

## Putting Profit back in Ranching: Managing Cow Costs



Jim Gerrish  
American GrazingLands Services  
May, Idaho

## What factors truly impact profit???

- Weaning weights ?
- Feed Costs ?
- Calf price ?
- Investment ?
- Weaning Percent ?
- Operating Costs ?
- Labor Costs ?

### Characteristics of Profitable Herds

2000-2004 Illinois SPA database, 158 Herds

	Top 15%	Average	Bottom 15%
Net Profit	\$21,701	\$-4,373	\$-34,007
Herd Size	202	119	185
% Return on Investment	22.2%	3.7%	-16.7%
Pounds of Calf sold/cow	506	454	427
Feeder Calf Price	\$103.14	\$97.39	\$99.69

Source: Dr. Allen Williams, U of IL, Beef Extension Specialist, 2008

### Characteristics of Profitable Herds

	Top 15%	Average	Bottom 15%
Net Profit	\$21,701	\$4,373	\$-34,007
Herd Size	202	119	185
% Return on Investment	22.2%	3.7%	-16.7%
Pounds of Calf sold/cow	506	454	427
Feeder Calf Price	\$103.14	\$97.39	\$99.69
Total Annual Cow Cost	\$267.35	\$332.33	\$480.37
Annual Feed Cost	\$168.51	\$212.76	\$280.43

Source: Dr. Allen Williams, U of IL, Beef Extension Specialist, 2008

### Summary of SPA record herds

Dependent Variable	R <sup>2</sup>	
Feed Cost	.567	-There are 8 financial measures capable of explaining over 82% of farm-to-farm variation in RLM
Depreciation Cost	.086	
Operating Cost	.049	-Cost factors were far more influential in driving RLM than production, reproduction, or producer controlled marketing factors
Calf weight	.046	
Capital charge	.024	-In the financial prediction equation nearly <b>57% of herd-to-herd variation in profit can be explained by feed cost</b>
Calf price	.027	
Weaning percentage	.017	
Herd size	.007	
Total	.823	

Source: Dr. Allen Williams, U of IL, Beef Extension Specialist, 2008

### The importance of cost management

■ **Table 1. SPA measurements for Low, Medium and High Profit herds (Dunn, 2000)**

	Low Profit	Medium Profit	High Profit
Lbs weaned/cow exposed	413	455	455
Income/breeding female	\$ 390.75	\$ 423.08	\$ 495.35
Cost/breeding female	\$ 637.68	\$ 386.87	\$ 270.23
Net /breeding female	\$ -247.02	\$ 36.29	\$ 225.13
Total investment/ female	\$1538	\$1308	\$1397
Return on Assets	-15.5 %	2.88 %	18.16 %

**Profit = Income - Costs**

- You can increase income by:
  - Increasing units of production
  - Receiving higher price per unit
  - Adding enterprises
- Or by reducing costs
  - Overhead
  - Operating (or variable)

**Profit = Income - Costs**

- You can increase income by:
  - Increasing units of production
  - Receiving higher price per unit
  - Adding enterprises
- OR reduce costs by:
  - Reducing unit cost of production

**It is critical you know your unit cost of production !**

Winter feed costs are the largest cost for most cow-calf producers



*Most farmers and ranchers have no idea what it cost to get to this point !*

*Cow-calf producers in...*

*Minnesota*

*Missouri*

*Mississippi...*

*All feed hay for about 130 days*

**WHY?**



*We feed hay to the extent that we can make hay*



**Top three costs I find with my consulting clients**

- Winter feed
  - Equipment depreciation
  - Equipment operation
  - Fertilizer
  - Irrigation
- Cow depreciation
- Labor

## What are overhead costs ?

- Costs incurred whether you produce anything or not
  - Land ownership
  - Labor
  - Equipment depreciation
  - Facility depreciation
  - Utilities
  - Insurance
  - Taxes
  - Cow depreciation\*

## What are variable costs ?

- Costs that change as production level changes
  - Livestock purchase
  - Feed
  - Vet
  - Fuel
  - Machine operating, repair, & maintenance
  - Trucking
  - Etc.

## Profit = Income – Costs: Understanding gross margin

- Gross margin is the difference between sale value and variable cost for each unit of production.
- Our goal should be to increase gross margin of every product we sell to >50%

## Gross margin example

- If your variable costs for maintaining a cow are \$350 annually and a calf sells for \$600, the gross margin is \$250
- The gross margin ratio is 42% (\$250/\$600)
- Profit margin will be increased more by reducing costs by \$100 than increasing income by \$100

## Profit = Income – Costs: Understanding gross margin

- Gross margin is the difference between sale value and operating cost for each unit of production.
- Our goal should be to increase gross margin of every product we sell to >50%
- **Until gross margin >50%, focus on cost management**  
.... **Not increased production**

## Profit = Income – Costs: Understanding overhead ratio

- What percent of total costs are tied up in overheads ?
- For sustainable ranching overhead ratio must be less than 50% (RMC)
- Target should be less than 33%

### Profit = Income – Costs: Understanding overhead ratio

- Calculating overhead ratio
  - If total costs are \$580/cow and operating costs are \$350, then overheads account for \$230 ....
  - Overhead ratio is 40% (\$230/\$580)...  
....this ranch has a chance of surviving but really needs to reduce overhead costs to less than \$190/cow (=33%)

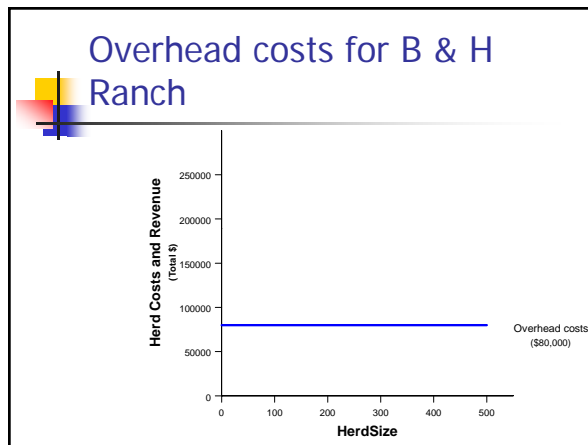
### What are overhead costs ?

- Costs whether you produce anything or not
  - Land ownership
  - Labor
  - Equipment depreciation
  - Facility depreciation
  - Utilities
  - Insurance
  - Taxes
  - Cow depreciation\*

### B & H Ranch example:

- Overheads
 

■ Labor	\$30,000
■ Equipment depreciation	\$20,000
■ Land charge	\$10,000
■ Facility depreciation	\$10,000
■ Utilities, taxes, insurance	<u>\$10,000</u>
■ <b>Total overheads</b>	<b>\$80,000</b>

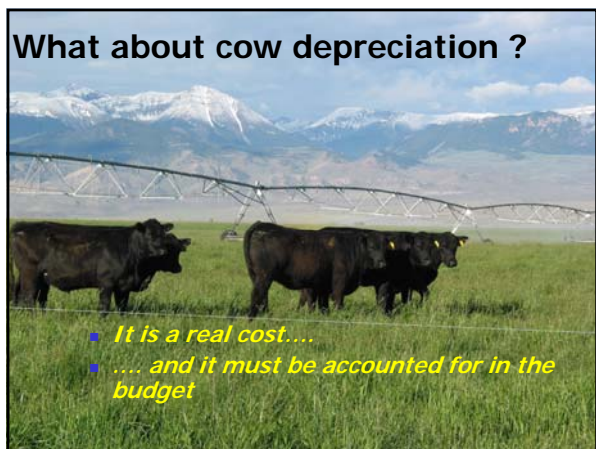


### What is the expected labor requirement for a cow herd ?

- Extension service says 300-500 cows / FTE
- Highly successful ranches in US >800 cows
- Australian national standard 1500 cows
- Highly successful Australian stations 3000

***What do you do?***





**Understanding cow depreciation**

- The difference between purchase price and salvage value
- Spread over the calves a cow produces in her lifetime
- With interest charged

### Cow depreciation: Overhead or operating cost ?

- If you own a cow herd you likely incur depreciation, therefore it is an overhead
- But it is incurred every year and must be paid for by the current calf crop, therefore it is an operating cost
- However you classify cow depreciation, it is a real cost

### Cow depreciation example:

- Purchase cow for \$1000
- Salvage value \$ 500
- Difference **-\$500**
- Cow has 5 calves, so the charge is \$100 per calf plus interest charge for the five years she tied up your money
- @ 8% interest annual charge is **\$125.23**

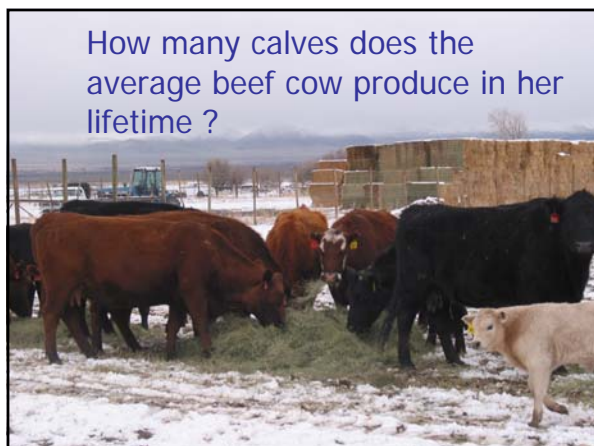
### What affects cow depreciation ?

- Spread between replacement or purchase cost and salvage value
  - **The greater the spread, the higher the annual depreciation charge**

*If a cow produces five calves...*  
*And the spread is \$500, annual cost is \$100*  
*But if the spread is only \$300...*  
*.... The annual cost is only \$60*

### What affects cow depreciation ?

- **Spread between replacement or purchase cost and salvage value**
- Cow longevity
  - The more calves a cow produces in her lifetime, the more units over which to spread depreciation cost



### Not as many as you think !

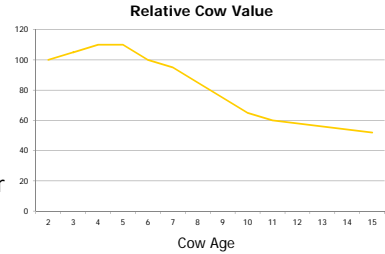
<u>% retained in herd</u>	<u>Number of calves in lifetime</u>
95%	13.3
90%	6.5
85%	4.2
<b>80%</b>	<b>3.1</b>
75%	2.4

### Effect of cow longevity on annual ownership cost

% retained in herd	Number of calves in lifetime	Annual cow-cost with interest	Annual interest cost	Total interest	Lifetime income	Lifetime margin over cow cost
95%	13.3	\$62.43	\$24.84	\$330.35	\$ 6,650	\$ 5,820
90%	6.5	\$101.62	\$24.70	\$160.54	\$ 3,250	\$ 2,589
85%	4.2	\$144.82	\$25.78	\$108.26	\$ 2,100	\$ 1,492
80%	3.1	\$188.45	\$27.16	\$84.21	\$ 1,550	\$ 966
75%	2.4	\$237.18	\$28.84	\$69.22	\$ 1,200	\$ 631

### Cow value X Age

A cow that breeds every year does not usually drop in value below replacement price until after 5-6 years of age



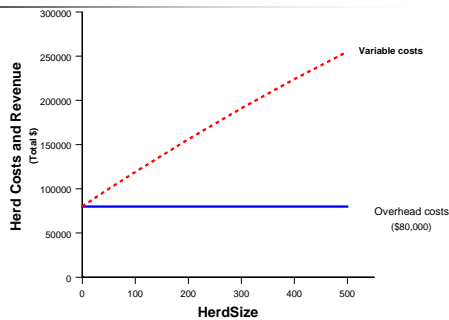
### What are variable costs ?

- Costs that change as production level changes
  - Livestock purchase
  - Feed
  - Vet
  - Fuel
  - Machine repair & maintenance
  - Trucking
  - Etc.

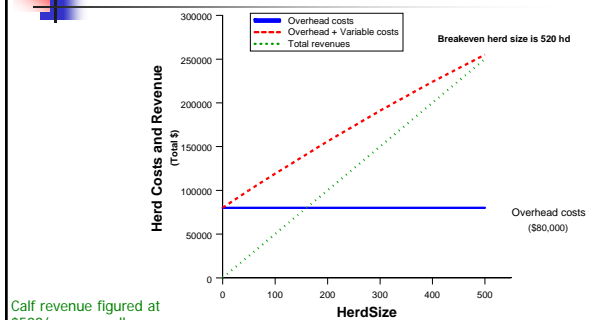
### There is an economy of scale

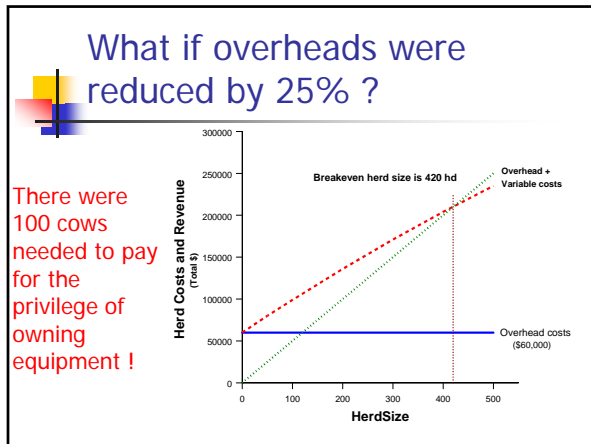
- For this example variable costs are:
  - 50 cows \$400
  - 100 " \$390
  - 200 " \$380
  - 300 " \$370
  - 400 " \$360
  - 500 " \$350

### B & H Ranch example: Overhead plus variable costs



### B&H Ranch example: Total costs and revenues





### How can we reduce overheads ?

- Get out of farming

*"The only bad thing about ranching is farming" ... Gregg Simonds*

*"The most profitable ranches in the Ranching for Profit Executive Link ranches are those with no farming operations" ... Dave Pratt, RMC Inc.*

- ### Alternatives to owning equipment
- Hire custom operator
  - Lease equipment
  - Let the livestock do more of the harvesting themselves
    - Extend the grazing season
    - Managed grazing

- ### How can we reduce overheads ?
- Get out of farming
  - Increase land use efficiency
- Management-intensive Grazing is really about managing time and space

- ### What does it cost to have pasture?
- Land
  - Seed
  - Fertilizer
  - Fence
  - Stock water
  - Weed control
  - Irrigation
- 

*Every acre of pasture or range has a base cost associated with it*

*The more pounds of beef it produces, the lower the cost per pound !*

*As long as the increase comes from management*

### The impact of management

- Set stock pivot on next ranch
  - 120-140 cow-days/acre (1.9 ton/A)
- This pivot 1997-2004 w/ 3-5 day GP
  - 185 cow-days/acre (2.7 ton/A)
- This pivot in 2009 w/ 1-2 day GP
  - 318 cow-days/acre (4.7 ton/A)
  - The three best paddocks > 400 CDA

### How can we reduce overheads ?

- Get out of farming
- Increase land use efficiency
- Increase labor efficiency

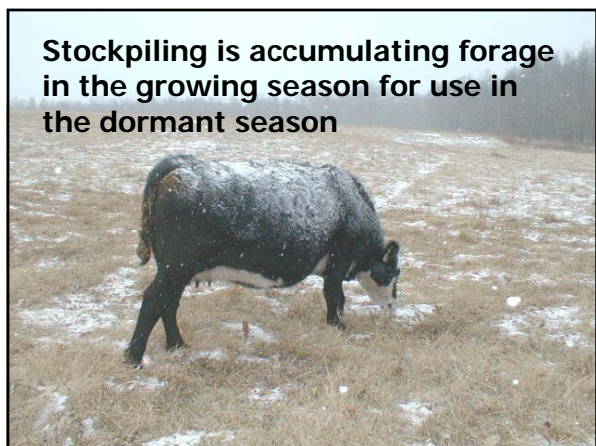
### What if variable costs were reduced by \$100/cow ?

Half the cow herd is now working towards making a profit !

Herd Size (hd)	Overhead costs (\$)	Overhead + Variable costs (\$)	Total revenues (\$)
0	60,000	60,000	0
100	60,000	100,000	50,000
200	60,000	140,000	100,000
265 (Breakeven)	60,000	160,000	160,000
300	60,000	180,000	200,000
400	60,000	220,000	300,000
500	60,000	260,000	400,000

### How might variable costs be reduced by \$100 /cow ?

- Let the cows harvest more of their own feed





**Labor requirements for conventional hay feeding**

- Feeding hay to 300 cows requires ten 1000-lb bales daily
- Requires 40 to 120 minutes daily
- As herd size increases, time requirement increases
- Requires daily equipment operation

**What about labor for grazing ?**

- Use 1-3 day strip grazing for stockpiled pasture or swaths



**Strip grazing enhances rumen function in winter grazing**

- Cattle with free access will selectively graze best forage and leave you will lots of low digestibility residual
- Strip grazing forces cattle to consume the good, the bad, and the ugly all together

**What about labor for grazing ?**

- Use 2-3 day strip grazing for stockpiled pasture or swaths
- Use the right tools to minimize time requirement

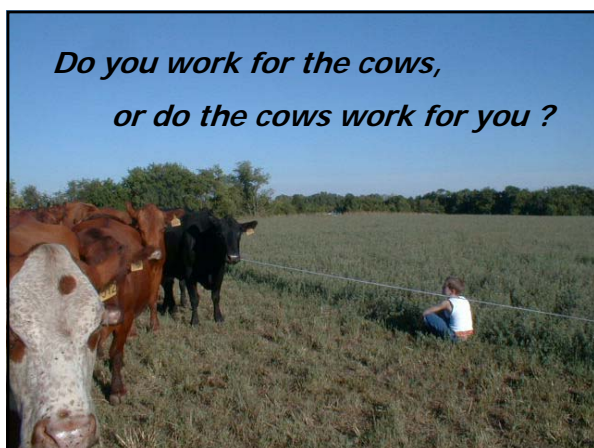


**What about labor for grazing ?**

- Use 2-3 day strip grazing for stockpiled pasture or swaths
- Use the right tools to minimize time requirement
- 50 cows or 500 cows takes about the same amount of labor

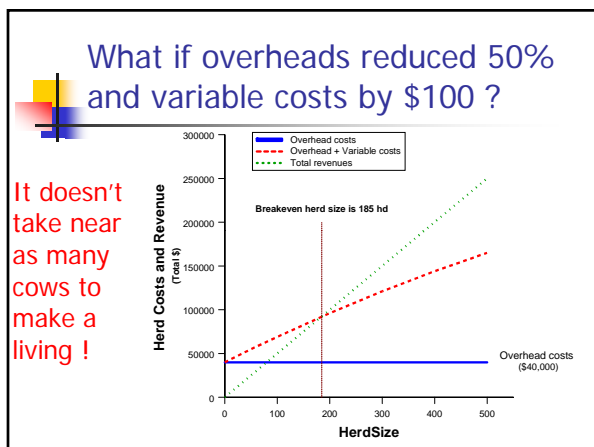
**What about labor ?**

- The livestock are ranch employees
- Make them work harder



**What is a cow's job description ?**

- Rustle her own grub
- Find the best bite of feed she can
- Deliver a live calf every 12 months
- Wean a healthy calf every year
- Stay healthy without a lot of fuss
- Stay in your herd at least 10 years
- Enjoy the weather where she lives



- BEEF Magazine survey: What were the high labor demands for cow-calf?**
- Making hay
  - Feeding hay
  - Nursemaiding cows
  - Fence building and maintenance
  - Irrigating

- What is the expected labor requirement for a cow herd ?**
- Extension service says 300-400 cows / FTE
  - Highly successful ranches in US >800 cows
  - Australian national standard 1500 cows
  - Highly successful Australian stations 3000
- What do you do?**

- Managing cow cost summary:**
- You can't manage costs until you know what they are.
    - A good record system is critical
      - Overheads
      - Operating

**Managing cow cost summary:**

- You can't manage costs until you know what they are.
- Attack the big dollar items
  - Winter feed
  - Cow depreciation
  - Labor
  - Land

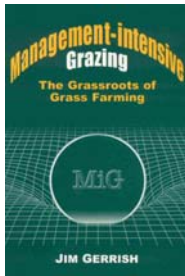
**Managing cow cost summary:**

- You can't manage costs until you know what they are.
- Attack the big dollar items
- Only own what you absolutely need
  - Find more ways for the livestock to do more of the work
  - You can hire most equipment jobs for less cost than you can do it yourself

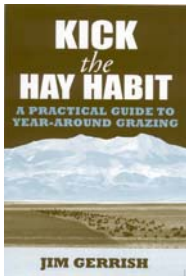
**Managing cow cost summary:**

- You can't manage costs until you know what they are.
- Attack the big dollar items
- Only own what you absolutely need
- Every day spent grazing is money saved
  - Cost advantage of grazing over hay feeding is frequently >\$1 / day

**Books by Jim Gerrish**



**\$31**



**\$27**

**Both for \$55**

**Contact information**

- Jim Gerrish
- [JRGerrish@americangrazinglands.com](mailto:JRGerrish@americangrazinglands.com)
- 208-876-4067
- <http://www.americangrazinglands.com>