Drought Management for Forage/Livestock Producers:

What are our feeding options?

Lawton Stewart
Extension Animal Scientist
The University of Georgia

Develop a plan

1. Where are we in production?
   - Fall/spring calving
   - Lactating/weaned calves

2. Inventory nutrients and understand their cost
   - What feeds/forages are on hand?
   - What feeds/forages can I get?
   - Is hay my cheapest option?

3. Make a plan and execute it NOW
   - Go ahead and wean?
   - Background weaned calves?
   - Cull heavily
   - Develop a ration

Understand nutrient requirements

- Late Lactation: CP: 9% TDN: 55%
- Dry Cow: CP: 7% TDN: 48%
- Peak Lactation: CP: 12% TDN: 60%

Let’s wait, maybe we’ll get some rain soon…
Nutritional Requirements of Weaned Calves

Medium-frame steer calves

<table>
<thead>
<tr>
<th>Wt (lb)</th>
<th>Daily Gain (lb)</th>
<th>Crude Protein (%)</th>
<th>TDN (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>1.5</td>
<td>11.5</td>
<td>63.0</td>
</tr>
<tr>
<td></td>
<td>2.0</td>
<td>12.7</td>
<td>67.5</td>
</tr>
<tr>
<td></td>
<td>2.5</td>
<td>14.2</td>
<td>73.5</td>
</tr>
<tr>
<td>600</td>
<td>1.5</td>
<td>9.8</td>
<td>63.0</td>
</tr>
<tr>
<td></td>
<td>2.0</td>
<td>10.5</td>
<td>67.5</td>
</tr>
<tr>
<td></td>
<td>2.5</td>
<td>11.4</td>
<td>73.5</td>
</tr>
<tr>
<td>800</td>
<td>1.5</td>
<td>8.8</td>
<td>63.0</td>
</tr>
<tr>
<td></td>
<td>2.0</td>
<td>9.8</td>
<td>67.5</td>
</tr>
<tr>
<td></td>
<td>2.5</td>
<td>9.3</td>
<td>73.5</td>
</tr>
</tbody>
</table>

- Know the requirements to keep calves gaining
- Remember:
  - Gain and health = $$$$
  - Health is a function of immunity and nutrition

Available Forages

- Grazed Forage?
- Corn Silage
- Drought stressed crops
- Hay produced
  - High quality???
  - Low quality???

TEST FORAGES!!!!

Potential Forages

<table>
<thead>
<tr>
<th>Forage</th>
<th>CP (%)</th>
<th>TDN (%)</th>
<th>Peak Lactation</th>
<th>Late Lactation</th>
<th>Dry Cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Hay</td>
<td>7</td>
<td>48</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Average Hay</td>
<td>10</td>
<td>55</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Good Hay</td>
<td>12</td>
<td>60</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Wheat Straw</td>
<td>3.5</td>
<td>41</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Oat Straw</td>
<td>4.4</td>
<td>45</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Drought Stressed Corn</td>
<td>~6.5</td>
<td>~58</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Peanut Hay</td>
<td>11</td>
<td>48</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Byproduct Feeding

- What's available
- Price
  - Evaluate on DM basis
  - Look at $/nutrient
- Handling / Storage
- Minerals
**Lick Tanks, Tubs, and Blocks**

**Advantage:**
1. Convenient
2. Reduced Labor
3. Additional minerals and vitamins

**Disadvantage???
1. Intake?
2. Adequate nutrients?
3. Affordable?

**Will work if:**
1. Cows are dry
2. Forage is at least 46% TDN and 6% CP

**Do the math:**
- Is it worth the added cost?
- Would byproduct blend be more cost effective?
Cull Vegetables

- Can be cheap or free
- Consider moisture content (~80-90%)
- Spoilage can be an issue
- Usually adequate to high TDN and adequate CP

Potential Supplement Strategies

<table>
<thead>
<tr>
<th>Forage</th>
<th>CP (%)</th>
<th>TDN (%)</th>
<th>Late Lactation</th>
<th>Dry Cow</th>
<th>4-5 cwt Calves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Forage</td>
<td>&lt;5</td>
<td>&lt;44</td>
<td>13</td>
<td>7</td>
<td>8.5</td>
</tr>
<tr>
<td>Fair Forage</td>
<td>6</td>
<td>48</td>
<td>8.5</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>Average Forage</td>
<td>10</td>
<td>54</td>
<td>2</td>
<td>-</td>
<td>6.5</td>
</tr>
<tr>
<td>Good Forage</td>
<td>12</td>
<td>60</td>
<td>-</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Excellent</td>
<td>&gt;12</td>
<td>&gt;60</td>
<td>-</td>
<td>-</td>
<td>3-4</td>
</tr>
</tbody>
</table>

1 Can be a 50:50 of an energy and protein supplement

Energy supplements: Soybean hulls, citrus pulp, grain, hominy

Protein supplements: Dried distillers grains, corn gluten feed, cottonseed meal, soybean meal, canola meal, sunflower meal

What if hay is not available?

- Consider weaning calves
- Utilize a roughage source such as peanut hulls, cottonseed hulls, cotton residue, corn residue, gin trash

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roughage</td>
<td>60</td>
</tr>
<tr>
<td>Energy and/or byproduct feed</td>
<td>40</td>
</tr>
</tbody>
</table>

How to buy?

- Know the feed:
  1. Price ($/ton)
  2. Moisture (DM %) content
  3. Nutrient content
     ➢ Crude Protein (CP %)
     ➢ Energy (TDN %)

Calculate value

$/ton / % DM / % nutrient / 2000 lb = $/lb of nutrient

**Corn Gluten Feed**

$/215 / 90% / 25% CP / 2000 lb = $0.478/lb of CP
OK, Know What?

- Putting it together can be overwhelming
- Programs are available to aid in decision making
- Some are free, some cost $$$

Program Provides:
- Pre-populated feed library
- Feed cost analyzer
- BASIC ration balancer
- Ration Analyzer

Now Available:
UGA BASIC BALANCER PROGRAM

www.ugabeef.caes.uga.edu/tools

Should I Retain Weaned Calves?

- Early weaned calves have the potential to have efficient gains
- Consider feed cost: High priced feeds may not be profitable
- Consider the length of feeding and what the market may be then.
- Make sure a sound health program is in place
  Health = Immunity + Nutrition
- Are they worth more now versus the time and money then?

Develop a plan

1. Where are we in production?
   - Fall/spring calving
   - Lactating/weaned calves
2. Inventory nutrients and understand their cost
   - What feeds/forages are on hand?
   - What feeds/forages can I get?
   - Is hay my cheapest option?
3. Make a plan and execute it NOW
   - Go ahead and wean?
   - Background weaned calves?
   - Cull heavily
   - Develop a ration
Thank You!

Questions?