
Grazing in Missouri & Idaho:
Similarities & Differences
Jim Gerrish
American GrazingLands Services LLC
May, Idaho


Where you might know me from....
UNIVERSITY OF MISSOURI COLUMBIA
COLLEGE OF AGRICULTURE FOOD AND NATURAL RESOURCES
FORAGE SYSTEMS RESEARCH CENTER
CORNETT FARM
ESTABLISHED 1965
22 years, 3 months, 0 days


We did little grazing studies


We did big grazing studies....


Fencing demo at Grazing School....


Jim Gerrish
actually working !?!


Where we came from....
240 A grass farm in north Missouri
Cattle & sheep
70-80 permanent paddocks
25+ miles of electric fence
White tail deer


We had cool-season grass-legume mixtures....


We had native tall grass prairie...


... that we even burned sometimes


Eventually we made it to year-around grazing....
... and then we sold the farm!


Where we moved to....

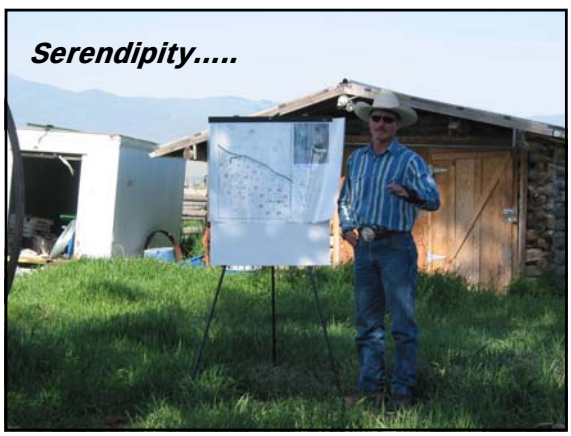
What we moved for....

What we didn't plan to do....

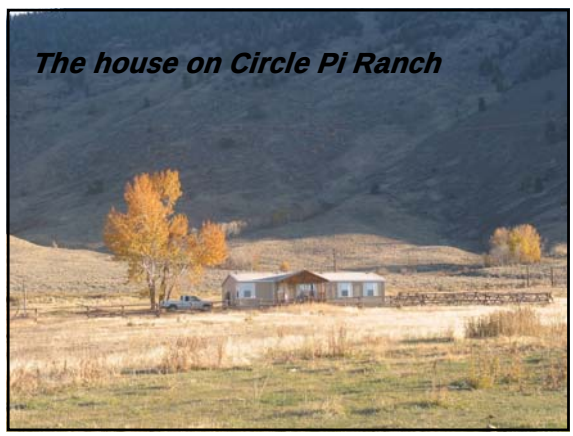
Our new home.....

.... needed a little work....

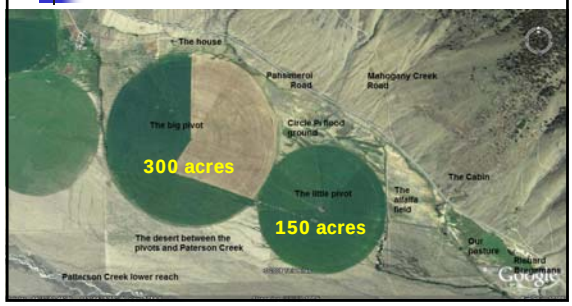
Serendipity.....



The house on Circle Pi Ranch

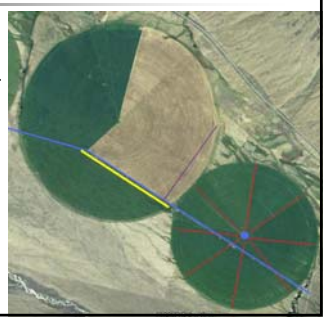


Layout of where we live and the pivots we manage



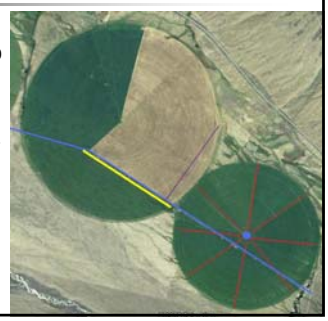
How things worked when we got there

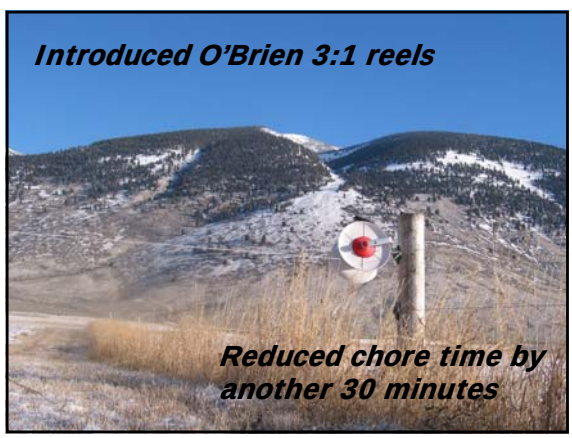
- Grazed in pie pieces
- Water at pivot center
- 1600 ft fence moves
- Pivot reversed every time it came to occupied paddock

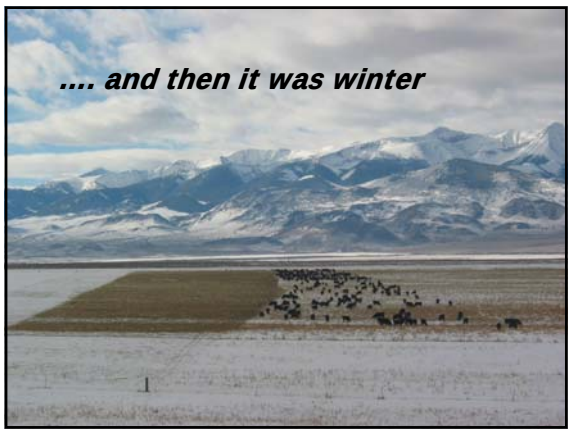


How things worked when we got there

- Straight-crank jumbo reels
- Fiber rod posts
- Every move was a 2-hour chore
- Had to set pivot program with each cattle move

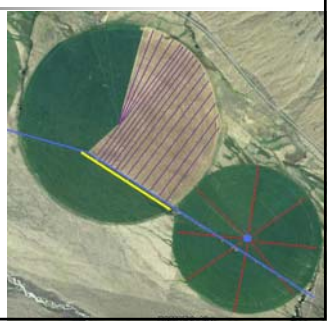




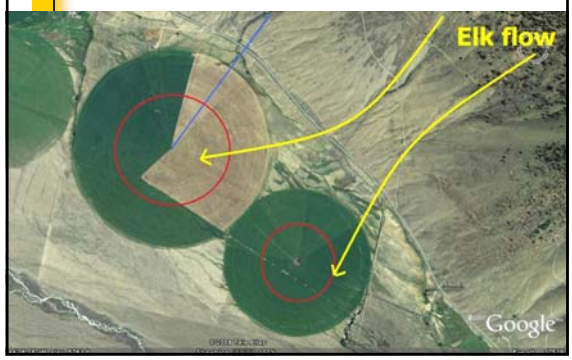


Winter grazing challenges

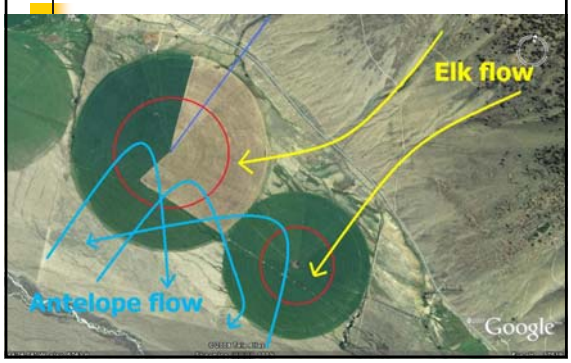
- ½ mile to water
- Heavy elk pressure
- Antelope pressure
- Deer pressure
- Temperatures down into -15 to -25F many nights



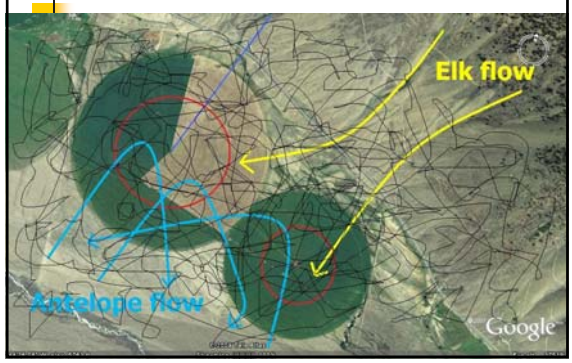
Wildlife flow patterns: Elk

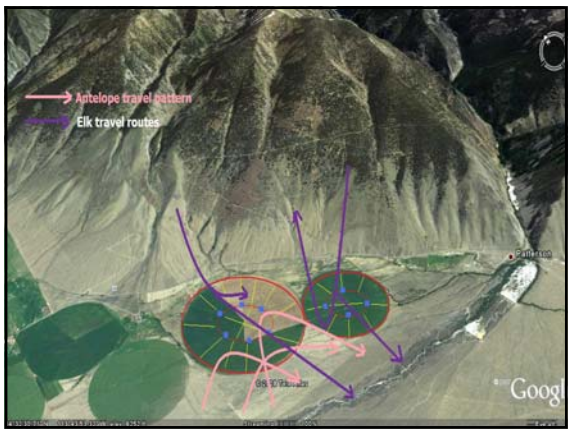


Wildlife flow patterns: Antelope



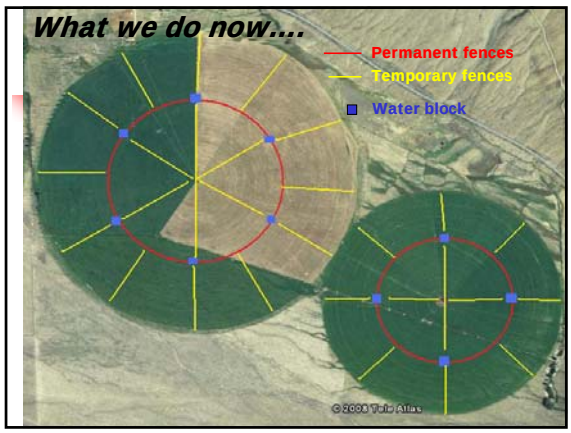
Wildlife flow patterns: Deer




Antelope travel pattern
Elk travel routes

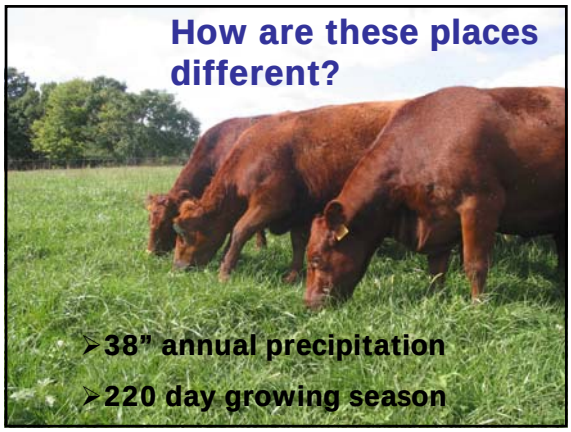

Switched to polytape for better visibility with fast moving antelope
…. immediately solved problem

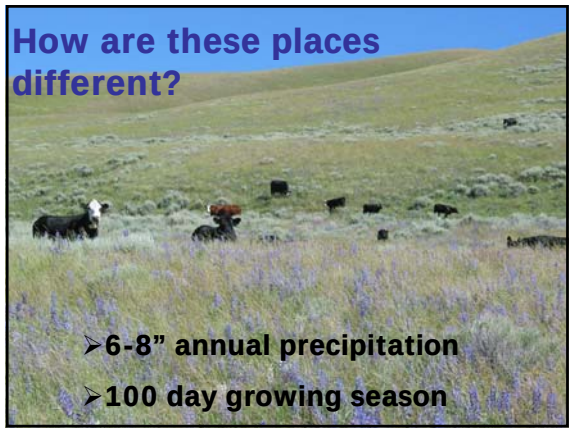

Can elk be trained to electric fence ?

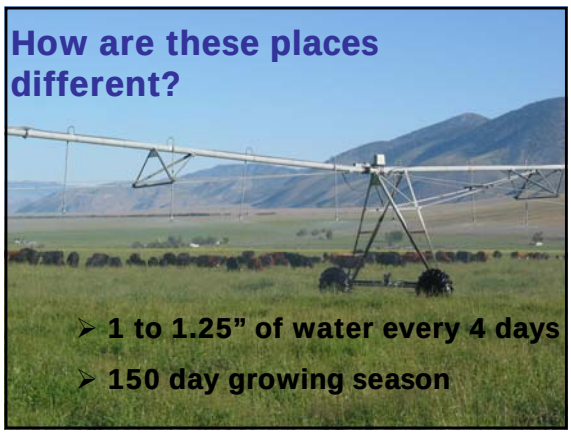


Circle Pi range operation

- 600-700 pairs
- 100-120 days
- 7-10 day grazing periods
- 12 – 14 month rest periods
- 120,000 to 140,000 acres on BLM & Forest Service



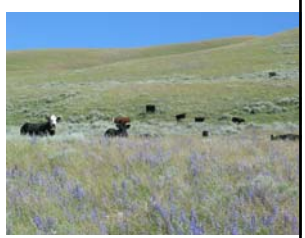




How are they different?

Rangelands:

- Native species
- No fertilizer
- Low precipitation
- Lower forage yield
- Often on rough ground



How are they different?

Pastures:

- Introduced species
- May use fertilizer
- May be irrigated
- Higher forage yield
- Often on farm ground

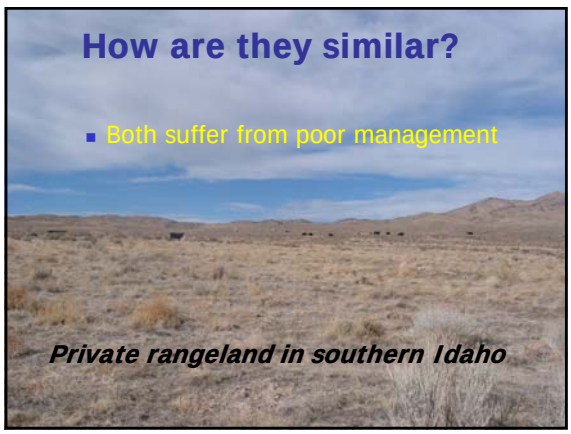
How are they similar?

- Can suffer from poor management

Irrigated pasture in central Idaho

How are they similar?

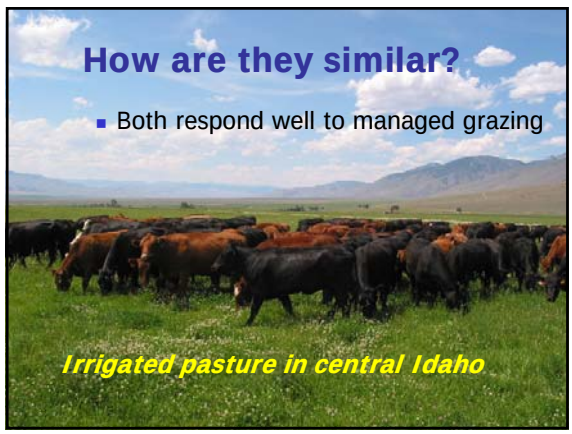
- Both suffer from poor management



Private rangeland in southern Idaho

How are they similar?

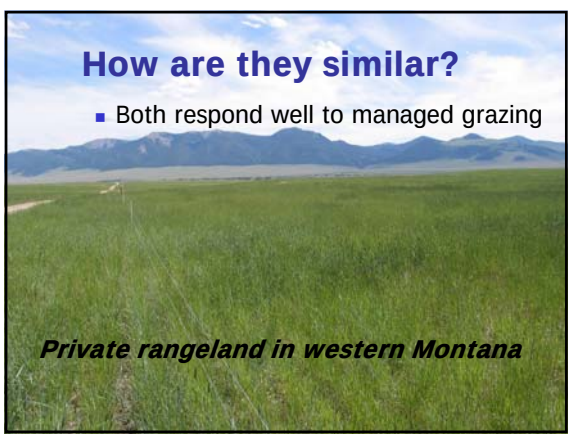
- Both respond well to managed grazing



Irrigated pasture in central Idaho

How are they similar?

- Both respond well to managed grazing



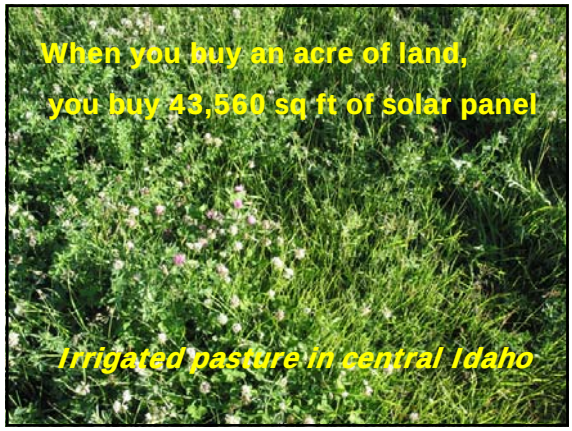
Private rangeland in western Montana

This is a talk I frequently give at conferences

MiG Basics: Getting the most out of your pastures

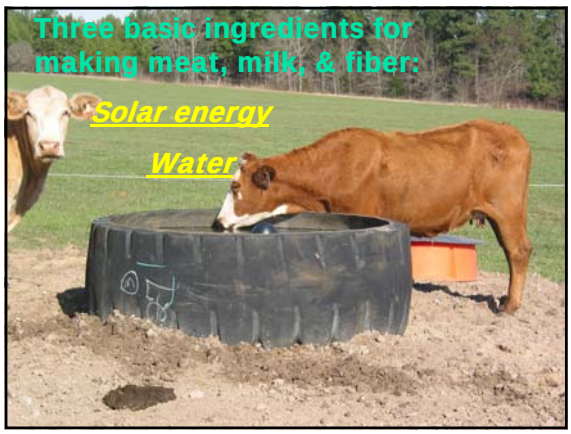
Jim Gerrish
American GrazingLands Services
May, Idaho

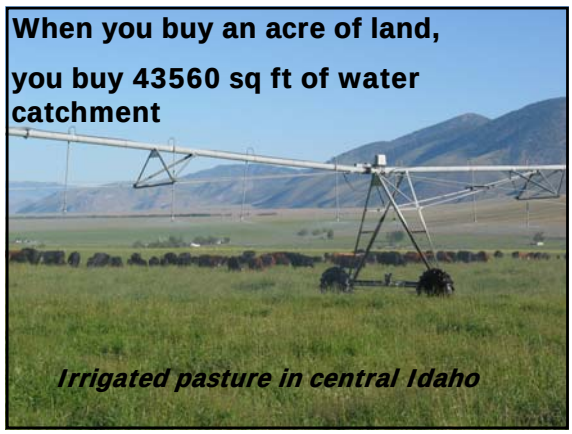

Three basic ingredients for making meat, milk, & fiber:
Solar energy


When you buy an acre of land,
you buy 43,560 sq ft of solar panel
Irrigated pasture in central Idaho


When you buy an acre of land,
you buy 43,560 sq ft of solar panel
Native rangeland in western Montana


How good is your solar panel ?

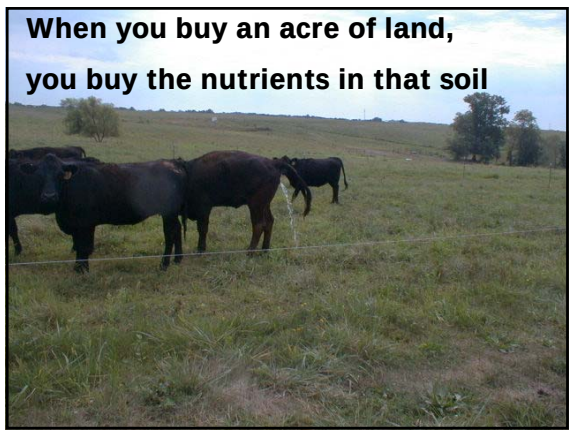

Three basic ingredients for making meat, milk, & fiber:
Solar energy
Water


When you buy an acre of land,
you buy 43560 sq ft of water catchment
Irrigated pasture in central Idaho


When you buy an acre of land,
you buy 43560 sq ft of water catchment
Nebraska Sand Hills


How effective is your water cycle ?


Three basic ingredients for making meat, milk, & fiber:
Solar energy
Water
Soil nutrients


When you buy an acre of land,
you buy the nutrients in that soil


How efficient is your nutrient cycling ?
>90% of what goes in the front comes out the back end


How efficient is your nutrient cycling ?
>90% of what goes in the front comes out the back end

Basic objectives of grazing management

- Build a better solar panel
  - Maintain ground cover
  - Increase species diversity
  - Appropriate post grazing residual

Basic objectives of grazing management

- Harvest more of what you're already growing
  - Timeliness of harvest
    - Frequent harvests on irrigated or high natural rainfall pastures
    - Season of use on rangelands
  - Grazing distribution across the landscape
    - Stock water availability
    - Salt & mineral supplementation
    - Herding

Basic objectives of grazing management

- Keep pastures from getting out of control
  - Spring management on pastures
  - Are weeds & brush 'out of control'?
  - Decadence of range plants?

Basic objectives of grazing management

- Graze as many days of the year as you can
  - Almost always lowest cost feed
  - Alternate seasonal use of pastures
  - Need to match animal demands to peaks and valleys of forage supply

What are the real differences?

- **Time & Space**

Time basis of the grazing period: Plant perspective

- Avoid the 'second' bite
  - Reduces leaf area available for photosynthesis
  - Affects overall plant vigor

Grazing and root growth

- Repeatedly grazing the plant top short produces shortened root growth

Plant Vigor-Leaves and Roots

Caring for the Green Zone, Riparian Areas and Grazing Management
Alberta Riparian Habitat Management Project, "Cows and Fish Project"

Figure 7. Effect of leaf removal on root growth:

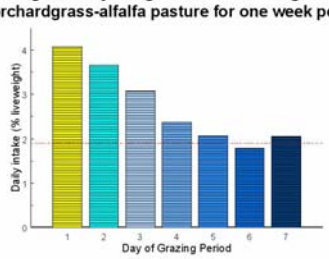
% of roots not growing 7 days after harvest

Percent leaf removal	Rhodes grass (single clipping)	Rhodes grass	Smooth bromegrass	Kentucky bluegrass
		(repeated clipping)		
10	0	0	0	0
20	0	0	0	0
30	0	0	0	0
40	0	0	0	0
50	2	8	13	38
60	50	80	36	54
70	78	97	76	77
80	100	100	81	91
90	100	100	100	100

Time basis of the grazing period: Animal perspective

Both quantity and quality of available forage decline with each additional day on the pasture

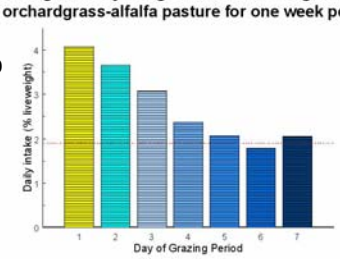
Change in daily forage intake for cows grazing orchardgrass-alfalfa pasture for one week period



Time basis of the grazing period: Animal perspective

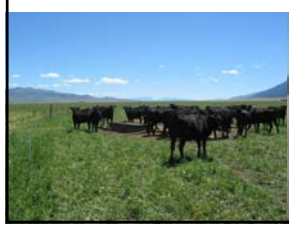
Solutions are to move them very frequently or very infrequently

Change in daily forage intake for cows grazing orchardgrass-alfalfa pasture for one week period

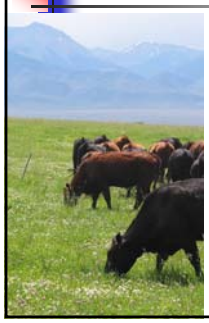


Is managed grazing more critical in summer or winter?

What is the alternative feed source?



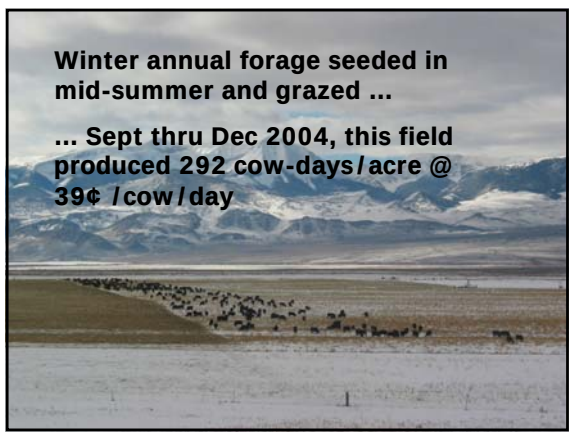
In the summer it's just another bite of cheap grass



Pasture

or

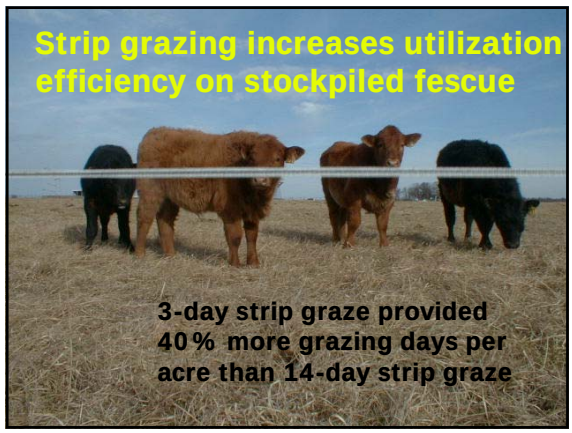
Range?



The same ranch had a hay feeding cost on other cows of $1.33 per day

In winter 07-08 our hay feeding cost was $2.35/day

Strip grazing increases utilization efficiency on stockpiled fescue



3-day strip graze provided 40% more grazing days per acre than 14-day strip graze

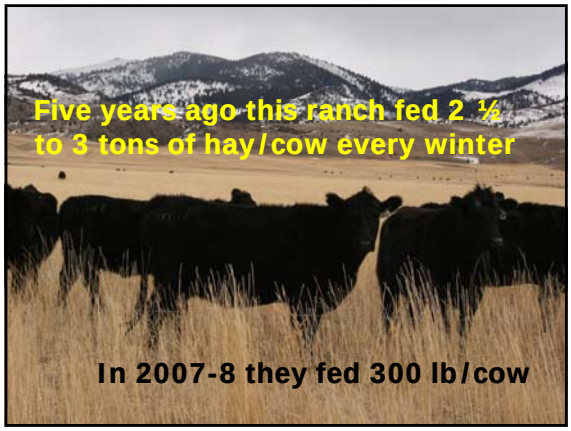
Does managed grazing pay on winter rangeland?

What will this cow eat the first day?

What will she eat on the 80th day?

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**
- **2007-8 with stock water, subdivision, & experience: 1200 cows for 100 days.**



Simple grazier's math

- 900 cows
- Add 40 more days of grazing
- Grazing saves $1/day
- Annual saving is $36,000

➢ **What did the fence cost ?**

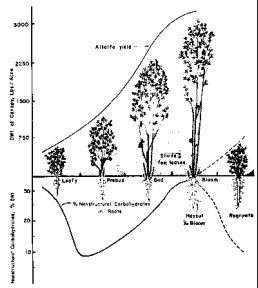
➢ **$33,046.81**

Time basis of the rest period: Plant Perspective

- Plants need to reach a positive CHO balance

Alfalfa model of CHO reserves

- Plants need to reach a positive CHO balance
- How many pasture or range plants really follow this pattern?



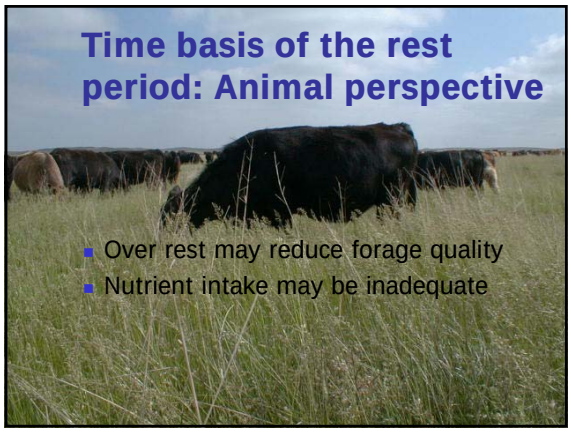
Some legumes need to go to seed periodically

20 years of rest-rotation vs. long term set stocking

Time basis of the rest period: Animal perspective

- Under resting yields low availability
- Intake restricted by small bite size

Time basis of the rest period: Animal perspective



- Over rest may reduce forage quality
- Nutrient intake may be inadequate

Joe Miller at Salmon ID stockpiles full season growth for winter grazing

Why isn't forage quality an issue for Joe?

- **Daily move at high stock density**
- **Summer calving**

3600 Montana range cows fed hay only 90 days in 37 years

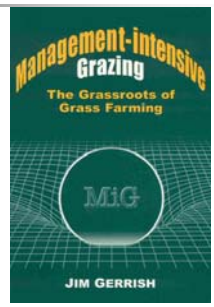
- **Full season stockpile of native meadow**
- **3-week grazing periods**

Summary

- Lots of differences
- Lots of similarities
- Individual management choices make MiG work across a wide range of environments

Management-intensive Grazing: The Grassroots of Grass Farming

- Check - $31
- Cash - $30



Contact information

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