Putting Profit back in Ranching: Managing Cow Costs

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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 !

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.

Estimated average cow costs - 2007

Variable input		Annual cost
Winter feed	$	237.96
Salt & Mineral	$	5.54
Pasture	$	140.00
Veterinary & medicine	$	15.59
Breeding fees	$	15.00
Trucking & marketing	$	15.65
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Utilities & miscellaneous	$	20.87
Custom work	$	6.70
Operating interest	$	18.59
Paid labor & benefits	$	15.11
Unpaid labor	$	48.65
Total	**$**	**570.90**

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 !

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%

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 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 should be less than 50%
- Target should be about 33%

Profit = Income – Costs: Understanding overhead ratio

- Calculating overhead ratio
  - If total costs are $580/cow and operating costs are $350 and overheads account for $230 ….
  - Overhead ratio is 40% ($230/$580)…
    ….this ranch has a chance of surviving

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 %

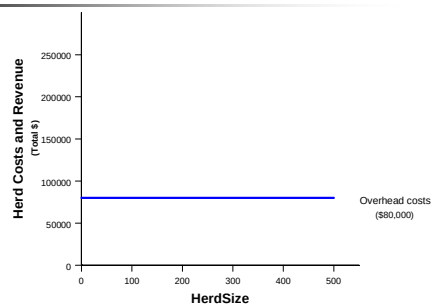
What are overhead costs ?

- 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 $10,000
- Total overheads $80,000

Overhead costs for B & H Ranch



What is the expected labor requirement for a cow herd ?

- Extension service says 300-400 cows / FTE
- Highly successful ranches in US 700 cows
- Australian national standard 1500 cows
- Highly successful Australian stations 3000

What do you do?

These 3600 healthy, happy cows have received 90 days of hay in the last 37 years.

What equipment do you really need to own ?

Overcapitalization in equipment & facilities breaks many ranches

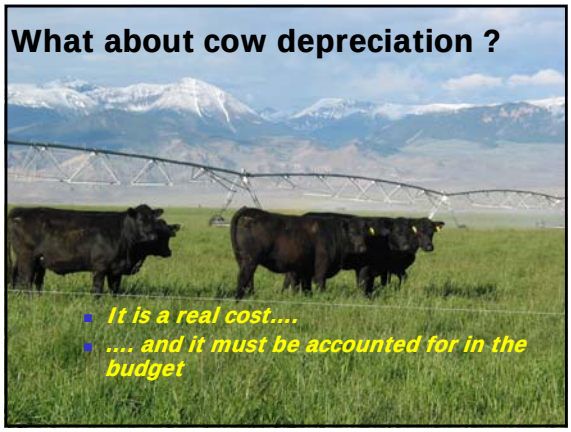
Equipment depreciation is a real cost

… and must be accounted for in the budget

Facility depreciation is a real cost

- *…. and it must be accounted for in the budget*

What about cow depreciation ?



- *It is a real cost….*
- *…. and it must be accounted for in the budget*

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 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

How many calves does the average beef cow produce in her lifetime ?

Not as many as you think !

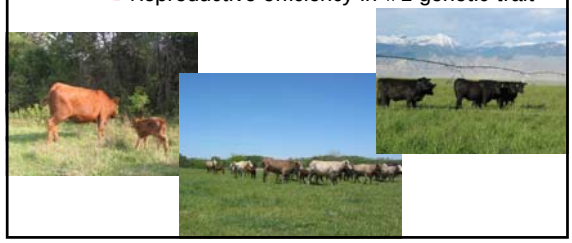
% retained in herd	Number of calves in lifetime
95%	13.3
90%	6.5
85%	4.2
80%	3.1
75%	2.4

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

How do you increase cow longevity ?

- Select for functional type of cattle
  - Reproductive efficiency in #1 genetic trait



How do you increase cow longevity ?

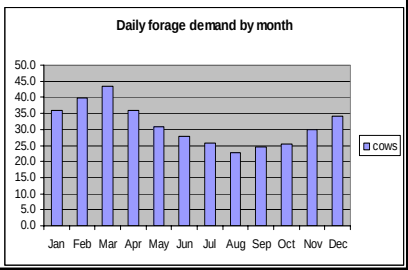
- Select for functional type of cattle
  - Reproductive efficiency in #1 genetic trait
  - **Selection for high milk EPD or high REA is selection against fertility**

How do you increase cow longevity ?

- Select for functional type of cattle
- Appropriate nutrition for stage of production

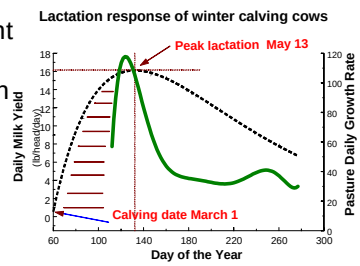
Cow nutritional requirements are seasonal: January calving

- Energy demand is highest at peak lactation
- 30 to 90 days post-calving



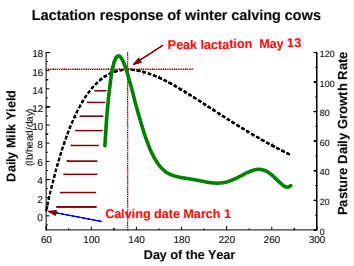
Lactation and energy demand: Winter calving

- Hard to maintain weight or gain weight during lactation without high quality feed



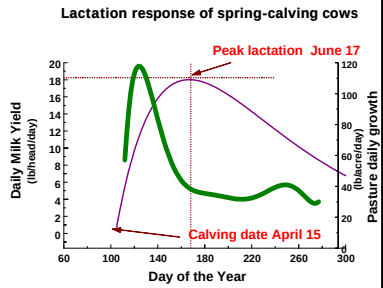
Lactation and energy demand: Winter calving

- Extra energy required for lactation and gain typically comes from harvested forage with winter calving



Lactation and energy demand: Spring calving

- Extra energy required for lactation and gain comes from fresh pasture with spring calving



How do you increase cow longevity ?

- Select for functional type of cattle
- Appropriate nutrition for stage of production
- Minimize stress
  - Low stress handling techniques
  - Basic health program

What are variable costs ?

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

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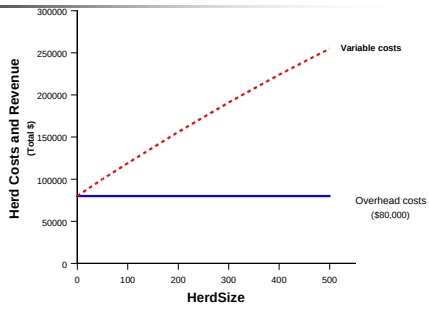
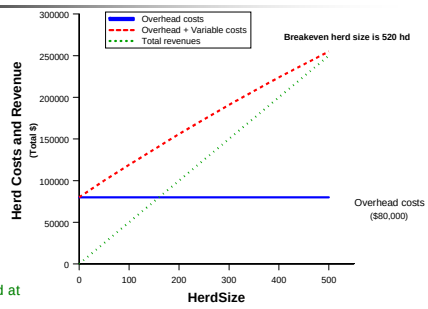
There is an economy of scale

- 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



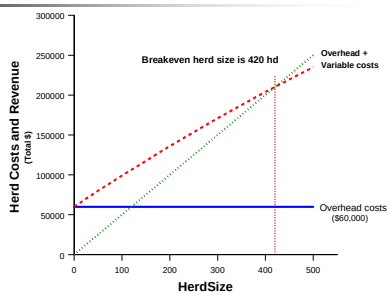
B&H Ranch example: Total costs and revenues



Calf revenue figured at $500/cow annually

What if overheads were reduced by 25% ?

There were 100 cows needed to pay for the privilege of owning equipment !



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 ?

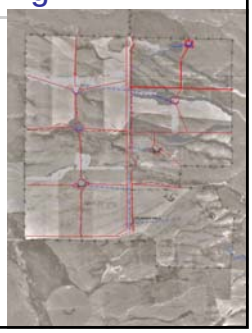
- Get out of farming
- Increase land use efficiency

Management-intensive Grazing is really about managing space and time

Water development and subdivision fencing

This is a 2500 acre range unit split into 160 acre pastures for winter grazing

800 cows on each paddock for 5 to 7 days

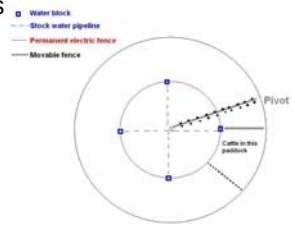


2500 acre range unit

- **2004-5 with single water source and no subdivision fence: 450 cows for 40 days**
- **2005-6 with stock water development but no subdivision: 800 cows for 45 days**
- **2006-7 with subdivision 900 cows 80 days**

Water development and subdivision fencing

- Center pivot for flexible paddocks

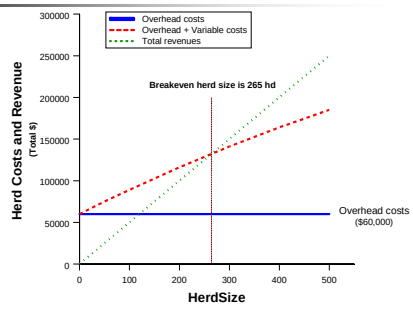


How can we reduce overheads ?

- 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 !



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

- Let the cows harvest more of their own feed

Swath grazing

- **Alberta research show $30-$40 savings per ton fed**
- **Our experience has been $45-50 savings/ton fed**

Winter annual pastures planted in mid-summer can supply 200+ cow-days / acre.....

..... that can be carried forward into winter

..... that can be carried forward into winter

... Sept thru Dec 2004, this field produced 292 cow-days/acre @ 39¢ per day

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 2-3 day strip grazing for stockpiled pasture or swaths

Management needed to achieve target utilization rate

Utilization rate	Stockpiled pasture	Winter annual	Hay feeding
80 %	1-day strip graze		Ring feed 2-day
70 %	3-day strip graze		Ring feed 3-day Unroll daily
60 %	7-day strip graze		Ring feed 5-day
50 %	14-day strip graze		Unroll 2-day
40 %	Set stock		Cows are in the hay yard!

Effect of utilization rate on daily forage cost for stockpiled pasture, winter annual forage, and hay feeding

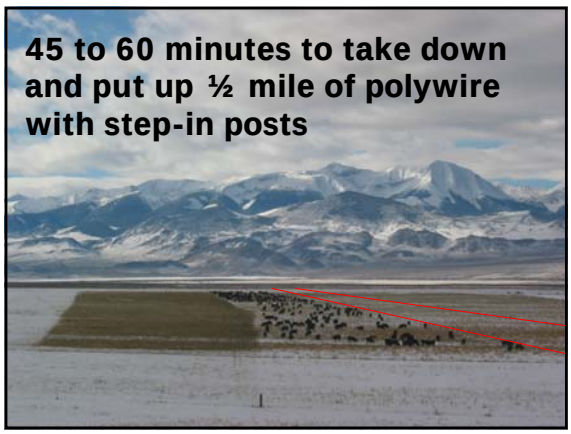
Utilization rate	Stockpiled pasture	Winter annual	Hay feeding
80 %	$0.17	$0.53	$0.85
70 %	$0.19	$0.61	$0.97
60 %	$0.23	$0.71	$1.13
50 %	$0.27	$0.85	$1.36
40 %	$0.34	$1.06	$1.69

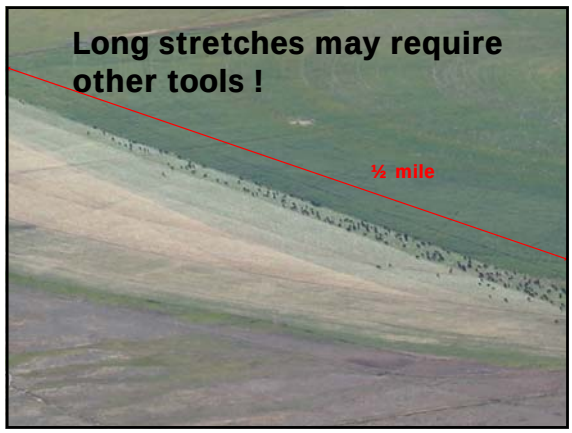
Strip grazing enhances rumen function in winter grazing

- **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**

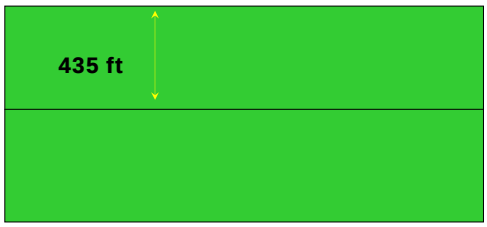
What about labor for grazing ?

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





Making allocation easy



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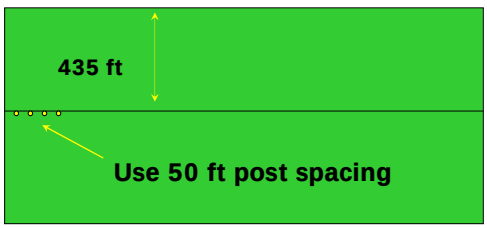

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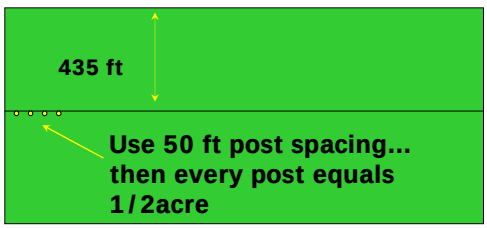


What about labor for grazing ?

- 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 were the high labor demands ?

- 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 700 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
  - Land
  - Labor

Managing cow cost summary:

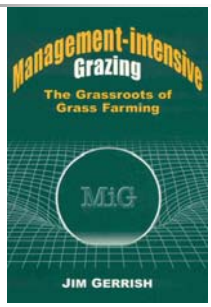
- You can't manage costs until you know what they are.
- Attack the big dollar items
- Only own what you absolutely need
  - You can hire most equipment jobs for less cost than you can do it yourself
  - Find more ways for the livestock to do more of the work

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

Management-intensive Grazing: The Grassroots of Grass Farming

- Check - $31
- Cash - $30



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