Nutrition

Russell Bush

Feeding

• Determine desired level of production
• Production levels
  – Maintenance
  – Draught
  – Pregnant and/or lactating
  – Fattening
• Influences the quantity and quality that should be fed to each animal

Maintenance – low quantity and quality

Reproduction – high quantity and quality
Forage Quantity

<table>
<thead>
<tr>
<th>Forage Intake</th>
<th>Production level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh (kg/d)</td>
<td>DM (kg/d)</td>
</tr>
<tr>
<td>20</td>
<td>4.0</td>
</tr>
<tr>
<td>30</td>
<td>6.0</td>
</tr>
<tr>
<td>40-50</td>
<td>8.0-10.0</td>
</tr>
<tr>
<td>50-60</td>
<td>10.0-12.0</td>
</tr>
</tbody>
</table>

Forage Quality

<table>
<thead>
<tr>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
</tr>
<tr>
<td>Young, green, actively growing plant that has not yet flowered with a large number of leaves per plant (i.e. high leaf to stem ratio)</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
</tr>
<tr>
<td>More mature, mixture of green and dead, plant in mid to late flowering, some seed head present. Lower leaf to stem ratio.</td>
</tr>
<tr>
<td><strong>Low</strong></td>
</tr>
<tr>
<td>Old, dry leaf and stem. Stems hard and woody. Seed head may be present or absent.</td>
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</tbody>
</table>
Access to water

Supplements

• Breeding cows and young calves
• Examples:
  – rice straw
  – grasses and hay
  – fodder trees
  – maize (green or dried)
• Minerals, especially salt should be fed routinely
Feeding calves

• Calves need colostrum in first hours following birth

• Nursing cows need plenty of feed and water to produce enough milk for the calf

Growing forages

• Four basic principles:
  – Select the most appropriate forage species for the region
  – Prepare the land for sowing forages
  – Apply adequate fertilizer to maximize forage growth and quality
  – Harvest forage at the best stage of maturity to maximize quality

Making hay and silage

• Hay:
  – Dry grass in the sun and protect it from rain
  – Preserves the nutrients for a long time

Making hay and silage

- **Silage:**
  - This is more labour intensive
  - Requires a pit 1.5 - 2.0 m deep.
  - Young grass needs to be chopped in 4–6 cm lengths, old grass: 1-3 cm lengths and compacted in layers of 30 - 40 cm.
  - It is essential to keep air out of the completed pit so a good covering of soil is required.