Managing Forages for Stockers

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Forage / Grazing Goals

- Low cost gain
- Maximize grazing over hay feeding
- Minimum inputs
- Persistent
Decisions

- Season-fall, spring, summer
- Forage variety base
- Stocking rate
- Clover
- Supplement or not
- Grazing management
Complementary Growth Patterns of Cool- and Warm-Season Forages

% Grass growth

Cattle Performance- what drives the train?

Nutrient Intake = (Amt Forage Consumed) x (Nutrient Content)
Forage Quality vs Maturity

- High crude protein
- Medium minerals
- Low forage quality

- Grasses
- Legumes
- Leafy
- Boot
- Prebud
- Heading
- Bud
- Bloom

- Growth stages:
  - Stems
  - Fiber

- Relative quality:
  - High
  - Medium
  - Low
Orchardgrass—date of harvest impact on quality

The effect of date of harvest on the quality of orchardgrass forage (Reid et al., 1966).

<table>
<thead>
<tr>
<th>Date</th>
<th>Maturity</th>
<th>DMI % Body wt.</th>
<th>DDM % Dry matter</th>
<th>CP</th>
<th>ADF</th>
<th>NDF</th>
<th>Lig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 5-9</td>
<td>veg.</td>
<td>2.7</td>
<td>77</td>
<td>17</td>
<td>29</td>
<td>51</td>
<td>2.4</td>
</tr>
<tr>
<td>May 20-24</td>
<td>boot-e.h.</td>
<td>2.0</td>
<td>71</td>
<td>13</td>
<td>34</td>
<td>60</td>
<td>3.9</td>
</tr>
<tr>
<td>June 6-10</td>
<td>l.h.-e.b.</td>
<td>1.9</td>
<td>65</td>
<td>9</td>
<td>38</td>
<td>65</td>
<td>4.9</td>
</tr>
<tr>
<td>Jul 15-19</td>
<td>veg.</td>
<td>2.6</td>
<td>67</td>
<td>14</td>
<td>31</td>
<td>57</td>
<td>4.1</td>
</tr>
<tr>
<td>Jul 27-31</td>
<td>veg.</td>
<td>2.7</td>
<td>66</td>
<td>12</td>
<td>35</td>
<td>59</td>
<td>4.3</td>
</tr>
<tr>
<td>Aug 9-13</td>
<td>veg.</td>
<td>2.9</td>
<td>61</td>
<td>10</td>
<td>38</td>
<td>65</td>
<td>4.3</td>
</tr>
</tbody>
</table>
Grazing Tools
Rotational Grazing
Impact of Rest Period on Forage Vigor
Figure 1. Grazing stages of the plant.
Grazing Nutrition

Bite size, # bites, nutrients
Forage Growth Curve

- **Quality**
- **Yield**
- **Best time to graze**
- Freshly grazed
- Lush vegetative growth
- Flowering and seeding
Mott’s Curve

Gain per animal (lb/animal)

Gain per land area (lb/acre)

Optimum

Range

Undergrazing

Overgrazing

Stocking rate (animals per acre)
Animal selectivity

Ability to out perform expectations based on forage quality
Effect of Grazing Pressure on Production per Animal & per Acre
Stocker tips
Tip # 1 Manage spring growth yearlings vs calves
Forage Composition and Growth Stages

Diagram showing changes in composition (protein, leaves, minerals, fiber & lignin, stems) across different growth stages (Grasses, Legumes, Leafy, Prebud, Heading Bud, Bloom).
Expectations of Cattle & Forage

![Graph showing carrying capacity and daily live weight gains by season.]

- **Daily Live Wt. Gains, lb./animal**
- **Animals/acre**

- **Spring**
- **Summer**
- **Fall**

**Carrying Capacity**
700 Lb. Steer/Acre

**Daily Live Wt. Gain**
Lb./Animal
Tip #2 Maintain Legumes in Pastures

- Nitrogen
- Forage quality & digestibility
- Red clover
- Ladino
- Intermediate
- Dutch
Approximate pounds of nitrogen annually fixed per acre by various legumes.
(Source: Don Ball, Auburn University)

<table>
<thead>
<tr>
<th>Legume Species</th>
<th>Annual lbs N/Acre</th>
<th>N value at $.40 per lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>200-300</td>
<td>$80-120</td>
</tr>
<tr>
<td>Red clover</td>
<td>100-200</td>
<td>$40-80</td>
</tr>
<tr>
<td>White clover</td>
<td>100-150</td>
<td>$40-60</td>
</tr>
</tbody>
</table>
Stocker gains of cattle grazing fescue interseeded with two white clover varieties

2-acre paddocks grazed at Eatonton, GA from 3/28- 6/14, 2002

<table>
<thead>
<tr>
<th>Pasture species</th>
<th>Average daily gain , lbs</th>
<th>Gain/acre, lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic tall fescue</td>
<td>0.60</td>
<td>187</td>
</tr>
<tr>
<td>Fescue + Durana white clover</td>
<td>1.79</td>
<td>296</td>
</tr>
<tr>
<td>Fescue + Regal white clover</td>
<td>0.89</td>
<td>136</td>
</tr>
</tbody>
</table>

Clover seeded fall 1998.
Impact of grazing height on legume growth
Stocking Rate

Forage fertility

Winter feed

Grazing management
Overstocking pastures

More weeds

More Hay days

Weaker pasture

Overgrazing
## Impact of Grazing Pressure and Management on Steers Grazing Orchardgrass Pastures

<table>
<thead>
<tr>
<th></th>
<th>Light</th>
<th>Medium</th>
<th>Heavy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Continuous</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available forage, lbs DM/ac</td>
<td>1200-1600</td>
<td>600-1200</td>
<td>200-500</td>
</tr>
<tr>
<td>Grass height, in</td>
<td>4 - 6</td>
<td>3 - 5</td>
<td>2 - 3</td>
</tr>
<tr>
<td>ADG, lb/d</td>
<td>1.5</td>
<td>1.2</td>
<td>.73</td>
</tr>
<tr>
<td><strong>Rotational</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available forage, lbs DM/ac</td>
<td>1200-1800</td>
<td>600-1200</td>
<td>200-600</td>
</tr>
<tr>
<td>Grass height, in</td>
<td>4 - 6</td>
<td>3 - 5</td>
<td>2 - 3</td>
</tr>
<tr>
<td>ADG, lb/d</td>
<td>1.5</td>
<td>1.1</td>
<td>.81</td>
</tr>
</tbody>
</table>

Hammond, 1970
Tip - Stockpile Fescue
Quality of Stockpiled Tall Fescue

Ross and Reynolds, 1979
Strip Grazing

Stockers vs Cows
Tall Fescue

- pasture and hay
- **90%** of tall fescue fields in southeastern U.S. infected by wild-type “toxic” fungus
- Consumed by cattle, horses, sheep
Tall Fescue Solutions

- Dilution
- Conversion
Cattle Paddocks
Calhoun GA, Spring 2001
Temperature Data Loggers
IN SUMMER HEAT:

Body Temperatures of Cattle Grazing MaxQ or Toxic Tall Fescue during Summer

R. Watson, J. Parish, M. McCann, C. Hoveland, and J. Bouton, The University of Georgia
Tip - Ionophores
Excuses - who is responsible

ALIENS
leave our
COWS
ALONE
Questions?