GOW RANCH BEEF CATTLE FEASIBILITY STUDY

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ABSTRACT

The purpose of this project was to decide the best time to sell calves on the Gow Ranch in Roseburg, Oregon. The two options are directly off the cow at 550 pounds in October or at 850 pounds in June.

The revenues and costs from selling calves at these two times were collected for the last five years. This data was put into an excel spreadsheet to show profit and loss from each year. Both selling prices and costs were examined to show at what point to sell would have made the best profit.

Using figures from this spreadsheet it was determined that selling calves at 850 pounds in June would be the most feasible for the Gow Ranch.

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Chapter 1

INTRODUCTION

Making solid business decisions can be the difference between striking it rich and losing a lot of money. On a beef cattle ranch, one of these important decisions that have to be made is the selling of livestock. This single decision can be the hinge between a successful year of profit and a tough year of despair.

On a beef cattle ranch, one of the most important staple crops that are sold is calves that have been raised from mother cows. These calves are renewable products that are raised each year to be sold as a uniform group at a time of choice decided by the producer. To earn the most profit each year, choices have to be made that will ensure the producer maximum amounts of money to be made. Choices by the producer such as which weight they will be sold at, and at which time of the year they will be sent to market are important factors to success.

In the Pacific Northwest region of the United States the majority of cow-calf operations have their birthing times in the spring of the year. This is the preferred time of the year because of weather issues and costs associated with feeding calves at this time. Snow and rain fall in the fall and winter months make the spring the easiest time to watch over and care for young calves. Harsh weather conditions can cut survival rates in young calves significantly which hurts the profit margin of a ranch every time one dies. When calves are first born they are very susceptible to diseases and cannot deal with strenuous climate conditions due to their small stature and weak immune system. Also calving in this time frame shifts peak nutrient requirements into late spring and early summer when low cost forage nutrients are abundant. Standing forage at this time in Oregon can allow cows coming out of the winter with low

nutrition values to acquire this through pasture grass which cuts back on cost of baling, hauling, storing, and feeding hay. Cows that are healthier through the birthing cycle are more likely to not abort their calves and to raise a healthier calf that will grow much quicker (May, Tassel, Smith 1999).

With a spring birthing schedule a cow-calf operation has two major times to sell their calves. This is in the fall when calves are about 500 to 600 pounds, or they can hold them over until the following year when the same calves are around 700 to 800 pounds and sell them then. At these two times calves are at a pivotal point in their life cycle. At around 500 pounds a calf is ready to be weaned from their mothers and at around 800 pounds a calf is ready to be sent to a feedlot. A feedlot is an animal feeding operation that is used to put the finishing weight on beef calves before they are sent to slaughter.

Calves sold by a cow-calf operation between 500 and 600 pounds will usually be fed up to around 800 pounds on grass forage. In this process they are often referred to as stocker calves. This name is tied to them because these calves are bought and are sent to stock a ranch were forage is proficient at this certain time of the year. Many calves from the Pacific Northwest will be sent to California for this process because of the milder winter conditions which allows for excellent standing forage at this time of the year. They will only graze on this ranch until around 800 pounds, and then they will be ready to be sold to their next destination which is a feedlot. They are sent to a feedlot at this point because a specialized diet is necessary to get traits needed for human consumption. They are fed a diet that is very dense in food energy which encourages marbling in the meat which is hard to obtain on rangeland.

The futures market is used significantly at this point in a calf's life cycle to ensure profits will be made when they are sold later to the feedlot. It can act as an insurance policy to make sure when these calves are delivered in the future there will be a certain price for these calves. If these stockers are hedged they can minimize unwanted risk of holding onto these cattle for an extended period of time. This is because the futures market follows closely with the fluctuations of the cash market for calves.

Instead of selling calves at 500 pounds and letting another person get the profits of putting the weight gains on calves, another option is for a ranch to bring these calves up to a weight that will allow them to sell directly to the feedlots. This can be a profitable option if a ranch has enough land to put a beneficial weight gain on these calves in a reasonable amount of time. In Oregon this can be done through the use of hay supplements that support the upright forage from the late fall months up until the early summer months when these calves can be sold at around 800 pounds. This is a very strenuous process to raise calves at this point in their life, but at much larger weights calves can bring enough money per pound to make it a favorable choice. A solid preconditioning program has to be in place to allow these calves to stay healthy and gain weight much faster. The healthier a calf is during its life, the easier it is to get it to its target weight (Duff and Gaylean 2007).

Problem Statement

The problem is to determine whether more money can be made by selling calves earlier in the life cycle or can more money be made by putting extra weight gain on those same calves at the Gow Ranch in Roseburg, Oregon. Is selling calves at 550 pounds in October directly off the

cow more feasible than putting extra weight gains on them to achieve 800 pounds in June of the following year on the Gow Ranch?

Hypothesis

For the Gow Ranch to make the best use of their land and to make the most profit each year, selling calves at 800 pounds will be the best choice for them.

Objectives

1. To determine the best time for the Gow Ranch to sell their calves to make the best profit.
2. To calculate the costs associated with putting 250 more pounds on a feeder calf over the winter in Oregon.
3. To determine the relationship between selling prices of calves and the profit associated with that price.

Significance

The justification for this study is so that the Gow Ranch can make the best decisions for its cow-calf operation in the future. This information from this study will allow them to sell calves at the right weight and time to gain the best profits possible. This study will lay out the groundwork for basing decisions off of the exact details at that period of time in the future.

This study will be in close proclamation with most happenings in the ranching industry in the Pacific Northwest so it will have relevance to any rancher that needs to implement a decision on selling his calves in that area. The general ideas and principles from this study will be able to

be looked at and manipulated into information that can be helpful in implementing a plan for all ranches in this demographic.

The ranching industry in Oregon has been hit hard in the last few years. "There are many issues affecting the industry today," says Brent Searle, an Oregon Department of Agriculture economist. "Some are environmental and social, some are microbial. ... There are clear agendas and influences now on how food is produced and distributed."

From this information the Gow Ranch can implement a plan to keep ahead of the issues affecting Oregon ranching industry. This information will allow them to decide on things such as expansion or even contraction.

Chapter 2

LITERATURE REVIEW

Preconditioning Calves

Preconditioning calves is a way of preparing calves to enter the stocker phase or to be directly placed into a feedlot. This is important because it takes into account activities such as weaning, supplemental nutrition, dehorning, castration, and implementation of an animal health program such as de-worming and giving vaccinations (Dhuyvetter 2004).

Yearling calves that have been preconditioned are healthier and tend to gain weight much better when they have gone through this program (Duff and Gaylean 2007; Lalman and Smith 2002). Many cow-calf producers are not on board with precondition calves yet because of the additional costs associated with it. The costs that go into this process are an investment that can have benefits such as less time spent doctoring sick calves and greater weight gain. Also when they are sold later at the end of this process calves tend to have less shrink in transport to the buyers (Avent, Clement, and Lalman 2003).

The costs that go into this process can include things such as feed and mineral, hay, vaccinations, additional labor, and death loss, the implicit opportunity cost, and marketing costs. All of these things have to weigh into the choice of taking chances on a preconditioning program that fits into an operation. To make these chances worth the risk, higher prices at selling have to be paid for these preconditioned calves. The Texas Cattle Feeders Association did a survey, conducted by Avent, Clement, and Lalman (2003), that reported feedlot operators believe preconditioned cattle are worth $5.35 per hundred pounds more valuable than non-preconditioned cattle.

As more studies are done to look at the benefits of preconditioning calves, the popularity looks to rise. This practice takes away headache that is incurred every time that yearling calves are shipped or handled. Less become sick and your death loss is cut down, which leads to higher profits. The price paid per head for cattle that have went through this program looks to increase too, which makes it more lucrative for producers to become involved and spend the extra time that this practice takes.

Futures Market

A futures market contract is an agreement between two parties that a specified quantity of a commodity at a specified price will be delivered at a specified future date. Futures markets have their existence in relation to an underlying cash market. The cash market is a physical commodity such as cattle that are bought and sold between parties. Due to cash market price volatility, the futures markets emerged in part as a way to help ensure price stability at a later delivery date (Kastens, Jones, and Schroeder, 1998).

The profitability of a ranch can be heavily influenced by the timing of when it chooses to sell its calves, or alternatively to purchase its future livestock inventories. Past research suggests returns can be increased and price risk reduced if the futures market is used to hedge sales of livestock (Gorman et al., 1982). This allows a ranch to have an idea of what their calves will be worth in the future and whether it is going to be profitable to hold them until a later date. Risk can be minimized on future sales through the proper use of the future market.

A good understanding of the futures market is important in making a sound decision on the price risk of selling calves according to hedging prices. One of the most important risk management strategies one can have in the beef industry would include hedging in the futures market. Hedging is tool used to protect against falling cash prices. To hedge beef cattle a position

is established in a market in an attempt to offset exposure to price fluctuations in some opposite position in another market with the goal of minimizing one's exposure to unwanted risk.

Opportunity Cost

While the cost of a good or service is usually thought of in monetary terms, opportunity cost of something is what must be given up based on the decision that was made. Any decision that has to choose between two options has an opportunity cost (Christ 1963). It is a useful tool to consider all options when a business decision is made that will affect the profits within a company.

A business has opportunity cost associated with every decision that is made. Selling calves directly off the cow, or running them over until a heavier weight is a major opportunity cost that a rancher has to decide. Anything that has value has to be taken into account when looking at the cost of making a decision. Monetary or material costs are the two things that are most directly tied to the opportunity cost of making a decision.

A key difference between the economic cost of something and the accounting cost of the same item takes into factor the opportunity cost. It is needed to see that there is no exact monetary change in some decisions but they still have a cost associated with them. There is always an unseen cost for every course of action that is taken.

In calculating opportunity cost, it is important to look at different things that affect the economics. First, there is the production cost involved with each production option. For example in cattle there is a cost to raise each calf. Second, there is the matter of storage costs while the finished goods await sale. In calves this would be the land that it takes to raise them. Finally, there is a scarcity of raw materials that has an impact on the availability and final cost for the

materials. In calves this would be the hay, minerals and other things that go into helping them survive. While other factors also apply, any economist will include these three factors in assessing the output foregone by choosing one type of production over another (Christ 1963).

Financial Statements

Financial statements are records that provide a business's financial status at a certain time. These records allow a company to present information in a consolidated form. This information includes a company's assets, liabilities, revenues and expenses for a given time. There are four basic kinds of statements that information is provided on. The balance sheet, income statement, statement of cash flows, and statement of retained earnings make up this group.

The balance sheet is known as a statement of financial position. This reveals a company's assets, liabilities and owners' equity. The balance sheet has a formula that must equal each other. Assets on the balance sheet must equal the liabilities and owners equity. This means that assets used to operate the company are balanced with the financial obligations along with the equity in a company. A balance sheet is a snapshot of a company's financial position at a single point in time (Fama 1976).

An income statement summarizes a company's revenues and expenses for its fiscal year. It shows how a business incurs net income or loss over a certain period of time. The income statement is divided into two different parts which are the operating and non-operating section. The operating section deals with information about revenues and expenses that are a direct result of regular business operations. For example, on a ranch the revenues and expenses involved with producing beef cattle would be shown in this section. The non-operating section deals with revenues and expenses from activities that are not directly tied to a company's regular

operations. On a ranch this could be something as the sale of a rental property that was owned in town.

The statement of cash flow reports the cash generated and used by a business during a certain set of time. The cash flow statement is organized to report cash flow from four different activities. The operating activities include the production, sales, and delivery of a company's product. The investing activities report the purchase and sale of long term investments of property, plant, and equipment. The financing activities show the issuance and purchase of a company's stocks and bonds. The supplemental activities are reported to show things such as amount of income taxes paid and interest paid.

The statement of retained earnings breaks down the changes affecting the business such as profits or losses from operation. It uses information from the income statement and provides information for the balance sheet. It is mostly affected in the net income or loss of a company during the period it is prepared. It is said to be an accumulation of earnings since net loss and profit are added or subtracted from period to period (Fama 1976).

Feasibility Study

A feasibility study is an analysis of the viability of an idea. It focuses on the essential question of whether to proceed with a proposed idea. Feasibility studies can be used in many ways but primarily focus on proposed business ventures (Dekom 1991). Rancher's can conduct a feasibility study to determine the viability of their idea before proceeding with the development of that project. Determining early that a business idea will not be the best action for the company saves time and money in the future.

A feasibility study is conducted after producers have discussed a series of business ideas that can be implemented to help a company succeed. This study helps to show specific business scenarios so they can be studied in detail. During this process the number of business alternatives under contemplation is usually quickly reduced. This will allow for the only the best ideas to be pursued. During the process flaws can be seen in the proposal but they can be corrected to ensure that the proposal has merit.

A market assessment helps identify the viability of the proposed decisions on the marketplace. It helps identify opportunities in the market for a profit to be made. If the opportunities are found in the market it can give direction to the investigation of the study. This information can help a rancher to see what prices are doing in the market and what the demand for his product is at that point in time.

The conclusions of a feasibility study outline in depth the scenarios looked at and shows the strengths and weaknesses of each. One alternative will not stand out as the best scenario because if it was that clear, there would be no need to do the study. Even though these studies are not definitively positive or negative, they do assess the tradeoff of risk and reward from making a step forward with a business decision (Dekom 1991). The information from a feasibility study allows management to implement a decision that looks best for a business depending on the data collected.

Chapter Three

METHODOLOGY

Procedures for Data Collection

In order to decide if selling calves in October at 550 pounds directly off the cow, or selling them in June of the following year at 800 pounds is more profitable, a few things need to be looked at.

The number off calves that are sold from the ranch each year will have to be collected. This number will be taken from the books that are kept each year on the ranch. From these books it will be looked at for the last five years of production and collected whether the calves were sold in October, or held over until next June.

After examining whether the calves were sold at the lighter weight or the heavier weight the cattle prices from those points in time will be examined and recorded to see what the price would have been for the alternate choice. Each year when these calves are sold from the ranch the owner makes a chart of how many head were sold, how much per pound they were sold for, and when exactly they were sold. There will be a breakdown of how many head of steer calves were sold and also how many heifer calves were also sold. The data for the alternative price if they were sold at the other time than when then will be collected. These selling prices for 2006, 2007, and 2008, 2009, and 2010 will be shown in a spreadsheet with vertical analysis to give a comparative of each option. These prices come from the cattle fax website which is an industry leader that has all prices in detailed layouts. This will give the price for 800 weights if the calves

were sold directly off their mothers at around 550 or for 550 pound calves if they were sent at around 800 pounds.

For the current year the futures market will be examined to see what prices will be if calves are sold in October or held over until the following June. The trading price for feeder calves will be pulled from the Chicago Mercantile Exchange which is an imperial part of the trading cycle for feeder calves. The prices will be looked at for October contracts of the current year as well as the price of contracts for June of the following year.

After looking at the prices from the last four years and examining the prices from this year, the researcher will put together a detailed cost layout of preconditioning calves and running them over to yearlings. This will be laid out in a spreadsheet so that costs can be broke down and looked at separately. The costs that will be looked at are hay to feed all of the yearlings. These hay prices will be taken from costs that are put together by the ranch because they grow their own grass hay. Balance sheets from the last five years will be examined to determine what hay costs were for each of the last five years at the certain time that hay would have been baled. The mineral and vaccination costs will be taken from the Gow Ranch books at the certain time of each year that they would be needed. Death loss will be figured in from the current data that the Ranch has from prior years of holding over feeder calves. A percentage of the herd will be cut from the final numbers of this year to find the profit from the cost of holding cattle until a later date. Finally labor cost will be figured in by computing the man hours that a herd has to be looked over each day. This time will be multiplied by the cost of each hour of labor.

The costs and price will be examined with vertical analysis to determine how each correlates to each other. They will be put in certain data patterns to easier see what the best choice for each year is.

Procedures for Data Analysis

The goal of doing this feasibility study on the selling times of calves for the Gow Ranch is to see if more profit can be made selling calves in October at 550 pounds, or in June at 800 pounds. To analyze which is the best decision for this ranch, the monetary costs and opportunity costs will be weighed against the price that can be earned to see what the best decision is for each year.

All information from the financial statements will be broken down and looked at to make the best decisions on the sale of calves each year. The costs of each input to the calf production will be taken from the statement of cash flows and balance sheet from the Gow Ranch. Also the revenues earned from the sale of stock will be taken from these financial statements as well. This information will be shown in a spreadsheet format to be in a form that can be analyzed easily for trends.

The prices of all inputs that are collected will be matched against the revenue generated by making that decision to see were the maximum profit can be made at. This will be in the form of an income statement, which will only deal with the revenues and expenditures that go into the selling of calves. For each year prior, the price that can be obtained for the selling the calves directly off the cow will be matched against the prices of selling them later on in June of the following year.

Firstly to calculate the profit that can be made by selling calves later in the year, the costs of holding those calves over has to be taken away from the prices that are received. On a spreadsheet this information will be detailed so that it can be looked over. All costs will be totaled from the feed and mineral, hay, vaccinations, additional labor, and death loss. These costs are variable and will change for each year. The land will not be a direct cost that is counted into this because it is owned by the Gow Ranch all ready. The opportunity cost of what can be done with this additional land that will be used to put weight gain on these cattle will be taken into consideration though.

For the current year the futures market will be used to account for the prices that can be obtained from each selling point in the year. The prices from October of feeder calves will be looked at and also the prices of June feeder calves will also be sought out. These will show the researcher what kind of insurance can be taken from selling contracts at this point in time and holding to these points later on in the year. The cash prices of the market directly correlate with hedging prices in the futures trading so whichever option that is choose, whether to sell in October or June, can be insured with a trading price.

This study will be shown in different formats that show incomes and expenses of every decision that can be made. The data analysis will allow the researcher to make the best decision for the Gow Ranch in the current year and will also give a setup to be followed for upcoming years to insure profit in the cow-calf operation.

Assumptions

Assumptions must be made in the beef industry that will affect this study on the Gow Ranch. Firstly the numbers that are collected will be assumed to be the correct and true numbers that represent the affairs that took place. This project focuses on the beef industry which is very volatile and will always be changing. Furthermore it will need to be thought that this study can cover the product being represented and that there will be a demand for beef cattle in the future.

Limitations

This study will work well for this certain ranch, but research should be done before it is implemented on any other ranch. The numbers that are examined from the past will be an exact representation of the happenings, but the future market can only be predicted and change in markets is inevitable. Only data that is available to the researcher can be used and all data is not always a valid representation.

Chapter Four

STUDY DEVELOPMENT

Operation

On the Gow Ranch, cattle can pass on to market in two ways which are from sale directly off the cow or fed through the yearling/stocker phase and then marketed.

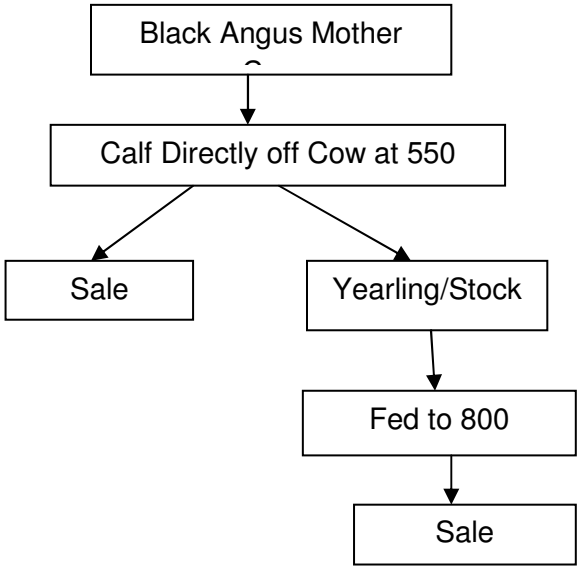

Table 1- The operation calendar for cow/calf production on the Gow Ranch

Operation Calendar		
Month		**Operation**
February 1st	April 30	Calving
May 1st	September 30	Summer Range
May 1st	August 1st	Breeding

October 1st	October 15th	Calves Sold

The cow-calf phase is from birth to weaning were the calves are typically sold at eight to nine months of age and weighing around 550 pounds

Table 2- The operation calendar for yearling/stocker production on the Gow Ranch

Operation Calendar		
Month		**Operation**
October 1st	October 31st	Wean Calves
November 1st	April 30th	Feedlot
March 1st	May 31st	Spring Range
June 1st	June 15th	Yearling Stockers Sold

The yearling/stocker phase takes weaned calves and grows them out through the use of a feedlot and grass to about 800 to 900 pounds which makes them around 15 months of age.

Revenue

Table 3- Gow Ranch Yearly Revenue

Birthing Year	**Sale Option**	**Number Sold**		
		Total	Steers	Heifers
2006	Yearling/Stocker	280	151	129
2007	Yearling/Stocker	274	144	130
2008	Calves	284	140	144
2009	Calves	287	151	136
2010	Yearling/Stocker	270	132	138

Weight(lbs)		Price(per lb)		Revenue	
Steers	Heifers	Steers	Heifers	Steers	Heifers
		$	$	$	$
815	770	0.94	0.91	115,681.10	90,390.30
		$	$	$	$
835	793	0.97	0.94	116,632.80	96,904.60
		$	$	$	$
561	542	1.25	1.15	98,175.00	89,755.20
		$	$	$	$
545	523	1.45	1.35	119,327.75	96,022.80
		$	$	$	$
825	775	1.17	1.14	127,413.00	121,923.00

The numbers above are actual numbers for cattle sold from the Gow Ranch within the last five years. The birthing year is the actual year the calves were born in. If these calves were run over to yearling/stockers they were sold in the following year, but all data is pertaining to the year they were birthed in. The sale option is at which point in the life cycle that each year's set of calves were sold. The total number sold each year is different because of death loss, and also some are not sold because of size discrepancy and health issues. The revenue is calculated by the number sold (either heifers or steers)*weight*price.

Table 4- Alternative Choice Revenue

Birthing Year	Sale Option	Number Sold		
		Total	Steers	Heifers
2006	Calves	285	153	132
2007	Calves	279	146	133
2008	Yearling/Stocker	279	138	141
2009	Yearling/Stocker	282	149	133
2010	Calves	275	134	141

Weight(lbs)		**Price(per lb)**		**Revenue**	
Steers	Heifers	Steers	Heifers	Steers	Heifers
		$	$	$	$
560	540	1.20	1.17	102,816.00	83,397.60
		$	$	$	$
560	540	1.10	1.07	89,936.00	76,847.40
		$	$	$	$
825	775	0.98	0.95	111,573.00	103,811.25
		$	$	$	$
825	775	1.10	1.07	135,217.50	110,290.25
		$	$	$	$
560	540	1.50	1.40	112,560.00	106,596.00

These numbers are a breakdown of the prices that would have been received if the Gow Ranch would have made the opposite choice on production sales of what they actually did each year. The sales option changes to calves if they really sold that year's product as yearling/stockers and yearling/stockers if they really sold as calves. The number sold has had a two percent death loss added for yearling/stockers and subtracted for calves. The weights are for a 550 pound average for calves and an 800 pound average for yearling/stockers because this is the target weight that the Gow Ranch would like to sell at each year. The prices are taken from CattleFax.com prices for each year's cattle at that certain weight. The revenue is calculated by the number sold (either heifers or steers)*weight*price.

Expenses

The cost that have been looked at from the Gow Ranch are the ones they consider relevant into choices on whether they sell calves directly off the cow or run them over to the yearling/stocker phase.

They grow their own grass hay and feed that to their yearling/stockers and mother cows throughout the numerous life cycles. The ranch buys supplement tubs to help reach the desired nutrient intake because of the use of strictly grass hay. Minerals are included in this supplement program that is used. There is a medical cost to keep each animal healthy. The Gow Ranch preconditions calves after coming off of their mothers because of the beneficial properties that this has shown.

Mileage from the ranch vehicles is another expense that is considered because equipment breaks down over time from use and each additional day that an animal is kept around it has to be attended to. The vehicles that are looked at are the 4 wheeler, pickup truck, and the stock trailer. Labor was figured at the price paid to a ranch hand per hour each year and the hours he had to tend to animals at each point in their life cycle.

Interest on operating cost was figured for the ranch on each production cycle. This is important because they had this money tied up in production and had opportunity costs on other uses of this money. This was calculated by the sum of costs for that cycle*months money was tied up*interest the ranch was paying for money in that year.

Profit/Loss Breakdown

Table 5- Profit Breakdown

Year	Actual Profit	Alternative Profit	Gain/Loss
2006	$	$	$

	157,712.12	157,795.04	(82.93)
	$	$	$
2007	166,021.42	138,746.69	27,274.73
	$	$	$
2008	159,980.98	167,802.11	(7,821.13)
	$	$	$
2009	186,688.12	196,851.91	(10,163.79)
	$	$	$
2010	203,535.65	192,039.05	11,496.61

The actual profit that was realized through sales each year for the Gow Ranch was calculated by taking revenue generated from sales and taking away the cost of production. The alternative profit shows the sales that would have been generated if the other sales path would have been taken with the costs subtracted out. The gain/loss is positive if the ranch made more money with the choice that they made and negative if the alternative choice would have made more money. In 2006, 2007, and 2010 the calves were sold as yearling/stockers. In 2008, and 2009 the calves were sold directly off the cow. In 4 out of the 5 years listed above yearling/stockers would have made more money for the ranch than selling calves directly. In 2006 when the cattle were sold as yearling/stockers there was a slight loss in money, but it was within 100 dollars of profit with either choice.

The yearling/stockers would have made a total profit of $891,923.21 over the last five years, while the calves would have had total profits of $835,249.88. This is an average of $11,334.67 more per year over the last five years of production.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECCOMENDATIONS

Summary

In order to determine the best time to sell calves off the Gow Ranch the calendar of operations was laid out. The cow/calf operation cycle has to be completed first for every calf that comes from the ranch. Then the choice is made of sale at 550 pounds, or the ranch can hold onto the calves and complete the yearling/stocker phase.

Revenues and expenses from the ranch were put into an excel spreadsheet from the financial statements to show yearly values. From these revenue and expenses a profit and loss breakdown was done for each year. The actual production profit for each year was determined using what price the calves received and the costs incurred to get calves to the point in time. Then an alternative profit breakdown was made to show the prices that would have been received and the costs that would have been incurred if the Gow ranch would have sold their calves at the opposite position that they chose.

It was determined that the Gow Ranch would have made more money 4 out of the 5 years by selling at the yearling/stocker phase. The year that calves brought a higher price the final profit was within 100 dollars for either choice.

Conclusions

In the authors opinion the Gow Ranch should sell their calves at the yearling/stocker phase to ensure the highest profits each year. The ranch would have gained $56,673.34 over the

last five years if they would have sold at this phase. This is an average of $11,334.67 more dollars made per year over the last five years with yearling/stockers.

Assumptions

With total gains on average of $11,334.67 per year by selling calves at the yearling/stocker phase this is a feasible decision to make every year. This information was shared with the Gow Ranch to help with choices in the future.

To make it possible to hold calves over to the yearling/stocker stage things outside of the owners control have to be considered. Weather conditions have to be feasible to allow for grass to grow at an acceptable rate. Also the ranch has to be at a financially stable place that allows for them to wait the extra six months for the profit made.

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Appendix

Revenue

Gow Ranch Yearly Operations

Actual Production

Birthing Year	Sale Option	Number Sold			Weight		Price		Revenue	
		Total	Steers	Heifers	Steers	Heifers	Steers	Heifers	Steers	Heifers
2006	Yearling/Stocker	280	151	129	815	770	$ 0.94	$ 0.91	$115,681.10	$ 90,390.30
2007	Yearling/Stocker	274	144	130	835	793	$ 0.97	$ 0.94	$116,632.80	$ 96,904.60
2008	Calves	284	140	144	561	542	$ 1.25	$ 1.15	$ 98,175.00	$ 89,755.20
2009	Calves	287	151	136	545	523	$ 1.45	$ 1.35	$119,327.75	$ 96,022.80
2010	Yearling/Stocker	270	132	138	825	775	$ 1.17	$ 1.14	$127,413.00	$ 121,923.00

Alternative Breakdown

Birthing Year	Sale Option	Number Sold			Weight		Price		Revenue	
		Total	Steers	Heifers	Steers	Heifers	Steers	Heifers	Steers	Heifers
2006	Calves	285	153	132	560	540	$ 1.20	$ 1.17	$102,816.00	$ 83,397.60
2007	Calves	279	146	133	560	540	$ 1.10	$ 1.07	$ 89,936.00	$ 76,847.40
2008	Yearling/Stocker	279	138	141	825	775	$ 0.98	$ 0.95	$111,573.00	$ 103,811.25
2009	Yearling/Stocker	282	149	133	825	775	$ 1.10	$ 1.07	$135,217.50	$ 110,290.25
2010	Calves	275	134	141	560	540	$ 1.50	$ 1.40	$112,560.00	$ 106,596.00

Cost Studies

Yearling/Stocker Operation Cost 2010			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	202.5	$ 30.00	$ 6,075.00
Supplements	3	$ 300.00	$ 900.00
Medical		$ 10.00	$ 2,700.00
4 wheeler Mileage	150	$ 0.20	$ 30.00
Truck Mileage	200	$ 0.49	$ 98.00
Stock Trailer Mileage	100	$ 0.18	$ 18.00
Labor	270	$ 10.00	$ 2,700.00
Interest on Operating Cost			$ 3,662.39
Insurance			1500
Overhead			1000
Total Cost			$18,683.39

Cow/Calf Operation Cost 2010			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	300	$ 30.00	$ 9,000.00
Supplements	4	$ 300.00	$ 1,200.00
Medical		$ 10.00	$ 6,000.00
4 wheeler Mileage	150	$ 0.20	$ 30.00
Truck Mileage	200	$ 0.49	$ 98.00
Stock Trailer Mileage	100	$ 0.18	$ 18.00
Labor	270	$ 10.00	$ 2,700.00
Interest on Operating Cost			$ 5,570.96
Insurance			1500
Overhead			1000
Total Cost			$27,116.96

Yearling/Stocker Operation Cost 2009			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	211.5	$ 29.00	$ 6,133.50
Supplements	3	$ 290.00	$ 870.00
Medical		$ 9.50	$ 2,679.00
4 wheeler Mileage	150	$ 0.19	$ 28.50
Truck Mileage	200	$ 0.47	$ 94.00
Stock Trailer Mileage	100	$ 0.17	$ 17.00
Labor	270	$ 10.00	$ 2,700.00
Interest on Operating Cost			$ 5,071.41
Insurance			1450
Overhead			950
Total Cost			$19,993.41

Cow/Calf Operation Cost 2009			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	300	$ 29.00	$ 8,700.00
Supplements	4	$ 290.00	$ 1,160.00
Medical		$ 9.50	$ 5,700.00
4 wheeler Mileage	150	$ 0.19	$ 28.50
Truck Mileage	200	$ 0.46	$ 92.00
Stock Trailer Mileage	100	$ 0.17	$ 17.00
Labor	270	$ 10.00	$ 2,700.00
Interest on Operating Cost			$ 7,864.93
Insurance			1450
Overhead			950
Total Cost			$28,662.43

Yearling/Stocker Operation Cost 2008			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	209.25	$ 28.00	$ 5,859.00
Supplements	3	$ 270.00	$ 810.00
Medical		$ 9.00	$ 2,511.00
4 wheeler Mileage	150	$ 0.18	$ 27.00
Truck Mileage	200	$ 0.46	$ 92.00
Stock Trailer Mileage	100	$ 0.16	$ 16.00
Labor	270	$ 9.50	$ 2,565.00
Interest on Operating Cost			$ 5,452.92
Insurance			1400
Overhead			900
Total Cost			$19,632.92

Cow/Calf Operation Cost 2008			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	300	$ 28.00	$ 8,400.00
Supplements	4	$ 270.00	$ 1,080.00
Medical		$ 9.00	$ 5,400.00
4 wheeler Mileage	150	$ 0.18	$ 27.00
Truck Mileage	200	$ 0.46	$ 92.00
Stock Trailer Mileage	100	$ 0.16	$ 16.00
Labor	270	$ 9.50	$ 2,565.00
Interest on Operating Cost			$ 8,069.22
Insurance			1400
Overhead			900
Total Cost			$27,949.22

Yearling/Stocker Operation Cost 2007			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	205.5	$ 27.00	$ 5,548.50
Supplements	3	$ 260.00	$ 780.00
Medical		$ 8.50	$ 2,329.00
4 wheeler Mileage	150	$ 0.17	$ 25.50
Truck Mileage	200	$ 0.45	$ 90.00
Stock Trailer Mileage	100	$ 0.15	$ 15.00
Labor	270	$ 9.50	$ 2,565.00
Interest on Operating Cost			$ 5,926.27
Insurance			1350
Overhead			850
Total Cost			$19,479.27

Cow/Calf Operation Cost 2007			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	300	$ 27.00	$ 8,100.00
Supplements	4	$ 270.00	$ 1,080.00
Medical		$ 8.50	$ 5,100.00
4 wheeler Mileage	150	$ 0.17	$ 25.50
Truck Mileage	200	$ 0.45	$ 90.00
Stock Trailer Mileage	100	$ 0.15	$ 15.00
Labor	270	$ 9.50	$ 2,565.00
Interest on Operating Cost			$ 8,861.21
Insurance			1350
Overhead			850
Total Cost			$28,036.71

Yearling/Stocker Operation Cost 2006			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	210	$ 26.00	$ 5,460.00
Supplements	3	$ 250.00	$ 750.00
Medical		$ 8.00	$ 2,240.00
4 wheeler Mileage	150	$ 0.16	$ 24.00
Truck Mileage	200	$ 0.44	$ 88.00
Stock Trailer Mileage	100	$ 0.14	$ 14.00
Labor	270	$ 9.00	$ 2,430.00
Interest on Operating Cost			$ 6,834.73
Insurance			1300
Overhead			800
Total Cost			$19,940.73

Cow/Calf Operation Cost 2006			
Operating Cost:			
Purchased Feed:	Tons	Cost/unit	Dollar Value
Hay	300	$ 26.00	$ 7,800.00
Supplements	4	$ 270.00	$ 1,080.00
Medical		$ 8.00	$ 4,800.00
4 wheeler Mileage	150	$ 0.16	$ 24.00
Truck Mileage	200	$ 0.44	$ 88.00
Stock Trailer Mileage	100	$ 0.14	$ 14.00
Labor	270	$ 9.00	$ 2,430.00
Interest on Operating Cost			$10,082.56
Insurance			1300
Overhead			800
Total Cost			$28,418.56

Profit

Actual Production						
Year	Revenue		Cost		Profit	
2006	$206,071.40		$ 48,359.28		$157,712.12	
2007	$213,537.40		$ 47,515.98		$166,021.42	
2008	$187,930.20		$ 27,949.22		$159,980.98	
2009	$215,350.55		$ 28,662.43		$186,688.12	
2010	$249,336.00		$ 45,800.35		$203,535.65	
Alternative Breakdown						
Year	Revenue		Cost		Profit	
2006	$186,213.60		$ 28,418.56		$157,795.04	
2007	$166,783.40		$ 28,036.71		$138,746.69	
2008	$215,384.25		$ 47,582.14		$167,802.11	
2009	$245,507.75		$ 48,655.84		$196,851.91	
2010	$219,156.00		$ 27,116.96		$192,039.05	
Outcome						
Year	Actual Profit		Alternative Profit		Gain/Loss	
2006	$157,712.12		$157,795.04		$ (82.93)	
2007	$166,021.42		$138,746.69		$ 27,274.73	
2008	$159,980.98		$167,802.11		$ (7,821.13)	
2009	$186,688.12		$196,851.91		$ (10,163.79)	
2010	$203,535.65		$192,039.05		$ 11,496.61	
	yearling/stocker profit		$891,923.21			
	calf profit		$835,249.88			
	yearling/stocker outgain		$ 56,673.34			
	yearly av profit on stock		$ 11,334.67			