**Annual Forage Choices**

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**Seasonal Growth of Tall Fescue**

- **Tall Fescue**

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**Annual Warm-Season Grasses**

- Cool Season Grass
- Sudan grass
- Pearl Millet
- Crabgrass

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**Summer Annuals**

- Sorghum Sudan
- Pearl Millet
- Teff
- Crabgrass

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**Tillage Enhances Crabgrass Establishment**

- Good crabgrass stands start with light tillage in early May

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**Livestock Performance on Crabgrass Pastures**

<table>
<thead>
<tr>
<th>Crop</th>
<th>ADG</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/d</td>
<td>lb/a</td>
</tr>
<tr>
<td>Tall Fescue</td>
<td>1.1</td>
<td>76</td>
</tr>
<tr>
<td>Crabgrass</td>
<td>1.8</td>
<td>264</td>
</tr>
</tbody>
</table>
Crabgrass

- High quality summer annual
- July / August grazing
- 3-4 tons feed/acre during summer
- Improved varieties now available
- Must reseed annually

Wheat, triticale and rye most common
Vegetative growth from planting until mid-March
If planted early, grazing can begin in November

Winter Forage Crops

- Wheat
- Cereal Rye
- Triticale
- Annual Ryegrass
- Stockpiled Tall Fescue

Small Grain Winter Forages

- Wheat, triticale and rye most common
- Vegetative growth from planting until mid-March
- If planted early, grazing can begin in November

Higher Yield Potential with Cereal Rye

- Bar graph showing yield potential over time for Wheat and Rye.

Wheat & Rye Maintain High Quality During the Fall and Winter

- Line graph showing quality trend for wheat and rye over time.
Animal Performance on Wheat and Rye Pasture

<table>
<thead>
<tr>
<th>Type</th>
<th>ADG (lb/d)</th>
<th>Total Gain (lb/acre)</th>
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</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>1.8</td>
<td>180</td>
</tr>
<tr>
<td>Rye</td>
<td>1.6</td>
<td>336</td>
</tr>
</tbody>
</table>

Horn et al., 1981

Annual Ryegrass

- Easily established
- Rapid fall growth
- Remains vegetative into early May
- High quality

Annual Ryegrass - Cereal Rye

- Good fit for dormant warm-season grasses
- Winter grazing
- Remains vegetative into early May
- Excellent for strip grazing

Animal Performance on Annual Ryegrass Pasture

<table>
<thead>
<tr>
<th>Grazing Days</th>
<th>ADG (lb/d)</th>
<th>Total Gain (lb/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri</td>
<td>88</td>
<td>2.0 404</td>
</tr>
<tr>
<td>Experiment 2</td>
<td>112</td>
<td>1.2 230</td>
</tr>
<tr>
<td>Experiment 3</td>
<td>132</td>
<td>2.7 700</td>
</tr>
</tbody>
</table>
Almost entirely leaf
Grows rapidly from early September until November – 1 to 2 tons per acre with good management
More fall growth than other CSG’s
Waxy layer on leaves slows deterioration

Stockpiled Tall Fescue

Hay & Supplement Costs - $.80/cow/day
Stockpiled Fescue - $.42/cow/day

E+ Stockpiled Tall Fescue

Small Grain Winter Forages

Stockpiled Tall Fescue

DM range – 1550–3000 lbs/a in <60 days
CP – 18–33%
TDN – 72–89%

Forage Brassicas

• Wheat, triticale and rye most common
• Vegetative growth from planting until mid-March
• If planted early, grazing can begin in November

Small Grain Winter Forages
Brassica Forage in Winter

Using Annuals
When is it Necessary?

- Need for emergency feed
- Replace the expense of hay
- Thin perennial stands
- During renovation of pastures

Perennial systems are superior

Management is Best with Rotational Grazing

- Rotational grazing allows roots and shoots to recover
- Increases forage utilization

Steer Performance on Wheat-Ryegrass Pasture in the Spring (2-yr Ave.)

<table>
<thead>
<tr>
<th>Grazing Treatment</th>
<th>Stocking Rate Lbs body wt / A</th>
<th>ADG Lbs</th>
<th>Gain / Acre Lbs / A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>1461</td>
<td>2.07</td>
<td>428</td>
</tr>
<tr>
<td>Rotational – 3 Paddocks</td>
<td>1878</td>
<td>2.36</td>
<td>599</td>
</tr>
<tr>
<td>Rotational – 11 Paddocks</td>
<td>2028</td>
<td>2.21</td>
<td>618</td>
</tr>
</tbody>
</table>

Boonville, AR 1993, 1994
Source: Stockpiling for Fall and Winter Pasture (AGR-162) Univ. of KY

A Balanced Forage System

Know when your forages should grow and plan ahead to make that happen
Forage and Livestock Conference - Gainesville, MO 3/7/2015

Plant Maturity

Rotational Grazing

- Grazing followed by rest
  - Allows plant to recover completely after grazing
  - Recovery of shoots and roots
  - Allows for plant and stand persistence

1. Match livestock needs to forages.
2. Know what forages you have.
3. Determine what gaps are in your forage system and plant forages accordingly.
4. Strive for a balanced forage system to meet the nutrient needs of the livestock year round.
5. Improve grazing management to increase forage utilization and persistence.

Questions?