The Art and Science of Management-intensive Grazing

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Why Management-intensive Grazing?

Distant Hills
The distant hills call to me.
Their rolling waves seduce my heart.
Oh, how I want to graze in their lush valleys.
Oh, how I want to run down their green slopes.
Alas, I cannot.
Damn the electric fence!
Damn the electric fence!
Thank you.
Why Management-intensive Grazing?

Cows “intensively graze” by nature, Only you can “intensively manage”
Why Management-intensive Grazing?

We place emphasis on the word "MANAGEMENT" when we speak of management-intensive grazing (MiG) to make it clear that it is the management aspect of the system that is being intensified, not simply the grazing.
Why Management-Intensive Grazing?

What do you see?

T-Bones or Salad

Do you raise beef or grow grass?
What is Management-intensive Grazing?

A goal driven approach to managing grassland resources for long term sustainability
You need to set some goals!

Goals should take into consideration the following:
- Lifestyle
- Finances
- Resource conditions
- Production strategies
Fundamentals of Successful Grazing Management

1st goal

Meet the nutritional needs of the livestock from standing pasture

Why?

Cause it’s the cheapest!
1. Meet the nutritional needs of the livestock from standing pasture

2. Optimize pasture yield, quality, and persistence
The Yield - Quality Compromise

- Protein/energy
- Fiber/lignin
- Availability
- Optimum grazing

Available Forage (lb/acre)

Days of Rest

IVDMD (%)
HOW GRASS GROWS

95% of plant food is made from sunlight
Leaves are Food Factories

5% of plant food is taken from the soil
Roots gather raw materials (water, nitrates, minerals) which are converted into plant food by the leaves

OVERGRAZING WILL DESTROY BOTH THE LEAVES AND THE ROOTS!
Plant Growth and Management: Plant Persistence

- not too low—keep growing points
- not too low—good photosynthesis
- not too low—keep roots growing

**Between grazing periods:** schedule rest periods
allow photosynthesis
allow leaves to re-grow
allow “vegetative reproduction”

![Diagram depicting paddock management](image)
Fundamentals of Successful Grazing Management

1. Meet the nutritional needs of the livestock from standing pasture

2. Optimize pasture yield, quality, and persistence

3. Maintain or enhance the natural resource base
Maintain or enhance the natural resource base

- Soils
- Water
- Plant community
- Wildlife habitat
Infiltration and Runoff

3 inches of rainfall in 90 minutes, 10% slope, silt loam soil
(University of Nebraska & USDA-SCS, 1937)

- Excellent pasture: 95% ground cover
- Fair pasture: 75% ground cover
- Poor pasture: 50% ground cover

Soil loss (tons/A)  Percent runoff
8  7  6  5  4  3  2  1  0  10  20  30  40  50  60  70  80
Fundamentals of Successful Grazing Management (cont.)

1. Meet the nutritional needs of the livestock from standing pasture

2. Optimize pasture yield, quality, and persistence

3. Maintain or enhance the natural resource base

4. Integrate appropriate technology and knowledge into a practical/profitable system
Fundamentals of Successful Grazing Management (cont.)
Fundamentals of Successful Grazing Management (cont.)

Integrate appropriate technology and knowledge into a practical/profitable system

Not only fence and water but... *a management system*

Plant species/plant health
Soil health/fertility
Nutrient management
Livestock nutrition/supplementation
Genetics
Herd health
Marketing

Use the tools that work for your operation
We have the tools, but what’s the recipe?
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy

Only green, growing leaves capture solar energy, and make cattle feed.
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat
(cont.)

1. Solar energy

Grow more leaves through:

1. Proper stocking rate – Find a balance!
1. Solar energy
   Only green, growing leaves capture solar energy, and make cattle feed.
   Grow more leaves through:
   1. Proper stocking rate
   2. Species diversity
Diversity.
-Does it all have to be in one particular paddock?

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<tbody>
<tr>
<td>Fescue, Orchard grass, White clover, Lespedeza, Bermuda, Crabgrass</td>
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<tr>
<td>Fescue, White clover</td>
<td>Bermuda grass</td>
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<tr>
<td>Orchard grass, Red Clover</td>
<td>Bermuda grass</td>
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<td>Fescue, Lespedeza</td>
<td>Crabgrass, White clover</td>
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<tr>
<td>Orchard grass, White clover</td>
<td>Crabgrass, White clover</td>
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What’s easier for you to manage?
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy
   Only green, growing leaves capture solar energy, and make cattle feed.
   Grow more leaves through:
   1. Proper stocking rate
   2. Species diversity
   3. Rest period
How much rest do additional paddocks provide?

% Rest

Number of paddocks
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy

2. Water
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy
2. Water
   - Water for the pasture
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy
2. Water
   - Water for the pasture
   - Water for the livestock
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy
2. Water
3. Soil nutrients
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy

2. Water

3. Soil nutrients

Something bought in town?
   - do you need it
   - are you soil testing?
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy

2. Water

3. Soil nutrients

Something bought in town,

or an on-farm resource?
Basic Ingredients for Making Beef, Milk, Wool, Lamb, Goat (cont.)

1. Solar energy

2. Water

3. Soil nutrients

4. Harvesters (grazing animals)
Secret Ingredients

Flexibility
-increase or decrease rotations, harness forage diversity, don’t get stuck in a rut

Creativity
-Experiment with new ideas, test new technologies, solve problems, find inexpensive methods

Desire
-Search out new research, walk pastures (don’t drive), keep records and evaluate them
Quote:

- If a farmer divided his land into 15 - 20 equal divisions,
- Stopped his beasts from roaming indiscriminately
- Put the whole number of his beasts into one of these divisions
Quote cont’d:

• Put the whole number of his beasts into one of these divisions
• Have the number of beasts so great as to consume the best part of the grass in one day
• Give them a fresh park every morning to repeat the same repast
Quote cont’d:

• Have so many parks as days required to advance the grass to the proper length after being eaten fare down
• So the first park would be ready to receive them after going over all the others
• So they might be carried round in a constant rotation
  • *James Anderson, a Scotsman, 1777*
Summary

Management-intensive Grazing:
– A method of utilizing the forage resource to maximize return, while maintaining long term productivity of the resource base
– Aims at managing the soil, water, plants and animals together as a whole in a systems approach
– You - the manager are in control of time and space
Our goal throughout this school is to encourage producers to adopt management strategies that optimize the efficient harvest of sunlight and water while enhancing the soil resource to achieve production goals.
The End.

Or the Beginning?
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