The Ohio State University / College of Food, Agriculture, and Environmental Sciences / Department of Animal Sciences

Comparison of Continuous vs. Management Intensive Grazing

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Introduction
- There are different cost and labor variables to each grazing system, but the most important outcome for every farm is increased production. Each producer has to make a decision on how to graze their sheep in order to increase their production and efficiency.

Grazing Systems
- Continuous grazing is when sheep graze in a pasture with no rotations and only a perimeter fence.
- Simple rotational grazing involves more than one area of pasture that the sheep are rotated after a set period of time.
- Management Intensive Grazing (MIG) involves smaller areas of pasture called paddocks where sheep are rotated more frequently.

<table>
<thead>
<tr>
<th>Continuous</th>
<th>Simple Rotation</th>
<th>Management Intensive</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Continuous Grazing" /></td>
<td><img src="image2.png" alt="Simple Rotational Grazing" /></td>
<td><img src="image3.png" alt="Management Intensive Grazing" /></td>
</tr>
</tbody>
</table>

- Sheep are rotated based on length of forage, stocking density, and pasture quality.
- Begin grazing a pasture when plants are 6-10 inches in height because at this stage forages have higher Total Digestible Nutrients (TDN) and lower Neutral Detergent Fiber (NDF).
- Before forages reach a height of 3 inches, sheep are removed to allow for maximum plant growth of 1200-1600 lbs./ac of dry matter leaf area and to prevent the invasion of weeds.
- Ohio pastures typically require 10-60 days to recover depending on the amount of rainfall, soil fertility, temperature.

Continuous Grazing
- Benefits:
  - Low financial input
  - Low capital costs
  - Minimal labor
- Costs:
  - Reduction in yield per acre
  - Susceptibility to overgrazing
  - Uneven pasture usage / manure distribution
  - Sporadic overgrowth or forages and weeds
  - Low stocking rate

Rotational Grazing
- Benefits:
  - Increased pasture yields
  - Higher quality feed
  - Increased stocking rate
  - Improved distribution of manure nutrients
  - Improved parasite management
  - Improved income
- Costs:
  - Increased labor / management
  - Initial costs for waters / fencing

Management Intensive Grazing
- Benefits:
  - Increased pasture yields
  - Higher quality feed
  - Increased stocking rate
  - Improved distribution of manure nutrients
  - Improved parasite management
  - Improved income
- Costs:
  - Increased labor / management
  - Initial costs for waters / fencing

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Annual Yield (tDM/ac)</th>
<th>Utilization %</th>
<th>Useable Yield (tDM/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>6</td>
<td>60</td>
<td>3.6</td>
</tr>
<tr>
<td>Rotational</td>
<td>9</td>
<td>65</td>
<td>5.85</td>
</tr>
<tr>
<td>Paddock</td>
<td>9</td>
<td>80</td>
<td>7.2</td>
</tr>
</tbody>
</table>

* tDM – Total Dry Matter

Analysis:
- Analysis based on:
  - 30 early lactating ewes @154 lbs.
  - requires a DMI of 4% BW
  - Stocking Rate 0.75 AU/ac
  - 5.2 t needed for an 8 week period
  - Orchard grass / mix hay valued @ $150 / t

Continuous:
- 3.6 t @ $150 t = $540 value on continuous grazing
- 3.6 – 5.2 t = -1.6 t (-$240/ac for 8 weeks)
  - Enough forage for 39 days (5.5 wks.)

MIG:
- 7.2 t @ $150 t = $1080 value on MIG grazing
- 7.2 t – 5.2 t = +2 t (+$300/ac for 8 weeks)
  - Can graze for 21 more days / ac for 30 lactating ewes

Conclusion
- MIG is one solution for maximizing annual yield and utilization of pastures. MIG is a key strategy for improved returns due to increased stocking rate, acreage yield, nutrient management, and higher quality forages.

Keys to Success
- Begin grazing pasture when forages are 6-10 inches in height
- Do not graze forages below 3 inches in height
- Let paddocks recover for 10-60 d
- Adapt to environmental conditions

BIBLIOGRAPHY

(3) “Managing and Utilizing Pasture and Harvested Forages for Sheep ID-153.” Purdue Forage Information.
(4) “Planning Grazing Strategies for Better Returns. AHDB Beef and Lamb.”