Grazing in Missouri & Idaho: Similarities & Differences

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May, Idaho

Where you might know me from….

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

Where we moved to....

Eventually we made it to year-around grazing....

... and then we sold the farm!
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
The view from the front porch

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

Introduced O’Brien Step-in Posts

- Reduced chore time by 45 minutes

Introduced O’Brien 3:1 reels

- Reduced chore time by another 30 minutes
... and then it was winter

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

Wildlife flow patterns: Elk

Wildlife flow patterns: Antelope

Wildlife flow patterns: Deer
Switched to polytape for better visibility with fast moving antelope... immediately solved problem

Can elk be trained to electric fence?
What we do now...

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 these places different?
- 38” annual precipitation
- 220 day growing season

How are these places different?
- 6-8” annual precipitation
- 100 day growing season

How are these places different?
- 1 to 1.25” of water every 4 days
- 150 day growing season

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

How are they similar?
- Both suffer from poor management

How are they similar?
- Both respond well to managed grazing

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?**

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 43,560 sq ft of water catchment.

\textit{Nebraska Sand Hills}

How effective is your water cycle?

Three basic ingredients for making meat, milk, and fiber:

- \textit{Solar energy}
- \textit{Water}
- \textit{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.

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>90\% of what goes in the front comes out the back end.
Three basic ingredients for making meat, milk, & fiber:

- Solar energy
- Water
- Soil nutrients

Managing these resources is the only source of new wealth in ranching.

The right animal to be the factory!

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

  **Time basis of the grazing period: Animal perspective**
  - Solutions are to move them very frequently or very infrequently

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**Grazing and root growth**

- Repeatedly grazing the plant top short produces shortened root growth

**Plant Vigor-Leave 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:**

<table>
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<th>Percent leaf removal</th>
<th>Rhodes grass (single clipping)</th>
<th>Rhodes grass (repeated clipping)</th>
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- Change in daily forage intake for cows grazing orchardgrass-alfalfa pasture for one week period

- Change in daily forage intake for cows grazing orchardgrass-alfalfa pasture for one week period
Diet here is very consistent from one day to the next.

It’s the in-between rotations where we have problems.

Roller-coaster diets give inconsistent performance problems.

In the summer it’s just another bite of cheap grass.

Is managed grazing more critical in summer or winter?

What is the alternative feed source?

Pasture or Range?

Winter annual forage seeded in mid-summer and grazed ...

... Sept thru Dec 2004, this field produced 292 cow-days/acre @ 39¢ / cow/day.
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.
Five years ago this ranch fed 2½ to 3 tons of hay/cow every winter. In 2007-8 they fed 300 lb/cow.

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?

Do some range plants need to go to seed periodically?

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

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