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.

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 gains 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.

**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

(Policy Branch, Saskatchewan Agriculture, Food and Rural Revitalization)
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:

<table>
<thead>
<tr>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>75% of grass used</td>
</tr>
<tr>
<td>= 289</td>
</tr>
<tr>
<td>x 3.5 months</td>
</tr>
<tr>
<td>= 1.0 AUM/acre RWR (or 1.3 AUM Meadow Brome)</td>
</tr>
<tr>
<td>= 1012 acres RWR (or 1315 acres Meadow Brome) needed for 385 head</td>
</tr>
</tbody>
</table>

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).

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.
### Summer Backgrounding - Summary Statement – 1995

<table>
<thead>
<tr>
<th></th>
<th>Revenue/Head</th>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>$ 915.96</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Operating Costs</strong></th>
<th>Cost/Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Feed Costs</td>
<td>$ 34.92</td>
</tr>
<tr>
<td>Feeder Cost</td>
<td>721.80</td>
</tr>
<tr>
<td>Straw</td>
<td>1.47</td>
</tr>
<tr>
<td>Veterinary Medicine and Supplies</td>
<td>14.40</td>
</tr>
<tr>
<td>Fuel and Repair Costs</td>
<td>2.00</td>
</tr>
<tr>
<td>Utilities</td>
<td>0.50</td>
</tr>
<tr>
<td>Feeder Selling Cost</td>
<td>20.79</td>
</tr>
<tr>
<td>Insurance on Investment</td>
<td>0.72</td>
</tr>
<tr>
<td>Manure Removal</td>
<td>1.69</td>
</tr>
<tr>
<td>Office Supplies</td>
<td>0.30</td>
</tr>
<tr>
<td>Death Loss</td>
<td>11.56</td>
</tr>
<tr>
<td><strong>Subtotal Operating Costs</strong></td>
<td>810.15</td>
</tr>
<tr>
<td><strong>Operating Interest</strong></td>
<td>28.54</td>
</tr>
<tr>
<td><strong>Total Operating Costs</strong></td>
<td>838.69</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fixed Costs</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation</td>
<td>8.26</td>
</tr>
<tr>
<td>Investment</td>
<td>5.31</td>
</tr>
<tr>
<td>Pasture Costs</td>
<td>33.88</td>
</tr>
<tr>
<td><strong>Total Fixed Costs</strong></td>
<td>$47.45</td>
</tr>
</tbody>
</table>

| **Total Operating and Fixed Costs** | $886.14 |
| **Labour**                           | 9.00    |
| **Total Cost of Production**         | $895.14 |

| **Net Return overall Costs** | $ 20.82 |

<table>
<thead>
<tr>
<th><strong>Cost per pound of gain sold ($/lb)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Costs</td>
<td>0.45</td>
</tr>
<tr>
<td>Operating and Fixed Costs</td>
<td>0.63</td>
</tr>
<tr>
<td>Operating, Fixed and Labour Costs</td>
<td>0.66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Breakeven selling price ($/lb)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Costs</td>
<td>0.97</td>
</tr>
<tr>
<td>Operating and Fixed Costs</td>
<td>1.03</td>
</tr>
<tr>
<td>Operating, Fixed and Labour Costs</td>
<td>1.04</td>
</tr>
</tbody>
</table>

| **Profit (loss) per acre ($/acre)**    | $ 1.85   |

8
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

\[
\begin{align*}
\text{500 feeders} & \quad \text{Your Farm} \\
\text{- 8 feeders (1.5% death loss)} & \\
\text{= 492 /Feeders Sold} & \\
\text{898 lbs average feeder weight} & \\
\text{x $1.02 $/lb. average feeder price*} & \\
\text{= $915.96 Revenue per Feeder} & \\
\text{x 492 feeders sold} & \\
\text{= $450,652 Total Feeder Revenue per Year} & \\
\end{align*}
\]

*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)

<table>
<thead>
<tr>
<th>Feed Type</th>
<th>Days on Feed</th>
<th>Kg/day</th>
<th>Cost/tonne</th>
<th>Cost/head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley (including processing)†</td>
<td>60 days</td>
<td>3.0 kg</td>
<td>$90.00/tonne</td>
<td>$16.20/head</td>
</tr>
<tr>
<td>Hay</td>
<td>60 days</td>
<td>4 kg</td>
<td>$55.00/tonne</td>
<td>$13.20/head</td>
</tr>
<tr>
<td>Protein Supplement (Canola Meal)</td>
<td>60 days</td>
<td>0.40 kg</td>
<td>$180.00/tonne</td>
<td>$4.32/head</td>
</tr>
<tr>
<td>Salt, Vitamins and Minerals</td>
<td>3 kg</td>
<td></td>
<td>$0.40/kg</td>
<td>$1.20/head</td>
</tr>
</tbody>
</table>

**Total Feed Costs** \(\textbf{$34.92} \textend{head} (a1+a2+a3+a4)\)

---

1 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

<table>
<thead>
<tr>
<th>Feeder</th>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 lbs/feeder</td>
<td>_________</td>
</tr>
<tr>
<td>$119.00 $/cwt*</td>
<td>x _________</td>
</tr>
<tr>
<td>$714.00 /head(b1)</td>
<td>= _________</td>
</tr>
</tbody>
</table>

Buying Commission

$6.00/head (b2)

Trucking-in

$ 3.00 $/loaded mile ($2.50 if >50 miles)

| miles (average) | 50 | x | _________ |
|----------------|----|---|_________|
| $150 /load | = | _________ |
| loads (80 head/load) | 6 | x | _________ |
| $900 trucking costs | = | _________ |
| 500 feeders | ÷ | _________ |
| $1.80 /head (b3) | = | _________ |

Total $721.80 /head (b1+b2+b3)

*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)

| days | 60 | x | _________ |
|------|----|---|_________|
| $ 18.00 /tonne ($15.00/ton) | x | _________ |
| $ 1.47 /head | = | _________ |
Veterinary, Medicine and Supplies

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBR, BVD, PI3, Haemophilus (2X)</td>
<td>$1.00</td>
<td></td>
</tr>
<tr>
<td>Vitamin A-D</td>
<td>+0.15</td>
<td></td>
</tr>
<tr>
<td>External and Internal Parasites</td>
<td>+4.50</td>
<td></td>
</tr>
<tr>
<td>Blackleg (8-way)</td>
<td>+0.40</td>
<td></td>
</tr>
<tr>
<td>Growth Implants (1X)</td>
<td>+1.40</td>
<td></td>
</tr>
<tr>
<td>Fly Tags</td>
<td>+2.30</td>
<td></td>
</tr>
<tr>
<td>Antibiotics</td>
<td>+4.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$13.75</strong></td>
<td>/head (c1)</td>
</tr>
</tbody>
</table>

Herd Health Program

Professional Services

2.5 total yearly hours
x $100.00 per hour
÷ 500 feeders
= $0.50 /head (c2)

Transportation

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

Total Veterinary and Medicine Supplies

$14.40 /head (c1+c2+c3)
Fuel Repairs and Maintenance

$500.00 repairs + $500.00 fuel ÷ 500 feeder cattle = $2.00/head

Utilities

$250.00 telephone and hydro ÷ 500 feeder cattle = $0.50/head

Community Pasture Fees

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

*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 50 miles (average)  
- = $150.00 /load  
- x 9 loads (55 head/load)  
- = $1350.00 trucking costs  
- ÷ 492 feeders (with 1.5% death loss)  
- = $2.74 /head (d1)

**Selling Cost**

- $15.00 commission  
- + $1.00 check off  
- + $1.50 brands  
- + $0.55 insurance  
- = $18.05 /head (d2)

**Total**

- $20.79 /head (d1+d2)

Insurance on Investment

**Your Farm**

- $60,326 capital investment  
- x $ 0.60 cost/$100 capital  
- ÷ 500 feeder cattle  
- = $ 0.72 /head

Manure Removal

- $845 average cost  
- ÷ 500 feeder cattle  
- = $ 1.69 /head
### Office Supplies

$150.00 \text{ total expenses} \div 500 \text{ feeder cattle} = \$0.30/\text{head}

### Death Loss

$721.80 \text{ feeder cattle} + $819.00 \text{ additional value calculated} \div 2 = \$770.40 \text{ average value} \times 1.5 \% \text{ mortality rate} = \$11.56/\text{head}

### Operating Interest

$721.80 \text{ feeder cost} + $44.18 \left(2 \text{ operating costs (less cost of feeder)}\right) \times 8 \% \text{ interest rate} \times 170 \text{ days on feed} \div 365 \text{ days/year} = \$28.54/\text{head}
# Capital Costs

## Your Farm

### Feedlot Facilities

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windbreak fence (600 ft. x $6/ft.)</td>
<td>$3,600</td>
</tr>
<tr>
<td>Pens (1,540 ft. x $2.30/ft.)</td>
<td>3,542</td>
</tr>
<tr>
<td>Handling Facilities</td>
<td>3,500</td>
</tr>
<tr>
<td>Waterers 4 @ $500</td>
<td>2,000</td>
</tr>
<tr>
<td>Gates 8 @ 16’ x $8/ft</td>
<td>1,024</td>
</tr>
<tr>
<td>Feeders 10 @ $150</td>
<td>1,500</td>
</tr>
<tr>
<td>Bunk Feeders 816’ x $10/lin.ft.</td>
<td>8,160</td>
</tr>
<tr>
<td>Well and Pressure System</td>
<td>5,500</td>
</tr>
</tbody>
</table>

**Total Feedlot Facilities Cost: $28,826**

### Machinery and Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tractor and Loader*</td>
<td>$16,500</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>15,000</td>
</tr>
</tbody>
</table>

**Total Machinery and Equipment Cost: $31,500**

### Total Insured Investment

**Total Insured Investment: $60,326**

### Land, Dugout, and Fencing

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land (8 @ $120/acre)</td>
<td>$153,600</td>
</tr>
<tr>
<td>Dugouts (6 @ $3000)</td>
<td>18,000</td>
</tr>
<tr>
<td>Fencing (17 miles @ $1200/mile)</td>
<td>20,400</td>
</tr>
</tbody>
</table>

**Total Land, Dugout, and Fencing: $192,000**

**Total Investment: $252,326**

---

*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

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

**Facilities**

\[
\begin{align*}
\$28,826 & \quad \text{original cost} \\
- \$2,883 & \quad \text{salvage value} \\
+ 20 & \quad \text{years useful life} \\
+ 500 & \quad \text{feeder cattle} \\
\hline
\ &= \frac{\$28,826 - \$2,883}{20} + \frac{20}{500} \\
\ &= \$2.59 /\text{head}
\end{align*}
\]

**Machinery and Equipment**

\[
\begin{align*}
\$31,500 & \quad \text{original cost} \\
- \$3,150 & \quad \text{salvage value} \\
+ 10 & \quad \text{years useful life} \\
+ 500 & \quad \text{feeder cattle} \\
\hline
\ &= \frac{\$31,500 - \$3,150}{10} + \frac{10}{500} \\
\ &= \$5.67 /\text{head}
\end{align*}
\]

**Total Depreciation**

\[
\frac{\$2.59 + \$5.67}{\text{500 feeder cattle}} = \$8.26 /\text{head}
\]
Investment Cost

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

**Facilities**

\[
\begin{align*}
+ & \quad 2,883 \text{ salvage value} \\
+ & \quad 2 \\
\times & \quad 8 \% \text{ investment rate} \\
+ & \quad 500 \text{ feeder cattle} \\
\hline
= & \quad 2.54 \$/\text{head}
\end{align*}
\]

**Machinery and Equipment**

\[
\begin{align*}
+ & \quad 31,500 \text{ original cost} \\
+ & \quad 3,150 \text{ salvage value} \\
+ & \quad 2 \\
\times & \quad 8 \% \text{ investment rate} \\
+ & \quad 500 \text{ feeder cattle} \\
\hline
= & \quad 5.67 \$/\text{head}
\end{align*}
\]

**Total Investments**  \$5.31 /head
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)

\[
\begin{align*}
x & \times 110 \\
& = \$38.50 /head/year (e1)
\end{align*}
\]

$1,200 /mile fencing

\[
\begin{align*}
- & \times 250 \\
+ & \times 30 \\
& = \$31.67 /mile/year (e1)
\end{align*}
\]

\[
\begin{align*}
x & \times 5 \\
& = \$158.35 /year (e2)
\end{align*}
\]

\[
\begin{align*}
+ & \times 75 \\
& = \$2.11 /head/year (e2)
\end{align*}
\]

$3000 /dugout

\[
\begin{align*}
x & \times 2 \\
+ & \times 20 \\
& = \$300 dugout costs/year (e3)
\end{align*}
\]

\[
\begin{align*}
+ & \times 75 \\
& = \$4.00 /head/year (e3)
\end{align*}
\]

Total Cost of Leased Land

$44.61 /head/year (e1+e2+e3)

\[
\begin{align*}
x & \times 75 \\
& = \$3345.75 /year (e4)
\end{align*}
\]
## Owned Land

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned Land 1280 acres</td>
<td>$120.00 /acre x 1280 acres x 5% interest rate = $7,680 interest/year (f1)</td>
</tr>
<tr>
<td>4 dugouts 3000 $/dugout</td>
<td>$3000 /dugout x 4 dugouts / 20 years = $600 dugout costs/year (f2)</td>
</tr>
<tr>
<td>Fence 1200 $/mile - $250 salvage</td>
<td>$1,200 /mile fencing - $250 salvage value /mile x 30 years = $31.67 /mile/year x 12 miles = $380.04 /year (f3)</td>
</tr>
<tr>
<td>Taxes 225.00 $/quarter</td>
<td>$225.00 /quarter x 8 quarters = $1,800.00 taxes/year (f4)</td>
</tr>
<tr>
<td>Rejuvenation 1600 $/quarter</td>
<td>$1,600 rejuvenation costs /quarter x 8 quarters / 10 years = $1,280 rejuvenation costs/year (f5)</td>
</tr>
</tbody>
</table>

### Total Cost of Owned Land

\[
\text{Total Cost of Owned Land} = \frac{11,740 \text{ /year (f6) (f1+f2+f3+f4+f5)}}{385 \text{ feeders}} = 30.49 \text{ /head/year}
\]
### Overall Cost/Feeder for All Pastures

- $1,852 community pasture costs
- $3,346 total cost of leased land (e4)
- $11,740 total cost of owned land (f6)

\[
\begin{align*}
\text{Total Cost} &= 1,852 + 3,346 + 11,740 \\
&= 16,938 \\
\text{Cost per Feeder} &= \frac{16,938}{500} \\
&= 33.88 \$/\text{head/year}
\end{align*}
\]

### Labour

- 1 hour/feeder
- $9.00/hour

\[
\begin{align*}
\text{Labour Cost} &= 1 \times 9.00 \\
&= 9.00 \$/\text{feeder}
\end{align*}
\]

### Income and Cost Summary - Grass Cattle

<table>
<thead>
<tr>
<th>Description</th>
<th>Total Amount</th>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cash Income ($915.96 x 492)</td>
<td>$450,652</td>
<td></td>
</tr>
<tr>
<td>- total operating costs ($838.69 x 500)</td>
<td>$419,345</td>
<td>-</td>
</tr>
<tr>
<td>= <strong>Net Cash Income</strong></td>
<td>$31,307</td>
<td>=</td>
</tr>
<tr>
<td>- fixed costs ($47.45 x 500)</td>
<td>$23,725</td>
<td>-</td>
</tr>
<tr>
<td>- labour ($9.00 x 500)</td>
<td>$4,500</td>
<td>-</td>
</tr>
<tr>
<td>= <strong>Return to Investment</strong></td>
<td>$3082</td>
<td>=</td>
</tr>
<tr>
<td>÷ total feeders purchases</td>
<td>500</td>
<td>÷</td>
</tr>
<tr>
<td>= <strong>Total Return/Feeder Purchased</strong></td>
<td>$6.16</td>
<td>=</td>
</tr>
</tbody>
</table>
Cost per Pound of Gain Sold (shrunk at 4%)

<table>
<thead>
<tr>
<th></th>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>898 lbs selling weight</td>
<td></td>
</tr>
<tr>
<td>- 600 lbs purchase weight</td>
<td></td>
</tr>
<tr>
<td>= 298 lbs gain (g1)</td>
<td></td>
</tr>
<tr>
<td>x 898 lbs selling weight</td>
<td></td>
</tr>
<tr>
<td>x 4% shrink</td>
<td></td>
</tr>
<tr>
<td>= 36 lbs shrink (g2)</td>
<td></td>
</tr>
<tr>
<td>= 262 lbs weight gain (g3) (g1-g2)</td>
<td></td>
</tr>
</tbody>
</table>

Operating Costs

|                |           |
| $838.69 operating costs |           |
| - $721.80 feeder cost |           |
| + 262 lbs weight gain (g3) |           |
| = $ 0.45 /lb. (gain sold) |           |

Operating and Fixed Costs

|                |           |
| $886.14 operating and fixed costs |           |
| - $721.80 feeder cost |           |
| + 262 lbs weight gain (g3) |           |
| = $ 0.63 /lb. (gain sold) |           |

Operating, Fixed and Labour Costs

|                |           |
| $895.14 operating, fixed and labour costs |           |
| - $721.80 feeder cost |           |
| + 262 lbs weight gain (g3) |           |
| = $ 0.66 /lb. (gain sold) |           |
Breakeven Selling Price

Your Farm

898 lbs selling weight
\[ \times 4 \% \text{ shrink} = 36 \text{ lbs shrink} \]

898 lbs selling weight
\[ \times 36 \text{ lbs shrink} = 862 \text{ lbs shrunk weight (h1)} \]

Operating Costs

\[ \frac{838.69 \text{ operating costs}}{862 \text{ lbs shrunk weight (h1)}} = 0.97 \$/lb. (selling price) \]

Operating and Fixed Costs

\[ \frac{886.14 \text{ operating and fixed costs}}{862 \text{ lbs shrunk weight (h1)}} = 1.03 \$/lb. (selling price) \]

Operating, Fixed and Labour Costs

\[ \frac{895.14 \text{ operating, fixed and labour costs}}{862 \text{ lbs shrunk weight (h1)}} = 1.04 \$/lb. (selling price) \]

Profit per Acre*

\[ \times 385 \text{ feeders grazed on owned land} = 1280 \text{ total acres grazed (two sections)} \]

\[ \frac{6.16 \text{ total profit (loss)/feeder}}{\times 1280 \text{ total acres grazed (two sections)}} = 1.85 \text{ profit (loss) per acre} \]

*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.

<table>
<thead>
<tr>
<th>Variations in Average Daily Gain (ADG)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADG in lbs/day</strong></td>
<td>1.5</td>
<td>1.75</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Revenue ($/head)</strong></td>
<td>$872</td>
<td>$916</td>
<td>$959</td>
</tr>
<tr>
<td><strong>Total Return/Feeder Purchased</strong></td>
<td>$(36.92)</td>
<td>$6.16</td>
<td>$48.36</td>
</tr>
<tr>
<td><strong>Cost/lb. of Gain ($/lb.)</strong></td>
<td>$0.78</td>
<td>$0.66</td>
<td>$0.57</td>
</tr>
<tr>
<td><strong>Breakeven Selling Price ($)</strong></td>
<td>$1.09</td>
<td>$1.04</td>
<td>$0.99</td>
</tr>
</tbody>
</table>
## Winter Backgrounding - Drylot - Summary Statement 1995

<table>
<thead>
<tr>
<th>Description</th>
<th>Revenue/Head</th>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$ 803.60</td>
<td></td>
</tr>
<tr>
<td><strong>Operating Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Feed Costs</td>
<td>$ 78.27</td>
<td></td>
</tr>
<tr>
<td>Feeder Cost</td>
<td>640.30</td>
<td></td>
</tr>
<tr>
<td>Straw</td>
<td>4.42</td>
<td></td>
</tr>
<tr>
<td>Veterinary Medicine and Supplies</td>
<td>13.65</td>
<td></td>
</tr>
<tr>
<td>Fuel and Repair Costs</td>
<td>7.00</td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>Feeder Selling Cost</td>
<td>20.49</td>
<td></td>
</tr>
<tr>
<td>Insurance on Investment</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td>Manure Removal</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>Office Supplies</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>Death Loss</td>
<td>10.22</td>
<td></td>
</tr>
<tr>
<td>Subtotal Operating Costs</td>
<td>$781.37</td>
<td></td>
</tr>
<tr>
<td>Operating Interest</td>
<td>21.03</td>
<td></td>
</tr>
<tr>
<td><strong>Total Operating Costs</strong></td>
<td>$802.40</td>
<td></td>
</tr>
<tr>
<td><strong>Fixed Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>$ 13.42</td>
<td></td>
</tr>
<tr>
<td>Investment</td>
<td>8.94</td>
<td></td>
</tr>
<tr>
<td><strong>Total Fixed Costs</strong></td>
<td>$ 22.36</td>
<td></td>
</tr>
<tr>
<td><strong>Total Operating and Fixed Costs</strong></td>
<td>$824.76</td>
<td></td>
</tr>
<tr>
<td>Labour</td>
<td>18.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total Cost of Production</strong></td>
<td>$842.76</td>
<td></td>
</tr>
<tr>
<td><strong>Net Return over all Costs</strong></td>
<td>$(39.16)</td>
<td></td>
</tr>
</tbody>
</table>

**Cost per pound of gain sold ($/lb)**
- Operating Costs: $0.68
- Operating and Fixed Costs: $0.78
- Operating, Fixed and Labour Costs: $0.85

**Breakeven selling price ($/lb)**
- 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**

\[
\begin{align*}
500 & \text{ feeders} \\
- 8 & \text{ feeders (1.5\% death loss)} \\
= 492 & \text{/Feeders Sold} \\
\end{align*}
\]

\[
\begin{align*}
820 & \text{ lbs average feeder weight} \\
\times \$0.98 & \text{$/lb. average feeder price*} \\
= \$803.60 & \text{Revenue per Head} \\
\times 492 & \text{feeders sold} \\
= \$395,371 & \text{Total Revenue per Year}
\end{align*}
\]

*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)

Barley (including processing)\(^1\)

\[
\begin{align*}
135 & \text{ days on barley} \\
\times & 3.0 \text{ kg/day (6.6 lbs)} \\
\times & $90.00 \text{ /tonne (44/lb. or $1.96/bu)} \\
= & $36.45 \text{ /head (a1)}
\end{align*}
\]

Hay

\[
\begin{align*}
135 & \text{ days on hay} \\
\times & 4 \text{ kg/day (8.8 lbs)} \\
\times & $55.00 \text{ /tonne ($50/ton)} \\
= & $29.70 \text{ /head (a2)}
\end{align*}
\]

Protein Supplement (Canola Meal)

\[
\begin{align*}
135 & \text{ days on canola meal} \\
\times & 0.40 \text{ kg/day (0.88 lbs)} \\
\times & $180.00 \text{ /tonne ($163/ton)} \\
= & $9.72 \text{ /head (a3)}
\end{align*}
\]

Salt, Vitamins and Minerals

\[
\begin{align*}
3 & \text{ kg (6 lbs)} \\
\times & $0.40 \text{ /kg ($0.18/lb)} \\
= & $2.40 \text{ /head (a4)}
\end{align*}
\]

Total Feed Costs $78.27 /head (a1+a2+a3+a4)

\[
\begin{align*}
\text{Your Farm} \\
\times & _________ \\
\times & _________ \\
\times & _________ \\
\times & _________ \\
= & _________
\end{align*}
\]

\(^{1}\)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

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder</td>
<td>550 lbs/head x $115.00 /cwt* = $632.50 /head (b1)</td>
</tr>
<tr>
<td>Buying Commission</td>
<td>$6.00 /feeder (b2)</td>
</tr>
<tr>
<td>Trucking-in</td>
<td>$3.00 /loaded mile x 50 miles (average) x 6 loads (80 head/load) = $900 trucking costs / 500 feeders = $1.80 /head (b3)</td>
</tr>
</tbody>
</table>

*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

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straw Bedding</td>
<td>1.82 kg/day (4 lbs/day) x 135 days x $18.00 /tonne = $4.42 /head</td>
</tr>
</tbody>
</table>
Veterinary, Medicine and Supplies

<table>
<thead>
<tr>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 1.00</td>
</tr>
<tr>
<td>+</td>
</tr>
<tr>
<td>+</td>
</tr>
<tr>
<td>+</td>
</tr>
<tr>
<td>+</td>
</tr>
<tr>
<td>+</td>
</tr>
<tr>
<td>=</td>
</tr>
</tbody>
</table>

Herd Health Program

Professional Services

2.5 total yearly hours
x $ 100.00 per hour
÷ 500 feeders
= $ 0.50 /head (c2)

Transportation

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

Total Veterinary and Medicine Supplies

$13.65 /head (c1+c2+c3)
## Fuel Repairs and Maintenance

\[
\begin{align*}
$1,500.00 & \quad \text{repairs} \\
+ \quad $2,000.00 & \quad \text{fuel} \\
\div \quad 500 & \quad \text{feeder cattle} \\
= \quad $7.00 & \quad \text{/head}
\end{align*}
\]

## Utilities

\[
\begin{align*}
$250.00 & \quad \text{telephone and hydro} \\
\div \quad 500 & \quad \text{feeder cattle} \\
= \quad $0.50 & \quad \text{/head}
\end{align*}
\]

## Feeder Selling Cost

### Trucking

\[
\begin{align*}
$3.00 & \quad /\text{loaded mile ($2.50 \text{ if } >50 \text{ miles})} \\
x \quad 50 & \quad \text{miles (average)} \\
= \quad $150.00 & \quad /\text{load} \\
x \quad 8 & \quad \text{loads} \\
= \quad $1200.00 & \quad \text{trucking costs} \\
\div \quad 492 & \quad \text{feeders (with 1.5\% death loss)} \\
= \quad $2.44 & \quad /\text{head (d1)}
\end{align*}
\]

### Selling Cost

\[
\begin{align*}
$15.00 & \quad \text{commission} \\
+ \quad $1.00 & \quad \text{check off} \\
+ \quad $1.50 & \quad \text{brands} \\
+ \quad $0.55 & \quad \text{insurance} \\
= \quad $18.05 & \quad /\text{head (d2)}
\end{align*}
\]

**Total** \quad $20.49 \quad /\text{head (d1+d2)}
### Insurance on Investment

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Investment</td>
<td>$101,798</td>
<td>$101,798 x $0.60 / 500 = $1.22/head</td>
<td></td>
</tr>
</tbody>
</table>

### Manure Removal

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cost</td>
<td>$2,500</td>
<td>$2,500 / 500 = $5.00/head</td>
<td></td>
</tr>
</tbody>
</table>

### Office Supplies

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Expenses</td>
<td>$150.00</td>
<td>$150.00 / 500 = $0.30/head</td>
<td></td>
</tr>
</tbody>
</table>

### Death Loss

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
<th>Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder Cattle</td>
<td>$640.30</td>
<td>$640.30 + $722.00 / 2 = $681.15</td>
<td></td>
</tr>
<tr>
<td>Additional Value Calculated</td>
<td>$722.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Value</td>
<td>$681.15</td>
<td>$681.15 x 1.5% mortality rate</td>
<td></td>
</tr>
<tr>
<td>Mortality Rate</td>
<td>1.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$10.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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__________
÷ 365 days/year ÷__________
= $21.03 /head =__________

Capital Costs

Feedlot Building and Facilities

<table>
<thead>
<tr>
<th>Item</th>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelters (10,368 ft² x $4/ft²)</td>
<td>$41,472</td>
</tr>
<tr>
<td>Windbreak fence (600 ft. x $6/ft.)</td>
<td>3,600</td>
</tr>
<tr>
<td>Pens (1,540 ft. x $2.30/ft.)</td>
<td>3,542</td>
</tr>
<tr>
<td>Handling Facilities</td>
<td>3,500</td>
</tr>
<tr>
<td>Waterers 4 @ $500</td>
<td>2,000</td>
</tr>
<tr>
<td>Gates 8 @ 16' x $8/ft</td>
<td>1,024</td>
</tr>
<tr>
<td>Feeders 10 @ $150</td>
<td>1,500</td>
</tr>
<tr>
<td>Bunk Feeders 816' x $10/lin.ft.</td>
<td>8,160</td>
</tr>
<tr>
<td>Well and Pressure System</td>
<td>5,500</td>
</tr>
<tr>
<td></td>
<td>$70,298</td>
</tr>
</tbody>
</table>

Machinery and Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tractor and Loader*</td>
<td>$16,500</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>15,000</td>
</tr>
<tr>
<td></td>
<td>$31,500</td>
</tr>
</tbody>
</table>

Total Investment $101,798

*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**

**Building and Facilities**

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

\[ \frac{\$70,298 - \$7,030}{20 \text{ years}} \div 500 \text{ feeder cattle} = \$6.33 / \text{feeder} \]

**Machinery and Equipment**

\[ \frac{\$31,500 - \$3,150}{8 \text{ years}} \div 500 \text{ feeder cattle} = \$7.09 / \text{head} \]

**Total Depreciation**  
\[ \text{\$13.42 / head} \]

**Investment Cost**

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

### Building and Facilities

\[
\begin{align*}
\text{original cost} & = 70,298 \\
\text{salvage value} & = 7,030 \\
\text{feeder cattle} & = 500
\end{align*}
\]

\[
\frac{70,298 + 7,030}{2} \times 8 \%
\]

\[
\frac{1}{500} = \frac{6.17}{\text{feeder}}
\]

### Machinery and Equipment

\[
\begin{align*}
\text{original cost} & = 31,500 \\
\text{salvage value} & = 3,150 \\
\text{feeder cattle} & = 500
\end{align*}
\]

\[
\frac{31,500 + 3,150}{2} \times 8 \%
\]

\[
\frac{1}{500} = \frac{2.77}{\text{head}}
\]

**Total Investments** $8.94 /head

### Labour

\[
\begin{align*}
2 \text{ hours/feeder} & \\
\times \frac{9.00}{\text{hour}} & \\
= \frac{18.00}{\text{feeder}}
\end{align*}
\]
Income and Cost Summary - Drylot Cattle

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

* The brackets represent a negative value (loss).
**Cost per Pound of Gain Sold (shrunk at 4%)**

<table>
<thead>
<tr>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>820 lbs selling weight</td>
</tr>
<tr>
<td>- 550 lbs purchase weight</td>
</tr>
<tr>
<td>= 270 lbs gain (g1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>820 lbs selling weight</td>
</tr>
<tr>
<td>x 4 % shrink</td>
</tr>
<tr>
<td>= 33 lbs shrink (g2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Your Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 237 lbs weight gain (g3) (g1-g2)</td>
</tr>
</tbody>
</table>

### Operating Costs

<table>
<thead>
<tr>
<th>Operating Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>$802.40 operating costs</td>
</tr>
<tr>
<td>- $640.30 feeder cost</td>
</tr>
<tr>
<td>= $ 0.68 /lb (gain sold)</td>
</tr>
</tbody>
</table>

### Operating and Fixed Costs

<table>
<thead>
<tr>
<th>Operating and Fixed Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>$824.76 operating and fixed costs</td>
</tr>
<tr>
<td>- $640.30 feeder cost</td>
</tr>
<tr>
<td>= $ 0.78 /lb. (gain sold)</td>
</tr>
</tbody>
</table>

### Operating, Fixed and Labour Costs

<table>
<thead>
<tr>
<th>Operating, Fixed and Labour Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>$842.76 operating, fixed and labour costs</td>
</tr>
<tr>
<td>- $640.30 feeder cost</td>
</tr>
<tr>
<td>= $ 0.85 /lb. (gain sold)</td>
</tr>
</tbody>
</table>
Breakeven Selling Price

\[ 820 \text{ lbs selling weight} \times 4\text{% shrink} = 33 \text{ lbs shrink} \]
\[ 820 \text{ lbs selling weight} - 33 \text{ lbs shrink} = 787 \text{ lbs shrunk weight (h1)} \]

Operating Costs

\[ \frac{\$802.40 \text{ operating costs}}{787 \text{ lbs shrunk weight (h1)}} = \$1.02 /\text{lb (selling price)} \]

Operating and Fixed Costs

\[ \frac{\$824.76 \text{ operating and fixed costs}}{787 \text{ lbs shrunk weight (h1)}} = \$1.05 /\text{lb. (selling price)} \]

Operating, Fixed and Labour Costs

\[ \frac{\$842.76 \text{ operating, fixed and labour costs}}{787 \text{ lbs shrunk weight (h1)}} = \$1.07 /\text{lb. (selling price)} \]
**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.

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