Managing forage surplus and deficit

Reasons for surplus forage:
- Time of Year
- Rapid Forage Growth
- Low Stocking Density
- Selective Grazing

Options
- Do nothing, let it stay
  - Interference with growth?
  - Lower forage quality
- Mow to uniform height
  - Pre-top (prior to grazing)
  - Post-top (after grazing)
  - Dealing with residual
- Mow and remove
  - Hay
  - Baled silage
  - Nutrient removal

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**Loss Accumulate with Each Step**
- Field curing: 10-25% loss
- Harvesting: 7-15% loss
- Storage: 20-45% loss
- Feeding: 10-30% loss

It’s not unusual to see total losses of 70% or greater

**Efficiencies of Grazing and Mechanized Harvest**

<table>
<thead>
<tr>
<th>Method</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grazing</td>
<td></td>
</tr>
<tr>
<td>Continuous Stocking</td>
<td>30-40%</td>
</tr>
<tr>
<td>Slow Rotation (3-4 paddocks)</td>
<td>50-60%</td>
</tr>
<tr>
<td>Moderate Rotation (6-8 paddocks)</td>
<td>60-70%</td>
</tr>
<tr>
<td>Strip Grazing, Daily Rotation</td>
<td>70-80%</td>
</tr>
<tr>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Hay</td>
<td>30-70%</td>
</tr>
<tr>
<td>Silage</td>
<td>60-85%</td>
</tr>
<tr>
<td>Green Chop</td>
<td>70-95%</td>
</tr>
</tbody>
</table>

**Hay Production**
- Cut forage to maximize drying time
- Cut at appropriate height
- Allow swath to be spread wide to maximize drying rate.
- Ted the forage morning of next day(s)
  - Discontinue the use of a tedder when leaf shatter is occurring (~10 a.m.)
- Bale at target moisture
  - ≤ 15% for round bales
  - ≤ 18% for square bales
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**Drying Times Vary**

**Hay Moisture Problems**

**Hay Moisture Probe**

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Determining Moisture

Methods:
3. Hay Moisture Testers/Probes
2. By feel (if calibrated)
1. Microwave moisture test

The True Cost of Storage and Feeding Losses

About 3 billion dollars of hay is lost per year from storage and feeding in the U.S.
(37.5 million tons)

Storage Losses

Weathered Loss (% of Total Volume)

Can I afford to build a barn?

Source: Forage Crop Pocket Guide

Other Storage Options

Elevated Stacks
Tarped Stacks
Hay Sheds
Hoop Structures

Feeding Losses

<table>
<thead>
<tr>
<th>Method</th>
<th>1 day</th>
<th>7 day</th>
<th>% Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrolled</td>
<td>12.3</td>
<td>43.0</td>
<td></td>
</tr>
<tr>
<td>Ring</td>
<td>4.9</td>
<td>5.4</td>
<td></td>
</tr>
</tbody>
</table>

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Feeding Baled Silage

- Whole silage bales
  - ring feeder

- Mixed rations
  - tub-ground

Baled Silage – An Option for Harvesting High Quality

<table>
<thead>
<tr>
<th>Treatment</th>
<th>CP</th>
<th>TDN</th>
<th>RFQ</th>
<th>ADG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bermuda Hay</td>
<td>16.1 a</td>
<td>62.9 b</td>
<td>116 c</td>
<td>1.56 b</td>
</tr>
<tr>
<td>Ryegrass Baleage</td>
<td>16.3 a</td>
<td>65.9 a</td>
<td>174 a</td>
<td>1.94 a</td>
</tr>
<tr>
<td>Ryegrass Hay</td>
<td>14.7 b</td>
<td>62.4 c</td>
<td>133 b</td>
<td>1.26 b</td>
</tr>
<tr>
<td>LSD&lt;sub&gt;0.05&lt;/sub&gt;</td>
<td>0.22</td>
<td>0.35</td>
<td>3.2</td>
<td>0.341</td>
</tr>
</tbody>
</table>

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Resources

Some Points on Feeding Baled Silage
Dr. Dennis Hancock, Extension Forage Specialist, University of Georgia

Baled Silage: Frequently Asked Questions
Dr. Dennis Hancock, Extension Forage Specialist

Resources