## UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

## 2010

## SAMPLE COSTS FOR BEEF CATTLE YEARLING/STOCKER PRODUCTION

300 Head


SACRAMENTO VALLEY

(Northern Sacramento Valley)

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UC COOPERATIVE EXTENSION SAMPLE COSTS FOR BEEF CATTLE YEARLING/STOCKER PRODUCTION 300 Head Sacramento Valley - 2010

## STUDY CONTENTS

ASSUMPTIONS ..... 3
Production Options ..... 4
Production Operating Costs ..... 6
Cash Overhead ..... 7
Non-Cash Overhead ..... 7
REFERENCES ..... 9
Table 1. 300 Head Purchased Yearling/Stockers ..... 10
Table 2. 300 Head Yearling/Stockers on the Gain ..... 11
Table 3. 300 Head Purchased Yearling/Stockers - Natural ..... 12
Table 4. Equipment and Investment Overhead ..... 13
Table 5. Returns Analysis for Yearling/Stocker Production ..... 14
Table 6. Impact of Feeder Price Spread on Profitability ..... 15

## INTRODUCTION

The cattle industry in California has undergone dramatic changes in the last few decades. Ranchers have experienced increasing costs of production with a lack of corresponding increase in income. Issues such as international competition, new regulatory requirements, changing consumer demand, economies of scale, and competing land uses affect the economics of ranching. Rangeland makes up the largest percentage of acreage in the state. Cattle operations play an important part on California's environment and landscape. They need to be economically viable to maintain the current landscape.

Sample costs to raise beef cattle are presented in this study. This study is intended as a guide only, and can be used to make production decisions, determine potential returns, prepare budgets and evaluate production loans. Practices described are based on production practices considered typical for a beef cattle yearling/stocker operation, but will not apply to every situation. Sample costs for materials, equipment and custom services are based on current figures.

The hypothetical cattle operation, production practices, overhead, and calculations are described under the assumptions. For additional information or an explanation of the calculations used in the study call the Department of Agricultural and Resource Economics, University of California, Davis, (530) 752-3589 or your local UC Cooperative Extension office.

Sample Cost of Production Studies for many commodities can be downloaded at http://coststudies.ucdavis.edu, requested through the Department of Agricultural and Resource Economics, UC Davis, (530) 752-6887 or obtained from the local county UC Cooperative Extension offices. Some archived studies are also available on the website.

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## ASSUMPTIONS

The assumptions refer to Tables 1 to 6 and pertain to sample costs to operate a beef cattle yearling/stocker operation. Practices described represent production practices and materials considered typical of a wellmanaged ranch in the northern Sacramento Valley. The costs, materials, and practices shown in this study will not apply to all situations. Production practices vary by grower and the differences can be significant. The use of trade names and ranching practices in this report does not constitute an endorsement or recommendation by the University of California nor is any criticism implied by omission of other similar products or cultural practices.

Cattle Operation. In California, cattle will typically pass through three phases while reaching market weight. These include the cow-calf operation, yearling/stocker phase and finishing or feedlot phase.

Figure 1.

$>$ This cow-calf phase is from birth to weaning (cattle are typically weaned at 8 to 9 months weighing around 600 pounds.
$>$ The yearling/stocker phase will take these weaned cattle and grow them out on grass to about 800 to 900 pounds ( 14 to 20 months).
$>$ The feeding phase takes these yearlings off grass and places them in a feedlot for 90 to120 days (or until they reach a desired finish weight).

This study will focus on the yearling/stocker operation. For the purposes of this study, 530 pound steer calves will be discussed. Across California, cattle production techniques and management vary.

Yearling/stocker cattle can come from several sources. A cattle producer can keep the weaned calves or they can be purchased. Different time periods through out the calendar year can affect the availability of stocker cattle and may change the cost of purchase or income from sales.

This study focuses on yearling/stocker cattle that are retained or bought at weaning. It assumes that pasture is leased. The grazing lease is based on a $\$ 120$ per cow price for a six month season. A cow is calculated as one Animal Unit (AU). Stockers weighing 530 pounds are calculated as 0.5 AU and cost $\$ 60$ per animal for a six month contract. It also assumes cattle will be sold or moved into a feedlot once they reach 800 pounds. The herd size is 300 . The fixed costs will vary with the number of head involved or size of the operation.

Yearling/stocker operations are typically seasonal in California and primarily occur on rangeland where forage production is solely dependant upon seasonal rainfall. Figure 2 outlines the annual variability in forage production at a site in the northern Sacramento Valley - Shasta County. Producers must cope with stocking the ranches appropriately to manage this variation in forage production.

Figure 2. Average Forage Production on Annual Range Near Redding, CA across $\mathbf{3 6}$ Years


In the Central and Sacramento Valleys, and the Coast Range of California, cattle are typically grazed from late autumn through late spring. Irrigated pasture and mountain ranges are generally grazed from late spring through mid autumn.

The goal of yearling/stocker cattle operations is to reduce the cost per pound of gain on heifers and steers. Average daily gain varies across the state. Depending upon location, producers might expect gains from 250 to 325 pounds per head for the season. Forage quality and quantity are the primary drivers in seasonal cattle gain. Secondarily, rate of gain may also be affected by health, body condition, mineral nutrition and the quality of the cattle.

## Production Options

## Producer Purchases Yearling/Stockers or Retains Owned Yearling/Stockers

(Table 1)
These two options can be treated the same in this cost study. If producers retain their own calves after weaning, they have forgone the opportunity to market them as calves and have effectively transferred them to a yearling/stocker enterprise. The fair market value of those calves must be assigned to the yearling/stocker enterprise to evaluate the profitability of the enterprise.

Most yearling/stocker operations turn out purchased weaned cattle on grass at the onset of the grazing season.
The market fluctuation during the grazing season represents significant risk for producers purchasing or retaining calves. Risk management may be facilitated through the use of options and futures. Consult qualified professionals when considering which risk management technique is the most appropriate for you. Many operations have done a great job on calf performance only to have the market move against them during the period that they own the calves. The feeder price spread is the price per pound difference between the lighter weight calves at purchase and the heavier weight calves at sale time. Receiving 16 cents less per pound is expected, based upon Western Video Auction sale averages from 1997 to 2008; if the market drops during the ownership period, all or any profit is quickly lost. Table A shows the price spread for eleven years on the Western Video Market price average for 500 to 600 pound steers compared to the price average of 800 pound
steers during a six month ownership for both a winter rangeland and summer irrigated pasture operation. Winter (October to May) operations had an average feeder price spread of minus 18 cents per pound, while cattle pastured over the summer (May to October), averaged a minus 14 cents.

For winter pasture yearlings, 6 out of 11 years the market moved down below the normal buy-sell differential (resulting in buy-sell differential of more than 18.5 cents) and price insurance would have been helpful. For example in Table A, the winter feeder buy-sell differential in 2001-02 grew to 30.40 cents. Table 6 illustrates the impact of market price shifts for winter grazing of purchased yearlings over the same period on

| YEAR | Buy-Sell | YEAR | Buy-Sell |
| :---: | :---: | :---: | :---: |
| Winter | Differential | Summer | Differential |
| Oct to May | cents/lb | May to Oct | cents/lb |
| 1997-1998 | -20.43 | 1997 | -3.53 |
| 1998-1999 | -11.79 | 1998 | -23.34 |
| 1999-2000 | -9.62 | 1999 | -3.95 |
| 2000-2001 | -18.48 | 2000 | -11.15 |
| 2001-2002 | -30.40 | 2001 | -11.89 |
| 2002-2003 | -8.59 | 2002 | -18.50 |
| 2002-2003 | -6.92 | 2003 | -10.32 |
| 2003-2004 | -24.99 | 2004 | -3.82 |
| 2004-2005 | -27.31 | 2005 | -34.16 |
| 2006-2007 | -23.08 | 2006 | -20.08 |
| 2007-2008 | -21.68 | 2007 | -12.3 |
|  |  | 2008 | -21.68 |
| Average | -18.48 | Average | -14.33 | the operation profitability.

Feeder options can be used as a method to provide price insurance. Purchase of an option can be secured though a commodities broker and producers can choose the level of risk that they want to insure against. Some choose to buy the lowest cost option to provide cheap insurance against a large price swing. Others determine their breakeven costs and insure a price at or above that amount. Option prices generally cost from 1 to 5 cents per pound. Contracts are sold on a truckload or 44,000 pound lot. Larger operations use multiple purchases of calves over time (similar to dollar cost averaging in stocks) as a strategy to limit risk. Using a video auction to forward contract calves can also be used to reduce price risk. The fact that using yearly market price averages from 1997 to 2008, the budget estimated a cash loss in four of the eleven years for the operation (Table 6), which clearly points out that this, is an important management area that should not be overlooked to assure profitability or at least avert a financial disaster. The option of $\$ 0.03$ per pound purchased based on the out weight of the 300 head purchased is a minimal price protection used only to insure against extreme price swings.

## Producer Custom Grazes Yearling/Stockers for Payment on Gain or Per Head

(Table 2)
In this scenario, a ranch lease holder grazes non-owned yearling/stockers and is paid on the body weight gain. Stockers usually will weigh between 500 to 600 pounds upon arrival.

In most contracts a $2 \%$ death loss is acceptable to the cattle owner. Missing cattle, not verified as dead, may be the responsibility of the lease holder. Any amount above that is the responsibility of the lease holder providing the pasture. Payment is based on a per pound of gain basis. Generally, the owner of the cattle provides medication and processing vaccine, and the lease holder provides the labor. The amount paid for cattle on pasture on the gain basis ranges from 30 to 35 cents per pound of gain. This study assumes the producer will receive 33 cents per pound of gain. The shrink weight can be an important item of consideration. In most gain payment contracts, calves' weights are determined at the time of purchase and are generally shrunk. Cattle are gathered, weighed and shipped at the end of the grazing season. Shrink is generally figured at $3 \%$. Net gain is calculated by subtracting the shrunk weight from the in weight. The quality of calves that are received can greatly vary the pounds of gain. Some producers have a contract clause allowing loads to be rejected on quality or health. We assume that the cattle will gain 270 pounds (or 1.5 pounds per day) during the grazing period. In
this cost study, it was found that the net returns above operating costs for gain cattle (at 33 cents per pound) was $\$ 6.43$ / head more than straight cash pasture rent.

## Natural Production Costs

(Table 3)
There has been much interest to determine if there is a financial advantage to natural production (no implants, hormones, or antibiotics used in production) of stocker or yearling cattle. Previous studies showed that from 1997 to 2007, the average premium for natural calves weighing 500 to 625 pounds was 2.25 cents. We assumed that the 764 pound natural steers would sell at a 3.78 cent premium (Blank et. al 2009). Additional costs of operation are identifying any sick animals that require antibiotic treatment and selling them separately at an auction yard in a smaller lot that will bring a nine cent reduction in price per pound (Shasta Livestock Auction Yard). It is estimated that not using implants and ionophores will reduce the animal gain by 0.084 to 0.30 and 0.11 to 0.18 pound of gain per day respectively (Fields and Taylor). Because the "natural" calves gained 36 pounds less than the conventional cattle, a three cent price differential was used. This price differential (generated by the lighter sale weight) coupled with the premium paid resulted in a six cent higher price per pound for the natural cattle (Western Video Auction 2000 data). Using these data inputs, this study found yearling/stocker cattle pastured under a "natural" regime had per calf net income of $\$ 2.38$ more than the standard operation that used conventional production tools (implants, antibiotics, ionophores, etc.). If you presently do not use implants or ionophores, your income may be greater with natural production.

## Production Operating Costs

Operations. The Operations Calendar for a yearling/stocker operation is shown in Table B. The operations are affected by several factors such as weather and available feed. Therefore, depending upon the season, the operations will vary each year.

Pasture, Hay and Supplements. This includes the market value of all feed (purchased or raised) that was used in the stocker operation. The assumption used in this study is that pasture is rented for $\$ 20 /$ AUM (an AUM [animal unit month] is the equivalent to 1,000 pounds of forage on an air dry basis) over a six-month period. Some operations feed small amounts of hay when they receive or ship cattle. Hay may also be fed when weather conditions are not conducive to production of forage.

Some areas of California are deficient in micro and macro-nutrients. Consult your local veterinarian to learn about what might be deficient in your area. For $\mathrm{Se}, \mathrm{Cu}, \mathrm{Zn}$ and P a good reference by county is the UC Website http://animalscience.ucdavis.edu/Projects/MineralProject/.

Health, Veterinary, Medicine. Since the cattle have been in different environments, they potentially have been exposed to a variety of diseases. Because of the higher risk of stress occurring, the most critical period of managing yearling/stockers is when the producer receives a new shipment of cattle at a new location. Good health and nutrition management during this critical period can greatly impact profitability. Cattle being received should be treated to reduce risk from parasites (external and internal) and disease. Consult your local veterinarian on the best program for your cattle. Cattle should be appropriately identified. Cattle will be gathered and processed again mid season. This study assumes a death loss of $2 \%$.

Vehicle/Freight. Pickup business vehicle mileage is estimated at 3,000 miles per year and includes mileage while pulling the stock trailer. Estimated mileage for the stock trailer is 350 miles and the All Terrain Vehicle (ATV) 4-wheeler is 1,530 miles per year. Freight or trucking costs are commercial costs for hauling the cattle. The purchase of the calves requires transportation to the ranch, which costs $\$ 600$ per load or $\$ 6$ per head. The 800 pound stockers are sold by video auction and the terms require no transportation costs at the time of sale.

Repairs. Vehicle and equipment repairs are accounted for in the mileage rate allocated to each vehicle.
Labor. Most ranchers can no longer afford hired labor, but may use volunteer weekend help. Owner labor for hauling, turnout, gathering, feeding, fence repair, irrigation (when applicable), salting, checking calves, and moving pastures is also not included as a cost.

Marketing/Returns. The animals are marketed through a video market auction. This study uses the average price received from an eleven year (1997 to 2008) study of prices (Blank et. al 2009) to place a value at the beginning and end of the six month grazing season. To arrive at the feeder price spread (difference in price of the calves at purchase and then at sale), the averages of 500 to 600 pound calves were subtracted from the following year's 800 pound steers to determine the average feeder price spread during the period. Table 5 (Ranging Analysis) shows a range of returns for each of the operations - Purchased Yearlings, Gain, Natural using a range of prices.

Interest on Operating Costs. Interest on operating costs is calculated on cash costs (calves purchased and operating costs) and is calculated at $2 \%$ annual interest (savings account rate) over a 6 -month period.

Risk. Production risks should not be minimized. While this study makes every effort to model a production system based on typical, real world practices, it cannot fully represent financial and market risks, which affect profitability and economic viability.

## Cash Overhead

Cash overhead consists of various cash expenses paid out during the year that are assigned to the whole farm and not to a particular operation.

Insurance. Insurance for farm investments varies depending on the assets included and the amount of coverage.

Office Expense. Office and business expenses are estimated at $\$ 1,000$ per year or $\$ 3.33$ per head. These expenses include office supplies, telephones, bookkeeping, accounting, legal fees, utilities, and miscellaneous administrative charges.

## Non-Cash Overhead

(Table 4)
Non-cash overhead is calculated as the capital recovery cost for equipment and other farm investments. Values in the table are for information only. The equipment capital recovery costs are included in the mileage costs shown in Tables 1 to 3.

Capital Recovery Costs. Capital recovery cost is the annual depreciation and interest costs for a capital investment. It is the amount of money required each year to recover the difference between the purchase price and salvage value (unrecovered capital). It is equivalent to the annual payment on a loan for the investment
with the down payment equal to the discounted salvage value. This is a more complex method of calculating ownership costs than straight-line depreciation and opportunity costs, but more accurately represents the annual costs of ownership because it takes the time value of money into account (Boehlje and Eidman). The formula for the calculation of the annual capital recovery costs is ((Purchase Price - Salvage Value) x Capital Recovery Factor) + (Salvage Value x Interest Rate).

Salvage Value. Salvage value is an estimate of the remaining value of an investment at the end of its useful life. For farm machinery (tractors and implements) the remaining value is a percentage of the new cost of the investment (Boehlje and Eidman). For other investments including irrigation systems, buildings, and miscellaneous equipment, the value at the end of its useful life is zero. The purchase price and salvage value for equipment and investments are shown in the tables.

Interest Rate. The interest rate of $4.25 \%$ used to calculate capital recovery cost is the effective long term interest rate effective January 2010. The interest rate is provided by a local farm lending agency and will vary according to risk and amount of loan.

Tack. Includes two saddles and related equipment (blanket, headgear, etc.).
Portable Cattle Working Facilities. Consists of portable loading chutes and portable corral panels. Depending upon the type and number of squeeze chutes and corral panels, the price will vary. An estimated price for livestock handling equipment required by a typical 300-stocker operation is used in this study.

Equipment. Farm equipment is purchased new or used, but the study shows the current purchase price for new equipment. Annual ownership costs for equipment and other investments are shown in the Equipment, Investment, and Business Overhead Costs table.

Table Values. Due to rounding, the totals may be slightly different from the sum of the components.

## REFERENCES

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## UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

Table 1. PURCHASED YEARLINGS/STOCKERS (300 head)
Sacramento Valley 2010

| Gross Income | Number | Weight | Value <br> \$/lb | Gross <br> Value \$ | ${ }^{1}$ \$ per <br> Calf |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Calves Purchased | 300 | 530 | 1.04 | 165,360 | 551.20 |
| Calves Sold ${ }^{2}$ | 294 | 800 | 0.90 | 211,680 | 705.60 |
| Gross Income (Sold minus Purchased) |  |  |  | 46,320 | 154.40 |
| Operating Costs |  |  |  |  |  |
| Pasture (leased-based upon seasonal \$120/cow) ${ }^{3}$ |  |  |  | 18,000 | 60.00 |
| Purchased Feed: | Tons | \$/Unit | \$ Value |  |  |
| Salt | 3.00 | 230.00 |  | 690 | 2.30 |
| Supplement | 3.00 | 550.00 |  | 1,650 | 5.50 |
| Hay | 13.00 | 120.00 |  | 1,560 | 5.20 |
| Veterinary/Medical |  |  | 5,100 | 5,100 | 17.00 |
| Transportation of cattle |  |  | 1,800 | 1,800 | 6.00 |
| Mileage Costs: | Miles |  |  |  |  |
| Truck Mileage | 3,000.00 | 0.55 | 1,650 | 1,650 | 5.50 |
| Stock trailer mileage | 350.00 | 0.20 | 70 | 70 | 0.23 |
| 4 Wheeler | 1,530.00 | 0.22 | 337 | 337 | 1.12 |
| Brand inspection |  |  | 300 | 300 | 1.00 |
| Checkoff |  |  | 300 | 300 | 1.00 |
| Marketing Costs Video or Auction fees |  |  | 2,675 | 2,675 | 8.92 |
| Horse costs - shoes, vet, \& feed |  |  | 309 | 309 | 1.03 |
| Options (based on out weight of 800 lbs$)^{4}$ |  | 0.03 | 7,200 | 7,200 | 24.00 |
| Total Cash Operating Costs |  |  |  | 41,641 | 138.80 |
|  |  |  |  |  |  |
| Income Above Cash Operating Costs |  |  |  | 4,679 | 15.60 |
| Ownership Costs: |  |  |  |  |  |
| Interest on Operating Costs (calves + operating cash) |  |  |  | 376 | 1.25 |
| Insurance (Vehicle, liability, etc.) |  |  | 1,500 | 1,500 | 5.00 |
| Overhead (utilities, office costs, legal and accounting) |  |  | 1,000 | 1,000 | 3.33 |
| Total Ownership Costs (Cash \& Non-Cash Overhead) |  |  |  | 2,876 | 9.59 |
| Total Costs |  |  |  | 44,516 | 148.39 |
| Net Returns Above Total Costs (Returns to Land and Management) |  |  |  | 1,804 | 6.01 |

${ }^{1}$ Per Calf based on 300 head purchased
${ }^{2}$ Assumes a $2 \%$ death loss or 6 head of 300 calves $=294$ calves
${ }^{3}$ Assumes calves at 0.5 AU for the 300 head purchased and does not account for death loss
${ }^{4}$ Based on 300 head purchased
Note: The cost of labor and health insurance is not included

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Table 2. YEARLINGS/STOCKERS ON THE GAIN ( 300 head)
Sacramento Valley 2010

| Gross Income | Number | Weight Gain | Value <br> \$/lb | Gross <br> Value | ${ }^{2}$ \$ Per Calf |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Calf gain/pound ${ }^{1}$ | 294.00 | 270.00 | 0.33 | 26,195 | 87.32 |
| Operating Costs |  |  |  |  |  |
| Pasture (leased-based upon seasonal \$120/cow) ${ }^{3}$ |  |  |  | 18,000 | 60.00 |
| Purchased Feed: | Tons | \$/Unit | \$ Value |  |  |
| Salt | 3.00 | 230.00 |  | 690 | 2.30 |
| Supplement | 3.00 | 550.00 |  | 1,650 | 5.50 |
| Hay | 13.00 | 120.00 |  | 1,560 | 5.20 |
| Mileage Costs: | Miles |  |  |  |  |
| Truck Mileage | 3,000.00 | 0.55 | 1,650 | 1,650 | 5.50 |
| Stock trailer mileage | 350.00 | 0.20 | 70 | 70 | 0.23 |
| 4 Wheeler | 1,530.00 | 0.22 | 337 | 337 | 1.12 |
| Horse costs - shoes, vet, \& feed |  |  | 309 | 309 | 1.03 |
| Total Operating Costs |  |  |  | 24,266 | \$80.89 |
| Income Above Operating Costs |  |  |  | 1,930 | \$6.43 |
| Ownership Costs: |  |  |  |  |  |
| Interest on Operating Costs (operating costs) |  |  |  | 217 | 0.72 |
| Insurance (Vehicle, liability, etc.) |  |  |  | 1,500 | 5.00 |
| Overhead (utilities, office costs, legal and accounting) |  |  |  | 1,000 | 3.33 |
| Total Ownership Costs |  |  |  | 2,500 | 8.33 |
| Total Costs |  |  |  | 26,766 | 89.22 |
| Returns to Land and Management |  |  |  | -570 | -1.90 |

${ }^{1}$ Assumes a $2 \%$ death loss or 6 head of 300 calves $=294$ calves
${ }^{2}$ Based on 300 head received
${ }^{3}$ Assumes calves at 0.5 AU for the 300 head received and does not account for death loss
Note: The cost of labor and health insurance is not included

## UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

Table 3. PURCHASED YEARLINGS/STOCKERS - NATURAL (300 head)
Sacramento Valley 2010

| Gross Income | Number | Weight | Value \$/lb | Gross <br> Value \$ | ${ }^{1}$ \$ Per Calf |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Calves Purchased | 300 | 530 | 1.0625 | 168,938 | 563.13 |
| Natural Calves Sold ${ }^{2}$ | 289 | 764 | 0.9678 | 213,686 | 712.29 |
| Non Program Calves ${ }^{3}$ | 5 | 764 | 0.8100 | 3,094 | 10.31 |
| Gross Income (Natural + Non Program less Purchased) |  |  |  | 47,843 | 159.48 |
| Operating Costs |  |  |  |  |  |
| Pasture (leased-based upon seasonal \$120/cow) ${ }^{4}$ |  |  |  | 18,000 | 60.00 |
| Purchased Feed: | Tons | \$/Unit | \$ Value |  |  |
| Salt | 3.00 | 230.00 |  | 690 | 2.30 |
| Supplement | 3.00 | 550.00 |  | 1,650 | 5.50 |
| Hay | 13.00 | 120.00 |  | 1,560 | 5.20 |
| Veterinary/Medical |  |  | 5,100 | 5,100 | 17.00 |
| Transportation of cattle |  |  | 1,800 | 1,800 | 6.00 |
| Mileage Costs: | Miles |  |  |  |  |
| Truck Mileage | 3,000.00 | 0.55 | 1,650 | 1,650 | 5.50 |
| Stock trailer mileage | 350.00 | 0.20 | 70 | 70 | 0.23 |
| 4 Wheeler | 1,530.00 | 0.22 | 337 | 337 | 1.12 |
| Brand inspection |  |  | 300 | 300 | 1.00 |
| Checkoff |  |  | 300 | 300 | 1.00 |
| Marketing Costs Video or Auction fees |  |  | 3,782 | 3,782 | 12.61 |
| Horse costs - shoes, vet, \& feed |  |  | 309 | 309 | 1.03 |
| Options (based on out weight of 764 lbs ) ${ }^{5}$ |  | 0.03 | 6,876 | 6,876 | 22.92 |
| Total Cash Operating Costs |  |  |  | 42,424 | 141.41 |
| Income Above Cash Operating Costs |  |  |  | 5,419 | 18.06 |
| Ownership Costs |  |  |  |  |  |
| Interest on Operating Costs (calves + operating cash) |  |  |  | 402 | 1.34 |
| Insurance (Vehicle, liability, etc.) |  |  | 1,500 | 1,500 | 5.00 |
| Overhead (utilities, office costs, legal and accounting) |  |  | 1,000 | 1,000 | 3.33 |
| Total Ownership Costs (Cash \& Non-Cash Overhead) |  |  |  | 2,902 | 9.67 |
| Total Costs |  |  |  | 45,325 | 151.08 |
| Net Returns Above Total Costs (Returns to Land and Management) |  |  |  | 2,518 | 8.39 |
| ${ }^{1}$ Based on 300 head purchased |  |  |  |  |  |
| ${ }^{2}$ Assumes price for calves sold on Table 1 (\$0.90) plus Natural premium (\$0.0378) and higher price due to lighter weight (\$0.03) = \$0.9678 |  |  |  |  |  |
| ${ }^{3}$ Assumes a $2 \%$ death loss or 6 head of 300 calves $=(289+5)$ or 294 calves |  |  |  |  |  |
| ${ }^{4}$ Assumes calves at 0.5 AU for the 300 head purchases and does not account for death loss |  |  |  |  |  |
| ${ }^{5}$ Based on 300 head purchased |  |  |  |  |  |
| Note-The cost of labor and health insurance is not included |  |  |  |  |  |

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*Table 4. EQUIPMENT, INVESTMENT, AND BUSINESS OVERHEAD
300 Head, Yearling/Stocker Operation
Sacramento Valley - 2010

|  | Purchase Price | Salvage/Cull <br> Value | Livestock <br> Share (\%) | Useful <br> Life (yr) | Annual Taxes and Insurance | Annual Capital Recovery |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BUILDINGS, IMPROVEMENTS AND EQUIPMENT |  |  |  |  |  |  |
| Gooseneck trailer | 10,000.00 | 1,000.00 | 100 | 20 | 58.85 | 826 |
| Saddles/Tack (2) | 3,800.00 | 0.00 | 100 | 10 | 20.33 | 510 |
| Portable Corals, Chutes, Panels | 15,000.00 | 0.00 | 100 | 20 | 80.25 | 1,281 |
| Total BUILDINGS, IMPROVEMENTS AND EQUIPMENT | 28,800.00 |  |  |  | 159.43 | 2,618 |
| PURCHASED LIVESTOCK |  |  |  |  |  |  |
| Horses (2) | 5,000.00 | 1,200.00 | 100 | 10 |  | 653 |
| Total PURCHASED LIVESTOCK | 5,000.00 |  |  |  |  | 653 |
| MACHINERY AND VEHICLES |  |  |  |  |  |  |
| ATV | 6,000.00 | 600.00 | 77 | 12 | 212.90 | 512 |
| Pickup 4x4 3/4 ton | 36,000.00 | 3,600.00 | 15 | 6 | 1,063.75 | 1012 |
| Total MACHINERY AND VEHICLES | 42,001.00 |  |  |  | 548.49 | 1,524 |
| *Information Only -Costs show in Tables 1-3 as cash costs |  |  |  |  |  |  |

## UC COOPERATIVE EXTENSION

Table 5. RETURNS ANALYSIS FOR YEARLING/STOCKER PRODUCTION

300 Head Operation

Sacramento Valley - 2010

## PURCHASED YEARLINGS

| Operation | Number | Pounds | \$/Unit |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CALVES SOLD | 294 | 800 | 0.78 | 0.88 | 0.98 | 1.08 | 1.18 | 1.28 | 1.38 |
| Less Calves Purchased | 300 | 530 | 0.93 | 1.03 | 1.13 | 1.23 | 1.33 | 1.43 | 1.53 |
| GROSS INCOME (Sold minus Purchased) |  |  | 35,586 | 43,206 | 50,826 | 58,446 | 66,066 | 73,686 | 81,306 |
| Total Cash Operating Costs (Table 1) |  |  | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 |
| Total Cash Operating Costs/Calf | 300 |  | 139 | 139 | 139 | 139 | 139 | 139 | 139 |
| Total Income Above Cash Costs |  |  | -6,055 | 1,565 | 9,185 | 16,805 | 24,425 | 32,045 | 39,665 |
| Total Income Above Cash Costs/Calf | 300 |  | -20 | 5 | 31 | 56 | 81 | 107 | 132 |
| Total Overhead Costs (Table 1) |  |  | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 |
| Total Overhead Costs/Calf | 300 |  | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Costs |  |  | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 |
| Total Costs/Calf | 300 |  | 148 | 148 | 148 | 148 | 148 | 148 | 148 |
| Total Net Income |  |  | -8,930 | -1,310 | 6,310 | 13,930 | 21,550 | 29,170 | 36,790 |
| Total Net Income/Calf | 300 |  | -30 | -4 | 21 | 46 | 72 | 97 | 123 |

## YEARLINGS ON THE GAIN

| CALF Gain/Pound | 294 | 270 | 0.15 | 0.20 | 0.25 | 0.30 | 0.35 | 0.40 | 0.45 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GROSS INCOME |  |  | 11,907 | 15,876 | 19,845 | 23,814 | 27,783 | 31,752 | 35,721 |
| Total Cash Operating Costs (Table 2) |  |  | 24,266 | 24,266 | 24,266 | 24,266 | 24,266 | 24,266 | 24,266 |
| Total Cash Operating Costs/Calf | 300 |  | 81 | 81 | 81 | 81 | 81 | 81 | 81 |
| Total Income Above Cash Costs |  |  | -12,359 | -8,390 | -4,421 | -452 | 3,517 | 7,486 | 11,455 |
| Total Income Above Cash Costs/Calf | 300 |  | -41 | -28 | -15 | -2 | 12 | 25 | 38 |
| Total Overhead Costs (Table 2) |  |  | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 |
| Total Overhead Costs/Calf | 300 |  | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Total Costs |  |  | 26,766 | 26,766 | 26,766 | 26,766 | 26,766 | 26,766 | 26,766 |
| Total Costs/Calf | 300 |  | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Total Net Income |  |  | -14,859 | -10,890 | -6,921 | -2,952 | 1,017 | 4,986 | 8,955 |
| Total Net Income/Calf | 300 |  | -50 | -36 | -23 | -10 | 3 | 17 | 30 |

## PURCHASED YEARLINGS - NATURAL

| NATURAL CALVES SOLD | 289 | 764 | 0.83 | 0.93 | 1.03 | 1.13 | 1.23 | 1.33 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| NON PROGRAM CALVES SOLD | 5 | 764 | 0.69 | 0.79 | 0.89 | 0.99 | 1.09 | 1.19 |
| Less Calves Purchased | 300 | 530 | 1.00 | 1.05 | 1.15 | 1.25 | 1.35 | 1.45 |
| GROSS INCOME (Sold minus Purchased) |  |  | 26,896 | 41,408 | 47,970 | 54,531 | 61,093 | 67,654 |
| Total Cash Operating Costs (Table 3) |  |  | 72,424 | 42,424 | 42,424 | 42,424 | 42,424 | 42,424 |
| Total Cash Operating Costs/Calf | 300 |  | 141 | 141 | 141 | 141 | 141 | 141 |
| Total Income Above Cash Costs |  | $-15,527$ | $-1,016$ | 5,546 | 12,108 | 18,669 | 25,231 |  |
| Total Income Above Cash Costs/Calf | 300 | -52 | -3 | 18 | 41,792 |  |  |  |
| Total Overhead Costs (Table 3) |  | 2,902 | 2,902 | 2,902 | 2,902 | 2,902 | 2,902 |  |
| Total Overhead Costs/Calf | 300 | 10 | 10 | 10 | 10 | 10 |  |  |
| Total Costs |  | 45,325 | 45,325 | 45,325 | 45,325 | 45,325 | 45,325 | 45,902 |
| Total Costs/Calf | 300 |  | 151 | 151 | 151 | 151 | 151 | 151 |
| Total Net Income |  | $-18,429$ | $-3,917$ | 2,644 | 9,206 | 15,768 | 22,329 |  |
| Total Net Income/Calf | -61 | -13 | 28,891 |  |  |  |  |  |

## UC COOPERATIVE EXTENSION

Table 6. IMPACT OF FEEDER PRICE SPREAD ON PROFITABILITY
ELEVEN YEAR PRICE SPREAD COMPARISON 1997-98 THROUGH 2007-08 SEASONS
Sacramento Valley - 2010
`PURCHASED YEARLINGS - WINTER RANGELAND STOCKERS

| Operation | Number | Pounds | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Yearlings SOLD ${ }^{1}$ | 294 | 800 | 0.6679 | 0.7276 | 0.832 | 0.8542 | 0.7453 | 0.8567 | 1.0632 | 1.0396 | 1.044 | 1.0322 | 1.0156 | 0.8980 |
| Less Weaned Calves Purchased ${ }^{2}$ | 300 | 530 | 0.9177 | 0.7649 | 0.9034 | 1.007 | 0.862 | 1.0643 | 1.262 | 1.2526 | 1.2395 | 1.201 | 0.9236 | 1.0362 |
| GROSS INCOME (Sold minus Purchased) |  |  | 11,176 | 49,512 | 52,046 | 40,795 | 38,237 | 32,272 | 49,407 | 45,351 | 48,468 | 51,814 | 92,017 | 46,463 |
| Total Cash Operating Costs (Table 1) |  |  | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 | 41,641 |
| Total Cash Operating Costs/Calf | 300 |  | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 139 | 139 |
| Total Income Above Cash Costs |  |  | -30,465 | 7,872 | 10,405 | -846 | -3,404 | -9,368 | 7,766 | 3,710 | 6,828 | 10,174 | 50,376 | 4,823 |
| Total Income Above Cash Costs/Calf | 300 |  | -102 | 26 | 35 | -3 | -11 | -31 | 26 | 12 | 23 | 34 | 168 | 16 |
| Total Overhead Costs (Table 1) |  |  | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 | 2,876 |
| Total Overhead Costs/Calf | 300 |  | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total Costs |  |  | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 | 44,516 |
| Total Costs/Calf | 300 |  | 148 | 148 | 148 | 148 | 148 | 148 | 148 | 148 | 148 | 148 | 148 | 148 |
| Total Net Income |  |  | -33,340 | 4,996 | 7,530 | -3,721 | -6,280 | -12,244 | 4,890 | 834 | 3,952 | 7,298 | 47,501 | 1,947 |
| Total Net Income/Calf | 300 |  | -111 | 17 | 25 | -12 | -21 | -41 | 16 | 3 | 13 | 24 | 158 | 6 |

${ }^{1}$ Yearling prices are based on the average of 800-850lbs. on the May video sale with May delivery.
${ }^{2}$ Weaned Calves prices are based on the average of $500-550 \mathrm{lbs}$. on the July video sales with October delivery in the year prior, as the cattle are held over the winter and sold in the next calendar year.

