigh between 450 to 650 pounds, and heifers between 400 to 600 pounds. Heifers cost less to purchase but also gain at a slower and less efficient rate than steers. There is, however, a market opportunity for heifers at certain times of the year because of the demand for “handy-weight” carcasses.

### Spring Purchasing

Purchasing calves that are 400 to 650 pounds in the spring may be difficult since few producers tend to calve in the fall. An option is light weight yearlings. Producers selling their yearlings in the spring often sell uniform groups of cattle. The smaller animals do not fit into these groups very well and are therefore sold separately. These smaller animals will fit well into a backgrounding enterprise.

Prices may vary depending on the number of light weight feeders available and the demand for them. In the past, March has been a good time to purchase due to the abundance of yearlings on the market at that time (figure 1).

### Fall Purchasing

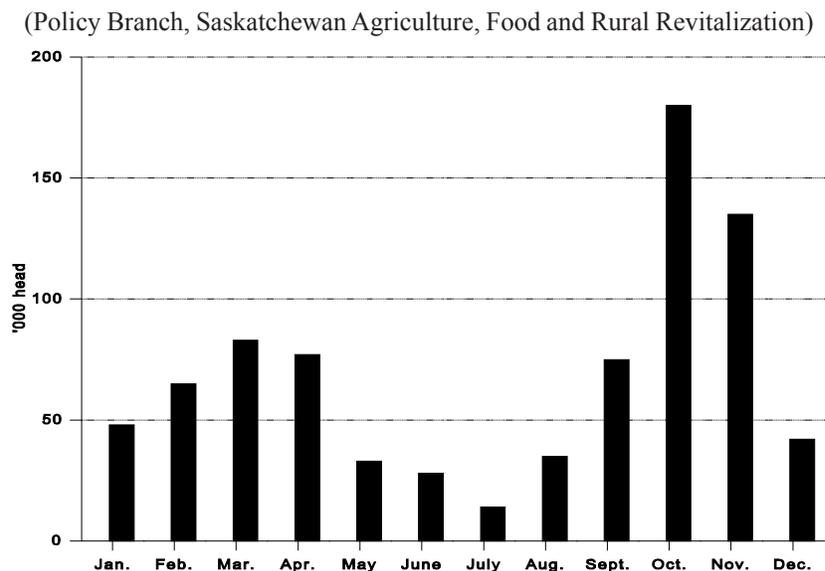
October is the traditional month for marketing weaned calf. Prices usually depend on supply and demand. A large supply may result in lower prices. Purchasing calves at this time for backgrounding carries a certain amount of market risk, the value of calves at that point versus the value of feeders four months into the future. Producers should weigh their options, accurately forecast costs, and calculate break-even points to determine the profit potential of all options.

### Retaining Home Grown Calves

If you decide to hold on to some of your calves and background them, the potential for profit is much greater for the small to medium framed calves. These calves may be heavily discounted in the sales

ring if they are sold at a light weight. Light calves start the backgrounding process at a lower weight and have better potential of being the ideal weight (800-900 pounds) by the end of the backgrounding period, especially if your herd has top genetics for growth. (However, this will depend on why the calves are light.) These calves can then be sold as short-keeps, which usually command a premium price due to the more efficient rates of gain in the feedlot, or can be retained for self finishing or custom finishing. Management of home-grown calves is very important because the operator assumes the risks of stresses due to weaning and placing calves on feed. At the same time, this represents opportunity because the backgrounder has the option of spending more time with the

Figure 1: Saskatchewan monthly average feeder cattle marketings, 1990-94



calves than larger feedlots can. A producer should be able to reduce some of the stress (i.e. less transportation, no major environment changes) and be able to get the calves on to feed more efficiently. The newly weaned calves need special attention and should be checked at least three times a day. If calves get off to a healthy start, they have a

better chance of staying healthy, thereby increasing the producer's profitability.

It is essential that you know the performance potential of your herd and the costs of feeding calves. By keeping records of performance, you will be better able to manage your herd and to relate the performance to costs of production. For example, if feed prices increase, you may not want to retain calves for that year because your returns would be too small.

### ***Risk***

A backgrounding enterprise requires long term and operating capital. As with any other farming enterprise, there is risk associated with these enterprises. Sharing ownership of the cattle with a feedlot can decrease risk because both parties have a vested interest in the cattle. Other risk management options include retained ownership, forward contracting, and share or purchase agreements.

### ***Costs and Returns of Backgrounding***

The following budgets, one for summer (grass) backgrounding and one for winter backgrounding, will provide a format that can be used to estimate the cost of backgrounding feeder calves. Readers are cautioned that the budgets are provided for illustration purposes and adjustments for individual circumstances will be required.

For the attached summer backgrounding budget, feeder steer calves were fed from an average of 600 pounds, gaining 1.75 pounds per day (0.79 kg/day), to an average of 898 pounds. The example assumes that 500 calves will be purchased on March 15, backgrounded for about 60 days in a feedlot on a high roughage ration and then placed on grass for about 110 days to sell in fall (around September 1). It is assumed that 40 feeders will be put in the local community pasture and 3 quarters of leased land is available (25 head/quarter of tame forage). Therefore, 385 feeders must be backgrounded on owned land using 2 sections of tame forage on a rotational grazing basis (385 feeders ÷ 25 head/quarter ÷ 2 = 8 quarters rotation grazed).

For the attached winter backgrounding budget, feeder steer calves were fed from an average of 550 pounds, gaining

2.0 lbs/day (0.91 kg/day), to an average of 820 pounds for the February market. The example assumes that 500 calves will be purchased October 1 and fed for 135 days in a feedlot on a high quality roughage ration. Feed accounts for 50 to 60 % of the total operating costs.

### **Revenue**

It is assumed that all calves are bought and sold at market value. All prices are averaged over a five year period based on the month the animals were bought or sold.

When you decide to market will depend primarily on three things. First, the use of your facilities will dictate when the feeders must be out of the feedlot. For example, if you use the same facilities for calving, the feeders must be removed before calving season. The second consideration is your feed resources. If you have a low energy feed, calves will be fed longer since they are gaining at a lower rate. If the feed is high in energy or you have good genetics, calves will be marketed sooner due to higher average daily gains. The third consideration is the needs of the feedlot, which may have specific requirements for weight gains and finish when they purchase cattle.

It is extremely important to put extra effort into marketing your cattle since this is where all your hard work can really pay.

Study the markets and aim for a period that the prices may be strong.

## **Operating Costs**

Operating costs are those costs that are incurred as a direct result of production and, therefore, these costs would cease if production ceased. In order to be viable in the short run, a producer must cover all operating costs.

### *Feed*

The feed rations used in the budgets are typical of those used on a Saskatchewan mixed farm. All feed prices are based on four year averages from 1991 to 1994. For example, a 600 pound steer is fed 6.62 pounds barley, 8.8 pounds hay and 0.88 pounds canola meal per day plus salt, vitamins, and minerals for an average daily gain of 1.75 pounds.

### *Livestock Purchases*

All livestock prices for feeders are based on a five year average from 1990 to 1994 in the month which the cattle were actually purchased or sold.

### *Veterinary Fees and Medicine*

The herd health practices used are typical for feeder cattle in Saskatchewan. The prices are guidelines only, and producers should check with their local veterinary for actual costs.

### *Fuel and Repairs*

This includes the total cost for all fuel and repairs that are due to the backgrounding enterprise.

### *Community Pasture Fees*

Any fees associated with cattle sent to a community pasture should be included here, if applicable.

### *Insurance*

Insurance for each animal is very expensive and most producers find premiums are too high to warrant such insurance. Options to decrease insurance expense include having a high deductible or having an overall insurance for disaster relief if something should happen to a large number of animals. In addition, if you are custom feeding animals, individual producers could purchase their own insurance.

### *Manure Removal*

The cost for manure removal is based on custom corral cleaning rates. If manure removal is not contracted out, this cost should be included as machinery, fuel, and repair expenses as well as the capital costs of the equipment.

### *Death Loss*

Death loss is charged on the average value of the feeder (excluding transportation and yardage). The “addition value” figure is calculated by averaging the buying and selling prices.

## **Fixed Costs**

Fixed cost are the cost associated with an enterprise that would continue even if production was discontinued.

In order for an enterprise to be profitable in the long run, it must be able to cover both fixed and operating costs.

The fixed cost of depreciation and interest on investment can be equated to the funds that would be required to make payments on a loan to finance a large portion of the enterprise. Financing these fixed costs is a very important management decision.

Interest on investment is calculated and included as it represents the real cost of investing capital in the cattle enterprise rather than into an investment of another type. The interest rate used represents current rate on term investments.

## **Summer Backgrounding: Converting Marginal Acres to Grass**

This summer backgrounding budget will focus on buying or retaining calves in the spring (about March 15), backgrounding on a high roughage ration in the feedlot for approximately 60 days (until about May 15) and then placed on pasture over the summer for approximately 110 days (until about September 1). The feeders may be sold in the fall or fed to finish.

## Pasture Costs

The enterprise in this budget was set up so that 40 feeders would be sent to community pasture (community pasture costs are included as a cash expense under operating costs). Of the remaining 460 feeders, 75 would be grazed on leased land and 385 would be grazed on owned land. Stocking rates are based on AUMs. One AUM (Animal Unit Month) equals the pasture needed for 1000 pounds of beef for a period of one month. For example, a 600 pound steer would need 0.6 AUMs per month. An 800 pound steer would need 0.8 AUMs per month.

Grazing cattle in northern Saskatchewan versus southern Saskatchewan will vary as stocking rates will depend on the carrying capacity of the pasture. Grasses should be chosen based on optimum growth for your area. In southern Saskatchewan, Russian wildrye (RWR) or crested wheatgrass (CWG) are the recommended forages. In the north, Meadow Brome is a good choice. Generally, RWR will yield about 1.0 AUM per acre and Meadow Brome about 1.3 AUMs per acre. Stocking rates also vary from year to year. Individual rates should be calculated for each operation to be sure pastures are not overgrazed.

Land requirements for backgrounding can be calculated by multiplying the

desired percentage of grass to be used on the pasture by the desired number of head to be grazed. This figure multiplied by the desired grazing period in months gives you the acres. The acres, multiplied by the animal units per acre, results in the number of acres needed to graze your desired number of animals (see example).

Example:

$$\begin{array}{r} 75\% \text{ of grass used} \\ \times \quad 385 \text{ number grazed} \\ = \quad 289 \\ \times \quad 3.5 \text{ months} \\ = \quad 1012 \text{ acres} \\ \times \quad 1.0 \text{ AUM/acre RWR} \\ \quad \quad \text{(or 1.3 AUM Meadow} \\ \quad \quad \text{Brome)} \\ = \quad \mathbf{1012 \text{ acres RWR (or} } \\ \quad \quad \mathbf{1315 \text{ acres Meadow} } \\ \quad \quad \mathbf{Brome) \text{ needed for} } \\ \quad \quad \mathbf{385 \text{ head}} \end{array}$$

Recommendations suggest that three quarters of the grass on a pasture should be used each year. This allows each plant enough remaining leaf material to maintain photosynthesis, thereby increasing the potential for regrowth. It is suggested that good quality tame forage and productive beef cattle genetics, will result in a 1.75 pounds gain per animal per day.

It is important the cattle have a constant water supply within a walking distance of 1.5 miles. There should not be a spot in the pasture that is greater than this distance from any water

source. Water is a critical element in the grazing system and cattle will have lower gains if water is not sufficient or if water quality is poor.

The amount of fencing required will depend on whether the land is all together or in separate parcels. If quarters are split, permanent fence requirements increase; if quarters are together, electric fencing may be used as an economical alternative.

Rejuvenation of pasture will be required every eight to ten years. It costs approximately \$50 per acre to break land and reseed it back to grass. This also results in the land being out of production for at least one year and maybe two if the grass does not establish. Fertilizers may be an alternative to breaking since it can help to maintain production as the stand ages. Fertilizer application stabilizes yield over time, allowing for more consistent stocking rates (see Appendix I for reference materials).

## Summer Backgrounding - Summary Statement – 1995

	Revenue/Head	Your Farm
<b>Revenue</b>	\$ 915.96	_____
<b>Operating Costs</b>	<b>Cost/Head</b>	
Total Feed Costs	\$ 34.92	_____
Feeder Cost	721.80	_____
Straw	1.47	_____
Veterinary Medicine and Supplies	14.40	_____
Fuel and Repair Costs	2.00	_____
Utilities	0.50	_____
Feeder Selling Cost	20.79	_____
Insurance on Investment	0.72	_____
Manure Removal	1.69	_____
Office Supplies	0.30	_____
Death Loss	<u>11.56</u>	_____
Subtotal Operating Costs	810.15	_____
Operating Interest	<u>28.54</u>	_____
<b>Total Operating Costs</b>	<b>838.69</b>	_____
<b>Fixed Costs</b>		
Depreciation	8.26	_____
Investment	5.31	_____
Pasture Costs	<u>33.88</u>	_____
<b>Total Fixed Costs</b>	<b>\$47.45</b>	_____
<b>Total Operating and Fixed Costs</b>	<b>\$886.14</b>	_____
Labour	<u>9.00</u>	_____
<b>Total Cost of Production</b>	<b>\$895.14</b>	_____
<b>Net Return overall Costs</b>	<b>\$ 20.82</b>	_____
<b>Cost per pound of gain sold (\$/lb)</b>		
Operating Costs	0.45	_____
Operating and Fixed Costs	0.63	_____
Operating, Fixed and Labour Costs	0.66	_____
<b>Breakeven selling price (\$/lb)</b>		
Operating Costs	0.97	_____
Operating and Fixed Costs	1.03	_____
Operating, Fixed and Labour Costs	1.04	_____
<b>Profit (loss) per acre (\$/acre)</b>	<b>\$ 1.85</b>	_____

## Assumptions

1. Average daily gain (A.D.G.) was assumed to be 0.79 kg/day (1.75 lbs/day).
2. It was assumed that the feeder steer weighed in at 272 kilograms (600 pounds) and was raised to 407 kilograms (898 pounds).
3. Total days on feed was 170 days, 60 days in feedlot and 110 days on pasture.
4. Investment in feedlot facilities and equipment, (to handle 500 head from March 15 to May 15) and land, dugouts, and fencing was estimated at \$252,326 (or \$505/head).
5. It is assumed that 40 feeders will be put in the local community pasture and three quarters of leased land is available (25 head/quarter of tame forage). Therefore, 385 feeders must be backgrounded on owned land, using approximately two sections (eight quarters) of well-managed tame forage on a rotational grazing basis (385 feeders; 25 head/quarter) rotation grazed; 3.3 acres per steer). This represents highly productive land; the number of cattle grazed will depend on management, location, and soil type, and seasonal weather conditions.

## Backgrounding Grass Cattle Production Revenue - 1995

		<u>Your Farm</u>
500	feeders	_____
- 8	feeders (1.5% death loss)	- _____
<u>= 492</u>	<b>/Feeders Sold</b>	<u>_____</u>
898	lbs average feeder weight	_____
x \$1.02	\$/lb. average feeder price*	x _____
<u>= \$915.96</u>	<b>Revenue per Feeder</b>	<u>_____</u>
x 492	feeders sold	x _____
<u>= \$450,652</u>	<b>Total Feeder Revenue per Year</b>	<u>_____</u>

\*Market price was determined by taking the average market price for the month of September over a five year period (from 1990 to 1994); from StatFacts, Saskatchewan Agriculture and Food. It is extremely important that you find the correct market price for the month you are purchasing or selling your cattle since this can greatly affect your bottom line.

## Backgrounding Grass Cattle Production Costs - 1995

### Operating Costs (per head)

Feed Costs (March 15 to May 15)

<b>Barley (including processing)<sup>1</sup></b>		<b><u>Your Farm</u></b>
	60 days on barley	_____
x	3.0 kg/day (6.62 lbs)	x _____
x	<u>\$90.00</u> /tonne (44/lb or \$1.96/bu)	x _____
=	<b>\$ 16.20 /head (a1)</b>	= _____
<b>Hay</b>		
	60 days on hay	_____
x	4 kg/day (8.8 lbs)	x _____
x	<u>\$ 55.00</u> /tonne (\$50/ton)	x _____
=	<b>\$ 13.20 /head (a2)</b>	= _____
<b>Protein Supplement (Canola Meal)</b>		
	60 days on canola meal	_____
x	0.40 kg/day (0.88 lbs)	x _____
x	<u>\$180.00</u> /tonne (\$163/ton)	x _____
=	<b>\$ 4.32 /head (a3)</b>	= _____
<b>Salt, Vitamins and Minerals</b>		
	3 kg (6 lbs)	_____
x	<u>\$ 0.40</u> /kg (\$0.18/lb)	x _____
=	<b>\$ 1.20 /head (a4)</b>	= _____
<b>Total Feed Costs</b>	<b>\$34.92 /head (a1+a2+a3+a4)</b>	= _____

<sup>1</sup> Barley valued at \$78 per tonne (\$1.70/bu. Or 3.5/lb.) plus processing at \$12 per tonne (\$0.26/bu. or ½ cents/lb.)

Feeder Cost

<b>Feeder</b>		<b><u>Your Farm</u></b>
600	lbs/feeder	_____
x <u>\$119.00</u>	\$/cwt*	x _____
= <b>\$714.00</b>	<b>/head(b1)</b>	= _____
<b>Buying Commission</b>		
\$6.00/head (b2)		_____
<b>Trucking-in</b>		
\$ 3.00	\$/loaded mile (\$2.50 if >50 miles)	_____
x <u>50</u>	miles (average)	x _____
= \$150	/load	= _____
x <u>6</u>	loads (80 head/load)	x _____
= \$900	trucking costs	= _____
÷ <u>500</u>	feeders	÷ _____
= <b>\$1.80</b>	<b>/head (b3)</b>	= _____
<b>Total</b>	<b>\$721.80 /head (b1+b2+b3)</b>	=====

\*Feeder price was determined by taking the average market price for the month of March over a five year period (from 1990 to 1994); from StatFacts, Saskatchewan Agriculture and Food. It is extremely important that you find the correct market price for the month you are purchasing or selling your cattle since this can greatly affect your bottom line.

Straw Bedding

1.36	kg/day (3 lbs/day)	_____
x 60	days	x _____
x <u>\$ 18.00</u>	/tonne (\$15.00/ton)	x _____
= <b>\$ 1.47</b>	<b>/head</b>	= _____

Veterinary, Medicine and Supplies

			<u><b>Your Farm</b></u>
	\$ 1.00	IBR, BVD, PI3, Haemophilus (2X)	_____
+	0.15	Vitamin A-D	+ _____
+	4.50	External and Internal Parasites	+ _____
+	0.40	Blackleg (8-way)	+ _____
+	1.40	Growth Implants (1X)	+ _____
+	2.30	Fly Tags	+ _____
+	<u>4.00</u>	Antibiotics	+ _____
=	\$ 13.75	/head (c1)	= _____

*Herd Health Program*

**Professional Services**

	2.5	total yearly hours	_____
x	\$ 100.00	per hour	x _____
÷	<u>500</u>	feeders	÷ _____
=	\$ 0.50	/head (c2)	= _____

**Transportation**

	80	km	_____
x	\$ 0.95	charge per km	x _____
x	1	yearly visits	x _____
÷	<u>500</u>	feeders	÷ _____
=	0.15	/head (c3)	= _____

**Total Veterinary and Medicine Supplies**

<b>\$14.40</b>	<b>/head (c1+c2+c3)</b>	= _____
----------------	-------------------------	---------

Fuel Repairs and Maintenance

	\$500.00	repairs	_____
+	\$500.00	fuel	+ _____
÷	<u>500</u>	feeder cattle	÷ _____
=	<b>\$ 2.00</b>	<b>/head</b>	= _____

Utilities

	\$250.00	telephone and hydro	<u><b>Your Farm</b></u> _____
÷	<u>500</u>	feeder cattle	÷ _____
=	<b>\$ 0.50</b>	<b>/head</b>	= _____

Community Pasture Fees

	\$0.34	/head	_____
x	<u>110</u>	days	x _____
=	\$37.40	/head	= _____
+	\$8.00	taxes/feeder	+ _____
+	\$0.60	salt and minerals/head	+ _____
+	<u>\$0.30</u>	veterinary supplies/feeder	+ _____
=	<b>\$46.30</b>	<b>/head*</b>	= _____
x	<u>40</u>	feeders	x _____
=	<b>\$1852</b>	<b>/year</b>	= _____

\*Refer to pasture costs under fixed costs for a rate /head based on 500 head.

## Feeder Selling Cost

### Trucking

	\$3.00	/loaded mile (\$2.50 if >50 miles)	_____
x	<u>50</u>	miles (average)	x _____
=	\$150.00	/load	= _____
x	<u>9</u>	loads (55 head/load)	x _____
=	\$1350.00	trucking costs	= _____
÷	<u>492</u>	feeders (with 1.5% death loss)	÷ _____
=	<b>\$2.74</b>	<b>/head (d1)</b>	= _____

### Selling Cost

	\$15.00	commission	_____
+	\$1.00	check off	+ _____
+	\$1.50	brands	+ _____
+	<u>\$0.55</u>	insurance	+ _____
=	<b>\$18.05</b>	<b>/head (d2)</b>	= _____
<b>Total</b>	<b>\$20.79</b>	<b>/head (d1+d2)</b>	_____

## Insurance on Investment

### Your Farm

	\$60,326	capital investment	_____
x	\$ 0.60	cost/\$100 capital	x _____
÷	<u>500</u>	feeder cattle	÷ _____
=	<b>\$ 0.72</b>	<b>/head</b>	= _____

## Manure Removal

	\$845	average cost	_____
÷	<u>500</u>	feeder cattle	÷ _____
=	<b>\$ 1.69</b>	<b>/head</b>	= _____

Office Supplies

	\$150.00	total expenses	_____
÷	<u>500</u>	feeder cattle	÷ _____
=	<b>\$ 0.30</b>	<b>/head</b>	= _____

Death Loss

	\$721.80	feeder cattle	_____
+	\$819.00	additional value calculated	+ _____
÷	<u>2</u>		÷ _____
=	\$770.40	average value	= _____
x	<u>1.5</u>	% mortality rate	x _____
=	<b>\$ 11.56</b>	<b>/head</b>	= _____

Operating Interest

	\$721.80	feeder cost	_____
+	\$ 44.18	2 operating costs (less cost of feeder)	+ _____
x	8	% interest rate	x _____
x	170	days on feed	x _____
÷	<u>365</u>	days/year	÷ _____
=	<b>\$ 28.54</b>	<b>/head</b>	= _____

## Capital Costs

		<u><b>Your Farm</b></u>
<b>Feedlot Facilities</b>		
Windbreak fence (600 ft. x \$6/ft.)	\$ 3,600	_____
Pens (1,540 ft. x \$2.30/ft.)	3,542	_____
Handling Facilities	3,500	_____
Waterers 4 @ \$500	2,000	_____
Gates 8 @ 16' x \$8/ft	1,024	_____
Feeders 10 @ \$150	1,500	_____
Bunk Feeders 816' x \$10/lin.ft.	8,160	_____
Well and Pressure System	<u>5,500</u>	<u>_____</u>
	<b>\$ 28,826</b>	_____
<b>Machinery and Equipment</b>		
Tractor and Loader*	\$ 16,500	_____
Miscellaneous	<u>15,000</u>	<u>_____</u>
	<b>\$ 31,500</b>	_____
<b>Total Insured Investment</b>	<b>\$60,326</b>	_____
<b>Land, Dugout, and Fencing</b>		
Land (8 @ \$120/acre)	\$ 153,600	_____
Dugouts (6 @ \$3000)	18,000	_____
Fencing (17miles @ \$1200/mile)	<u>20,400</u>	<u>_____</u>
	<b>\$192,000</b>	_____
<b>Total Investment</b>	<b>\$252,326</b>	_____

\*The tractor and loader are valued at \$50,000. One third of this cost is used since it is assumed that this same equipment will be used in other farm operations.

**Fixed Costs**

Depreciation

$$\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$$

*Facilities*

	\$28,826	original cost	_____
-	\$ 2,883	salvage value	- _____
÷	20	years useful life	÷ _____
÷	<u>500</u>	feeder cattle	÷ <u>_____</u>
=	<b>\$ 2.59</b>	<b>/head</b>	= _____

*Machinery and Equipment*

	\$31,500	original cost	_____
-	\$ 3,150	salvage value	- _____
÷	10	years useful life	÷ _____
÷	<u>500</u>	feeder cattle	÷ <u>_____</u>
=	<b>\$ 5.67</b>	<b>/head</b>	= _____

<b>Total Depreciation</b>	<b>\$ 8.26</b>	<b>/head</b>	= _____
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Investment Cost

$$\frac{\text{Original Cost} + \text{Salvage Value}}{2} \times \text{Investment Rate}$$

Facilities

	+	\$ 2,883	salvage value		+ _____
	÷	2			÷ _____
	x	8	% investment rate		x _____
	÷	<u>500</u>	feeder cattle		÷ _____
	=	<b>\$ 2.54</b>	<b>/head</b>		= _____

Machinery and Equipment

		\$31,500	original cost		_____
	+	\$ 3,150	salvage value		+ _____
	÷	2			÷ _____
	x	8	% investment rate		x _____
	÷	<u>500</u>	feeder cattle		÷ _____
	=	<b>\$ 5.67</b>	<b>/head</b>		= _____

		<b>\$5.31</b>	<b>/head</b>		= _____
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## Pasture Costs

### Leased Pasture

Assume: Pasture rated at 55 AUM/quarter. Grazing 700 pound feeders would allow approximately 25 animals/quarter. Lease rate for 1994 of \$4.76/AUM.

	\$0.35 /head/day (includes taxes)	_____
x	<u>110</u> days	x _____
=	<b>\$ 38.50 /head/year (e1)</b>	= _____

	\$1,200 /mile fencing	_____
-	\$ 250 salvage value/mile	- _____
÷	<u>30</u> years (depreciation)	÷ _____
=	<b>\$31.67 /mile/year</b>	= _____
x	<u>5</u> miles	x _____
=	<b>\$158.35 /year</b>	= _____
÷	<u>75</u> feeders	÷ _____
=	<b>\$2.11 /head/year (e2)</b>	= _____

	\$3000 /dugout	_____
x	2 dugouts	x _____
÷	<u>20</u> years (depreciation)	÷ _____
=	<b>\$300 dugout costs/year</b>	= _____
÷	<u>75</u> feeders	÷ _____
=	<b>\$ 4.00 /head/year (e3)</b>	= _____

### Total Cost of Leased Land

	<b>\$44.61 /head/year (e1+e2+e3)</b>	_____
x	<u>75</u> feeders	x _____
=	<b>\$ 3345.75 /year (e4)</b>	= _____

Owned Land

	1280	acres (8 quarters x 160 acres)	_____
x	\$120.00	/acre	x _____
<u>x</u>	<u>5%</u>	interest rate	<u>x _____</u>
=	<b>\$7,680</b>	<b>interest/year (f1)</b>	= _____

	\$3000	/dugout	_____
x	4	dugouts	x _____
<u>÷</u>	<u>20</u>	years (depreciation)	<u>÷ _____</u>
=	<b>\$600</b>	<b>dugout costs/year (f2)</b>	= _____

	\$1,200	/mile fencing	_____
-	\$ 250	salvage value/mile	- _____
<u>÷</u>	<u>30</u>	years (depreciation)	<u>÷ _____</u>
=	<b>\$31.67</b>	<b>/mile/year</b>	= _____
<u>x</u>	<u>12</u>	miles	<u>x _____</u>
=	<b>\$380.04</b>	<b>/year (f3)</b>	= _____

	\$225.00	taxes/quarter	_____
<u>x</u>	<u>8</u>	quarters	<u>x _____</u>
=	<b>\$1800.00</b>	<b>taxes/year (f4)</b>	= _____

	\$1600	rejuvenation costs/quarter	_____
x	8	quarters	x _____
<u>÷</u>	<u>10</u>	years (depreciation)	<u>÷ _____</u>
=	<b>\$1,280</b>	<b>rejuvenation costs/year (f5)</b>	= _____

**Total Cost of Owned Land**

	<b>\$ 11,740</b>	<b>/year (f6) (f1+f2+f3+f4+f5)</b>	_____
<u>÷</u>	<u>385</u>	feeders	<u>÷ _____</u>
=	<b>\$ 30.49</b>	<b>/head/year</b>	= _____

Overall Cost/Feeder for All Pastures

	\$ 1,852	community pasture costs	_____
+	3,346	total cost of leased land (e4)	+ _____
+	<u>11,740</u>	total cost of owned land (f6)	+ _____
=	<b>\$16,938</b>		= _____
÷	<u>500</u>	feeders	÷ _____
=	<b>\$33.88</b>	<b>/head/year</b>	= _____

Labour

		1 hour/feeder	_____
x	<u>\$ 9.00</u>	/hour	x _____
=	<b>\$ 9.00</b>	<b>/feeder</b>	= _____

Income and Cost Summary - Grass Cattle

	Total Amount	Your Farm
Total Cash Income (\$915.96 x 492)	\$450,652	
- total operating costs (\$838.69 x 500)	\$419,345	-
<b>= Net Cash Income</b>	<b>\$31,307</b>	<b>=</b>
- fixed costs (\$47.45 x 500)	\$23,725	-
- labour (\$9.00 x 500)	\$4,500	-
<b>= Return to Investment</b>	<b>\$3082</b>	<b>=</b>
÷ total feeders purchases	500	÷
<b>= Total Return/Feeder Purchased</b>	<b>\$6.16</b>	<b>=</b>

### *Cost per Pound of Gain Sold (shrunk at 4%)*

		<u>Your Farm</u>
	898 lbs selling weight	_____
-	<u>600</u> lbs purchase weight	- _____
=	298 lbs gain (g1)	= _____
	898 lbs selling weight	_____
x	<u>4</u> % shrink	x _____
=	36 lbs shrink (g2)	= _____
=	<b>262 lbs weight gain (g3) (g1-g2)</b>	= _____

#### Operating Costs

	\$838.69 operating costs	_____
-	\$721.80 feeder cost	- _____
÷	<u>262</u> lbs weight gain (g3)	÷ _____
=	<b>\$ 0.45 /lb. (gain sold)</b>	= _____

#### Operating and Fixed Costs

	\$886.14 operating and fixed costs	_____
-	\$721.80 feeder cost	- _____
÷	<u>262</u> lbs weight gain (g3)	÷ _____
=	<b>\$ 0.63 /lb. (gain sold)</b>	= _____

#### Operating, Fixed and Labour Costs

	\$895.14 operating, fixed and labour costs	_____
-	\$721.80 feeder cost	- _____
÷	<u>262</u> lbs weight gain (g3)	÷ _____
=	<b>\$ 0.66 /lb. (gain sold)</b>	= _____

***Breakeven Selling Price***

	<u><b>Your Farm</b></u>
898 lbs selling weight	_____
x <u>4</u> % shrink	x _____
= 36 lbs shrink	= _____
898 lbs selling weight	_____
- <u>36</u> lbs shrink	- _____
= <b>862 lbs shrunk weight (h1)</b>	= _____

Operating Costs

\$838.69 operating costs	_____
÷ <u>862</u> lbs shrunk weight (h1)	÷ _____
= <b>\$ 0.97 /lb. (selling price)</b>	= _____

Operating and Fixed Costs

\$886.14 operating and fixed costs	_____
÷ <u>862</u> lbs shrunk weight (h1)	÷ _____
= <b>\$ 1.03 /lb. (selling price)</b>	= _____

Operating, Fixed and Labour Costs

\$895.14 operating, fixed and labour costs	_____
÷ <u>862</u> lbs shrunk weight (h1)	÷ _____
= <b>\$ 1.04 /lb. (selling price)</b>	= _____

***Profit per Acre\****

\$6.16 total profit (loss)/feeder	_____
x 385 feeders grazed on owned land	x _____
÷ <u>1280</u> total acres grazed (two sections)	÷ _____
= <b>\$1.85 profit (loss) per acre</b>	= _____

\*Based on the 385 head pastured on the eight owned quarters.

## Effect of Productivity on Profitability

Assumption: Improvements in average daily gain are due to superior genetics of feeders and better management. Feeder costs and all operating and fixed costs are assumed to remain the same.

<b>Variations in Average Daily Gain (ADG)</b>			
<b>ADG in lbs/day</b>	1.5	1.75	2.0
Revenue (\$/head)	\$872	\$916	\$959
Total Return/Feeder Purchased	\$(36.92)	\$6.16	\$48.36
Cost/lb. of Gain (\$/lb.)	\$0.78	\$0.66	\$0.57
Breakeven Selling Price (\$)	\$1.09	\$1.04	\$0.99

## Winter Backgrounding - Drylot - Summary Statement 1995

	Revenue/Head	Your Farm
<b>Revenue</b>	\$ 803.60	_____
<b>Operating Costs</b>		<b>Cost/Head</b>
Total Feed Costs	\$ 78.27	_____
Feeder Cost	640.30	_____
Straw	4.42	_____
Veterinary Medicine and Supplies	13.65	_____
Fuel and Repair Costs	7.00	_____
Utilities	0.50	_____
Feeder Selling Cost	20.49	_____
Insurance on Investment	1.22	_____
Manure Removal	5.00	_____
Office Supplies	0.30	_____
Death Loss	<u>10.22</u>	_____
Subtotal Operating Costs	\$781.37	_____
Operating Interest	<u>21.03</u>	_____
<b>Total Operating Costs</b>	<b>\$802.40</b>	_____
<b>Fixed Costs</b>		
Depreciation	\$ 13.42	
Investment	<u>8.94</u>	
<b>Total Fixed Costs</b>	<b>\$ 22.36</b>	_____
<b>Total Operating and Fixed Costs</b>	<b>\$824.76</b>	_____
Labour	<u>18.00</u>	_____
<b>Total Cost of Production</b>	<b>\$842.76</b>	_____
<b>Net Return over all Costs</b>	<b>\$(39.16)</b>	_____
<b>Cost per pound of gain sold (\$/lb)</b>	<b>\$/lb</b>	
Operating Costs	\$0.68	_____
Operating and Fixed Costs	0.78	_____
Operating, Fixed and Labour Costs	0.85	_____
<b>Breakeven selling price (\$/lb)</b>		
Operating Costs	\$1.02	_____
Operating and Fixed Costs	1.05	_____
Operating, Fixed and Labour Costs	1.07	_____

## Winter Backgrounding: Drylot - Detailed Budget

This budget will focus on buying or retaining calves in the fall (about October 1) and backgrounding on a high quality ration in the feedlot for approximately 135 days (until about February 15). The feeders may be marketed or fed to finish.

### Assumptions

1. Average daily gain (A.D.G.) was assumed to be 0.91 kg/day (2.0 lbs/day).
2. It was assumed that the feeder steer weighed in at 250 kilograms (550 pounds) and was raised to 372 kilograms (820 pounds).
3. Days on feed was 135 days (in drylot).
4. Feed conversion was 7.3 to 1 pounds feed per pound gain in the feedlot.
5. Investment in feedlot facilities and equipment was estimated at \$101,798 (to handle 500 head from October 1 to February 15) or \$204/head.

### Backgrounding Drylot Cattle Production Revenue - 1995

		<u>Your Farm</u>
	500 feeders	_____
-	<u>8</u> feeders (1.5% death loss)	- <u>_____</u>
=	<b>492 /Feeders Sold</b>	= _____
	820 lbs average feeder weight	_____
x	<u>\$0.98</u> \$/lb. average feeder price*	x <u>_____</u>
=	<b>\$803.60 Revenue per Head</b>	= _____
x	<u>492</u> feeders sold	x <u>_____</u>
=	<b>\$395,371 Total Revenue per Year</b>	= _____

\*Market price was determined by taking the average market price for the month of February over a five year period (from 1990 to 1994); from StatFacts, Saskatchewan Agriculture and Food. It is extremely important that you find the correct market price for the month you are purchasing or selling your cattle since this can greatly affect your bottom line.

# Backgrounding Drylot Cattle Production Costs - 1995

## Operating Costs (per head)

Feed Costs (October 1 to February 15)

<b>Barley (including processing)<sup>1</sup></b>			<b><u>Your Farm</u></b>
	135	days on barley	_____
x	3.0	kg/day (6.6 lbs)	x _____
x	<u>\$90.00</u>	/tonne (44/lb. or \$1.96/bu)	x _____
=	<b>\$ 36.45</b>	<b>/head (a1)</b>	= _____
<b>Hay</b>			
	135	days on hay	_____
x	4	kg/day (8.8 lbs)	x _____
x	<u>\$ 55.00</u>	/tonne (\$50/ton)	x _____
=	<b>\$ 29.70</b>	<b>/head (a2)</b>	= _____
<b>Protein Supplement (Canola Meal)</b>			
	135	days on canola meal	_____
x	0.40	kg/day (0.88 lbs)	x _____
x	<u>\$180.00</u>	/tonne (\$163/ton)	x _____
=	<b>\$ 9.72</b>	<b>/head (a3)</b>	= _____
<b>Salt, Vitamins and Minerals</b>			
	3	kg (6 lbs)	_____
x	<u>\$ 0.40</u>	/kg (\$0.18/lb)	x _____
=	<b>\$ 2.40</b>	<b>/head (a4)</b>	= _____
<b>Total Feed Costs</b>	<b>\$78.27</b>	<b>/head (a1+a2+a3+a4)</b>	= _____

---

<sup>1</sup> Barley \$78 per tonne (\$1.70/bu or 3.5 cents/lb.)  
Processing \$12 per tonne (\$0.26/bu or 1/2 cents/lb.)

Feeder Cost

<b>Feeder</b>		<b>Your Farm</b>
	550 lbs/head	_____
x	<u>\$115.00</u> \$/cwt*	x _____
=	<b>\$632.50</b> /head (b1)	= _____
<b>Buying Commission</b>		
	\$6.00/feeder (b2)	_____
<b>Trucking-in</b>		
	\$ 3.00 \$/loaded mile (\$2.50 if >50 miles)	_____
x	<u>50</u> miles (average)	x _____
=	\$150 /load	= _____
x	<u>6</u> loads (80 head/load)	x _____
=	\$900 trucking costs	= _____
÷	<u>500</u> feeders	÷ _____
=	<b>\$1.80</b> /head (b3)	= _____
<b>Total</b>	<b>\$640.30</b> /head (b1+b2+b3)	<b>_____</b>

\*Feeder price was determined by taking the average market price for the month of October over a five year period (from 1990 to 1994); from StatFacts, Saskatchewan Agriculture and Food. It is extremely important that you find the correct market price for the month you are purchasing or selling your cattle since this can greatly affect your bottom line.

Straw Bedding

	1.82 kg/day (4 lbs/day)	_____
x	135 days	x _____
x	<u>\$ 18.00</u> /tonne (\$15.00/ton)	x _____
=	<b>\$ 4.42</b> /head	= _____

Veterinary, Medicine and Supplies

			<u><b>Your Farm</b></u>
	\$ 1.00	IBR, BVD, PI3, Haemophilus (2X)	_____
+	0.20	Vitamin A-D	+ _____
+	6.00	External and Internal Parasites	+ _____
+	0.40	Blackleg (8-way)	+ _____
+	1.40	Growth Implants (1X)	+ _____
+	<u>4.00</u>	Antibiotics	+ <u>_____</u>
=	\$ 13.00	/head (c1)	= _____

*Herd Health Program*

**Professional Services**

	2.5	total yearly hours	_____
x	\$ 100.00	per hour	x _____
÷	<u>500</u>	feeders	÷ <u>_____</u>
=	\$ 0.50	/head (c2)	= _____

**Transportation**

	80	km	_____
x	\$ 0.95	charge per km	x _____
x	1	yearly visits	x _____
÷	<u>500</u>	feeders	÷ <u>_____</u>
=	0.15	/head (c3)	= _____

**Total Veterinary and Medicine Supplies**

**\$13.65 /head (c1+c2+c3)** = \_\_\_\_\_

**Fuel Repairs and Maintenance**

	\$1,500.00	repairs	_____
+	\$2,000.00	fuel	+ _____
÷	<u>500</u>	feeder cattle	÷ <u>          </u>
=	<b>\$ 7.00</b>	<b>/head</b>	= _____

**Utilities**

	\$250.00	telephone and hydro	_____
÷	<u>500</u>	feeder cattle	÷ <u>          </u>
=	<b>\$ 0.50</b>	<b>/head</b>	= _____

**Feeder Selling Cost**

**Trucking**

	\$3.00	/loaded mile (\$2.50 if >50 miles)	_____
x	<u>50</u>	miles (average)	x <u>          </u>
=	\$150.00	/load	= _____
x	<u>8</u>	loads	x <u>          </u>
=	\$1200.00	trucking costs	= _____
÷	<u>492</u>	feeders (with 1.5% death loss)	÷ <u>          </u>
=	<b>\$2.44</b>	<b>/head (d1)</b>	= _____

**Selling Cost**

	\$15.00	commission	_____
+	\$1.00	check off	+ _____
+	\$1.50	brands	+ _____
+	<u>\$0.55</u>	insurance	+ <u>          </u>
=	<b>\$18.05</b>	<b>/head (d2)</b>	= _____

<b>Total</b>	<b>\$20.49</b>	<b>/head (d1+d2)</b>	_____
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Insurance on Investment

	\$101,798	capital investment	_____
x	\$ 0.60	cost/\$100 capital	x _____
÷	<u>500</u>	feeder cattle	÷ <u>_____</u>
=	<b>\$ 1.22</b>	<b>/head</b>	= _____

Manure Removal

	\$2,500	average cost	<u>Your Farm</u>	_____
÷	<u>500</u>	feeder cattle	÷ _____	_____
=	<b>\$ 5.00</b>	<b>/head</b>	= _____	_____

Office Supplies

	\$150.00	total expenses	_____
÷	<u>500</u>	feeder cattle	÷ _____
=	<b>\$ 0.30</b>	<b>/head</b>	= _____

Death Loss

	\$640.30	feeder cattle	_____
+	\$722.00	additional value calculated	+ _____
÷	<u>2</u>		÷ <u>_____</u>
=	\$681.15	average value	= _____
x	<u>1.5</u>	% mortality rate	x <u>_____</u>
=	<b>\$ 10.22</b>	<b>/head</b>	= _____

**Operating Interest**

	\$640.30	feeder cost		_____
+	\$ 70.54	2 operating costs (less cost of feeder)	+	_____
x	8	% interest rate	x	_____
x	135	days on feed	x	_____
÷	<u>365</u>	days/year	÷	<u>_____</u>
=	<b>\$ 21.03</b>	<b>/head</b>	=	<u>_____</u>

**Capital Costs**

**Feedlot Building and Facilities**

**Your Farm**

Shelters (10,368 ft <sup>2</sup> x \$4/ft <sup>2</sup> )	\$41,472	_____
Windbreak fence (600 ft. x \$6/ft.)	3,600	_____
Pens (1,540 ft. x \$2.30/ft.)	3,542	_____
Handling Facilities	3,500	_____
Waterers 4 @ \$500	2,000	_____
Gates 8 @ 16' x \$8/ft	1,024	_____
Feeders 10 @ \$150	1,500	_____
Bunk Feeders 816' x \$10/lin.ft.	8,160	_____
Well and Pressure System	<u>5,500</u>	<u>_____</u>
	<b>\$ 70,298</b>	<u>_____</u>

**Machinery and Equipment**

Tractor and Loader*	\$ 16,500	_____
Miscellaneous	<u>15,000</u>	<u>_____</u>
	<b>\$ 31,500</b>	<u>_____</u>
<b>Total Investment</b>	<b>\$101,798</b>	<u>_____</u>

\*The tractor and loader are valued at \$50,000. One third of this cost is used since it is assumed that this same equipment will be used in other farm operations.

**Fixed Costs**

$$\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$$

**Depreciation**

*Building and Facilities*

	\$70,298	original cost	_____
-	7,030	salvage value	- _____
÷	20	years useful life	÷ _____
÷	<u>500</u>	feeder cattle	÷ <u>_____</u>
=	<b>\$ 6.33</b>	<b>/feeder</b>	= _____

*Machinery and Equipment*

	\$31,500	original cost	_____
-	\$ 3,150	salvage value	- _____
÷	8	years useful life	÷ _____
÷	<u>500</u>	feeder cattle	÷ <u>_____</u>
=	<b>\$ 7.09</b>	<b>/head</b>	= _____

<b>Total Depreciation</b>	<b>\$13.42</b>	<b>/head</b>	= _____
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## Income and Cost Summary - Drylot Cattle

	<b>Total Amount</b>	<b>Your Farm</b>
Total Cash Income (\$803.60 x 492)	\$395,371	
- total operating costs (\$802.40 x 500)	\$401,200	-
<b>= Net Cash Income</b>	<b>\$(5,829)*</b>	<b>=</b>
- fixed costs (\$22.36 x 500)	\$11,180	-
- labour (\$18.00 x 500)	\$9,000	-
<b>= Return to Investment</b>	<b>\$(26,009)*</b>	<b>=</b>
÷ total feeders purchases	500	÷
<b>= Total Return/Feeder Purchased</b>	<b>\$(52.02)*</b>	<b>=</b>

\* The brackets represent a negative value (loss).

**Cost per Pound of Gain Sold (shrunk at 4%)**

		<u><b>Your Farm</b></u>
	820 lbs selling weight	_____
-	<u>550</u> lbs purchase weight	- _____
=	270 lbs gain (g1)	= _____
	820 lbs selling weight	_____
x	<u>4</u> % shrink	x _____
=	33 lbs shrink (g2)	= _____
=	<b>237 lbs weight gain (g3) (g1-g2)</b>	= _____

**Operating Costs**

	\$802.40 operating costs	_____
-	\$640.30 feeder cost	- _____
÷	<u>237</u> lbs weight gain (g3)	÷ _____
=	<b>\$ 0.68 /lb (gain sold)</b>	= _____

**Operating and Fixed Costs**

	\$824.76 operating and fixed costs	_____
-	\$640.30 feeder cost	- _____
÷	<u>237</u> lbs weight gain (g3)	÷ _____
=	<b>\$ 0.78 /lb. (gain sold)</b>	= _____

**Operating, Fixed and Labour Costs**

	\$842.76 operating, fixed and labour costs	_____
-	\$640.30 feeder cost	- _____
÷	<u>237</u> lbs weight gain (g3)	÷ _____
=	<b>\$ 0.85 /lb. (gain sold)</b>	= _____

***Breakeven Selling Price***

		<u><b>Your Farm</b></u>
820	lbs selling weight	_____
<u>x 4</u>	% shrink	<u>x _____</u>
= 33	lbs shrink	= _____
820	lbs selling weight	_____
<u>- 33</u>	lbs shrink	<u>- _____</u>
= 787	<b>lbs shrunk weight (h1)</b>	= _____

**Operating Costs**

\$802.40	operating costs	_____
<u>÷ 787</u>	lbs shrunk weight (h1)	<u>÷ _____</u>
= \$ 1.02	<b>/lb (selling price)</b>	= _____

**Operating and Fixed Costs**

\$824.76	operating and fixed costs	_____
<u>÷ 787</u>	lbs shrunk weight (h1)	<u>÷ _____</u>
= \$ 1.05	<b>/lb. (selling price)</b>	= _____

**Operating, Fixed and Labour Costs**

\$842.76	operating, fixed and labour costs	_____
<u>÷ 787</u>	lbs shrunk weight (h1)	<u>÷ _____</u>
= \$ 1.07	<b>/lb. (selling price)</b>	= _____

## Effect of Productivity on Profitability

Assumption: Improvements in average daily gain are due to superior genetics of feeders and better management. Feeder costs and all operating and fixed costs are assumed to remain the same.

<b>Variations in Average Daily Gain (ADG)</b>			
<b>ADG in lbs/day</b>	1.5	2.0	2.5
Revenue (\$/head)	\$737	\$804	\$843
Total Return/Feeder Purchased	\$(117)	\$(52)	\$(13)
Cost/lb. of Gain (\$/lb.)	\$1.17	\$0.85	\$0.67
Breakeven Selling Price (\$)	\$1.17	\$1.07	\$0.99

# Appendix I: Information Sources

## *Publications*

*Cattle Marketing Report*

Statistics Branch

Saskatchewan Agriculture and Food

3085 Albert Street

Regina, SK S4S 0B1

Ph. (306) 787-5120

*Saskatchewan Weekly Livestock Marketing Review*; by Kenn Birkeland

Agriculture Canada

Ph. (306) 780-7142

*Canfax Weekly Summary - Cattle Analysis and Outlook*; by Anne Dunford, Analyst

215, 6715-8th Street N.E.

Calgary, AB T2E 7H7

Ph. (403) 275-5110

Available through Saskatchewan Agriculture, Food and Rural Revitalization Rural Service Centres or Saskatchewan Agriculture, Food and Rural Revitalization Web site at [www.agr.gov.sk.ca](http://www.agr.gov.sk.ca)

FarmFacts:

*\*Economic Losses Due to Shrinkage*

*\*Health in the Feedlot*

*\*Beef Backgrounding Facilities*

*\*Marketing Backgrounded Cattle*

*Saskatchewan Forage Crop Production Guide*

*Managing Saskatchewan Rangeland* (Revised Edition)

