Feeding Goats

Productivity of Goats

- **Meat**
  - Reproductive rate = 180%
  - 2 to 4 lbs milk/day
- **Angora**
  - Mohair
  - Reproductive rate = 100%
- **Dairy**
  - 1,500 to 2,000 lb/year
  - 4.2% milk fat

Feeding Behavior

- Insistent that diet is fresh, clean, and previously untouched
- Discriminate between plant fractions that appear similar
  - Mobile lips allow sorting
- Versatile diet selection

Feeding Behavior

- Two important effects
  1. Diet consumed differs from that offered
  2. Goats eat more if they have more from which to select

Feeding Value of Alfalfa Hay
Diet Selection

• Goats will graze (browse) from all available plant types
• Browse line
• Particularly attracted to trees and shrubs
  – meat goats more effective browser than the Angora

• Nutritional value of a goat’s selected diet is generally higher than the average value of available vegetation
• The more complex available vegetation, the more complex the diet
• On pasture or range with no plant diversity, diets selected by goats, sheep, and cattle are similar

Nutrient Requirements

• Goats must consume more DM (% BW) or the DM consumed must contain higher nutrient density
• Reticularum is smaller and retention time of feed particles is shorter

Nutrient Digestion

• Faster turnover of feed particles and increased consumption
• Total nutrients digested higher than other ruminants

Energy

• Maintenance, growth, reproduction, lactation, fiber growth, activity
• Net energy (NE)
• Maintenance = 57 kcal/kg BW$^{0.75}$
• Activity increases NE requirements
  – 25% - intensive mgt, tropical range
  – 50% - semiarid range, hilly pasture
  – 75% - arid range, mountainous pastures

Energy Requirements

100 lb Goat

- Confine
- Low
- Med
- High

NE (Mcal/d)
Energy Requirements

100 lb Goat

- 10 lb milk/d, 3.5% fat
- 80 lb gaining 0.33 lb/d

Feeding Management

- Forages
  - range/pasture
  - similar to other ruminants (legume/grass)
- High-energy Feeds
  - corn, barley, sorghum
  - processing
- Protein feeds
  - SBM, cottonseed meal, urea

Nutrient Conc of Feeds

<table>
<thead>
<tr>
<th>Feed</th>
<th>NE (Mcal/lb)</th>
<th>CP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bermuda Hay</td>
<td>0.46</td>
<td>15</td>
</tr>
<tr>
<td>Ryegrass</td>
<td>0.51</td>
<td>9</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>0.51</td>
<td>18</td>
</tr>
<tr>
<td>Corn</td>
<td>0.74</td>
<td>9</td>
</tr>
<tr>
<td>Sorghum</td>
<td>0.74</td>
<td>10</td>
</tr>
<tr>
<td>SBM</td>
<td>0.74</td>
<td>46</td>
</tr>
<tr>
<td>CSM</td>
<td>0.64</td>
<td>41</td>
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</table>

Required Intake at Varying NE Levels (Mcal/lb)

Maint Lact Fiber

<table>
<thead>
<tr>
<th>NE (Mcal/d)</th>
<th>lbs DM/d</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.5</td>
</tr>
<tr>
<td>1</td>
<td>0.6</td>
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<tr>
<td>2</td>
<td>0.7</td>
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<tr>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>5</td>
<td>1.6</td>
</tr>
<tr>
<td>6</td>
<td>1.9</td>
</tr>
<tr>
<td>7</td>
<td>2.2</td>
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</table>

Maximum Voluntary Intake

Required Intake at Varying NE Levels (Mcal/lb)

Max Intake

<table>
<thead>
<tr>
<th>NE (Mcal/d)</th>
<th>lbs DM/d</th>
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<td>0.5</td>
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<td>0.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Max Intake</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Feeding Management

• Goats on Range
  – protein usually 1st limiting - 0.2-0.7 lb SBM/d

• Dairy Goat
  – proper BC important - negative energy balance in early lactation
  – ketosis
  – 6 wk before kidding - 1/3 lb grain/d and increase to 1 lb/ by kidding

Feeding Management

• Dairy Goats
  – grain feeding should reach about 2-3 lb/d 3 wk after kidding
  – peak lactation 3-4 mo
  – concentrate for grass forage = 16-20% CP
  – concentrate for legume forage = 12-14% CP

• Angora (Fiber) Goats
  – flushing - 3 wk prior and 3 wk after breeding