The Skills & Principles of Managed Grazing on Improved Pastures

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How Do We Manage Forages?

Standard Recommendation:

Animals in: 8”
Animals out: 3”

Example:
Ewe raising twins in early lactation

How many inches of grass does she need to meet her nutritional requirements?
Managing Forages

Can We Answer These Basic Questions:

How long can 50 ewes graze a 15-acre paddock?

How many acres are needed to support 50 ewes for 4 days?

Is there a better way?
Yes

How Do We Balance an Animal’s Diet?

By Weight

Pounds of feed

Therefore —

Manage Forages by Weight
<table>
<thead>
<tr>
<th>By Weight (Mass of DM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Mass (DM)</td>
</tr>
<tr>
<td>3,000 lb</td>
</tr>
</tbody>
</table>

How do we measure forage mass?
12” x 11.5” = 138 square inches

12” x 11.5” → 26 grams dry forage

= 26 g DM / 138 square inches

x 100

→ 2,600 lb DM / acre
<table>
<thead>
<tr>
<th></th>
<th>3,000 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Mass</td>
<td></td>
</tr>
<tr>
<td>Residual Mass</td>
<td>1,000 lb</td>
</tr>
<tr>
<td>Available Mass</td>
<td>2,000 lb</td>
</tr>
</tbody>
</table>

This is the forage available for grazing.
Example #1  

flock size = 125 ewes

1 acre = 2,000 lb Available Forage

1 ewe @ 160 lb @ 5% body weight = 8 lb/day

125 ewes will graze 1,000 lb forage DM/day

1 acre = 2 days of grazing for 125 ewes

3-acre field = ewes are OK for 6 days
Example #2  flock size = 30 ewes

1 acre = 2,000 lb Available Forage

1 ewe @ 185 lb @ 5% body weight = 9.25 lb/day

30 ewes will graze 278 lb forage DM/day

1 acre = 7 days of grazing for 30 ewes

2-acre field = ewes are OK for 14 days

(14 days, 9 hours, 22 min)
Forage Growth Curve

How do forages grow?

Do Forages Grow Like This?

Phase I

Phase II

Phase III
**5” Grass — Mass vs Height**

<table>
<thead>
<tr>
<th>Density is Critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,000</td>
</tr>
<tr>
<td>2,000</td>
</tr>
<tr>
<td>1,300</td>
</tr>
</tbody>
</table>

- **500**
- **500**
- **500**
- **1,000**
- **300**
- **300**
- **300**
- **800**
- **200**
- **200**
- **200**
- **500**
Intensive Grazing—What to Do

<table>
<thead>
<tr>
<th>Phase</th>
<th>Total Forage Mass (lb/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>1,000</td>
</tr>
<tr>
<td>Phase II</td>
<td>3,000</td>
</tr>
<tr>
<td>Phase III</td>
<td></td>
</tr>
</tbody>
</table>
Intensive Grazing

Management Intensive Grazing
Specifics of MIG

- Introduce sheep at the top of Phase II
- Remove sheep at the bottom of Phase II
- Residual — Don’t graze into Phase I
  - Adds 7–14 days to reach bottom of Phase II
  - Stresses some plants
  - Open areas for weeds
- Avoid Phase III
- Grazing in Phase II
  - Efficiency — most efficient
  - Nutrition — excellent
  - Forages — healthy, sustainable, growing fast
4 Rules of MIG

Stay in Phase II growth

Leave enough Residual
- 800–1,000 lb DM/acre

Protect Regrowth
- 5-Day Rule

Water & minerals move with sheep
- each cell contains H₂O & TM mixture
5-Day Rule

- Animals in a cell for a **Maximum of 5 days**!
- **NO** grazing of regrowth
- Selection pressure against your best plants
- “Jargon” of grazing
  - Creep Grazing
  - Multi-species Grazing
  - Forward Grazing, High-Low Grazing, First-and-Second Grazing

*No Livestock in the grazing cell after 5 days!*
Not with MIG

- Some species don’t persist in MIG system
  - Timothy
  - Smooth Brome
NZ-Style Gate Latches

- **Jeffers Pet Veterinary Supply**
  [https://www.jefferspet.com/products/gate-latch-12-chain-length](https://www.jefferspet.com/products/gate-latch-12-chain-length)
  12" Chain Gate Latch, 1 staple

- **Valley Vet**
  Deluxe Gate Latch
  8" chain, 1 staple

- **Gallagher (North American website)**
  Price listed on the website
  14" chain, 2 staples
Graziers’ Tools

- Stocking Rate, Stocking Density
- Water / Minerals
- Dry Matter Intake: Rule-of-Thumb
- Grazing Wedge
- New Terminology
Definitions

• **Stocking Rate**
  ◦ # Animal Units (AU) in an area over time
  ◦ AU
    • = 1 cow (1,000 lb) with calf
    • = 5 ewes
  ◦ AUM for public lands grazing

• **Stocking Density**
  ◦ # lb of livestock per acre at a single point in time
    • e.g. SD = 5,000 lb (≈ 25 x 200 lb ewe/acre)
Stocking Density

- 50 ewes @ 150 lb
- = 7,500 lb livestock
- Grazing on 5 acres
- = 7,500 lb / 5 acres
  - = 1,500 lb / acre
  - = SD 1,500 lb
50 ewes @ 150 lb
= 7,500 lb

SD = 48,000
SD = 24,000
SD = 12,000
SD = 6,000
SD = 3,000
SD = 1,500

5 acres
Practical Guidelines – SD

- **Grazing Tall Fescue**
  - 15,000
- **Other Weeds?**
- **Planting Seed (Tread-in Method)**
  - “Hoof & Tooth Method”
  - 25,000 – 30,000
- **MIG**
  - 60,000 +
  - Often 100,000 – 140,000
- **Mob Grazing**
  - 200,000 +
Rule #4: Water & minerals move with sheep

- each cell contains $\text{H}_2\text{O} & \text{TM}$ mixture
Estimating DMI

- How much do sheep eat on pasture?
- Start with DMI at 5% body weight
  - Example: 200 ewes @ 160 lb = 32,000
  - @5% = 1,600 lb/day
- Maybe 4%
  - @4% = 1,280 lb/day

NRC: ewes: 1.4%–3.9%
  - Growing lambs & yearlings: 1.4%–7.8%
The Grazing Wedge
A New Shorthand Code

**RG, 2, 45K**

- Rotational Grazing System
- Stocking Density = 45,000 lb/acre
- Moving stock every 2 days
FROM THE FEED TROUGH

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Woody Lane, PhD

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