MINERALS

1. The TOP section of the plant is highest in MINERAL content.
2. The mineral content is reduced in:
   - Mature pastures
   - Wet regions
   - Dry season
3. The most common mineral deficiencies are:
   - Potassium, Sodium, Sulphur, Iodine, Copper

TROPICAL PASTURES IN ASSOCIATION WITH LEGUMES

INCREASES
- Soil nitrogen content
- Drought resistance
- DM yield/ha
- PC content
- Milk yields

DECREASES
- Soil erosion

Tropical pastures
- LOW in digestible energy

High temperatures:
- high fibre content = low digestibility

Fertilization and 4-6 week rotational grazing
- INCREASES DIGESTIBILITY

PROTEIN

The protein content of tropical pastures decreases rapidly due to rapid growth and maturity.

Example: Elephant Grass

<table>
<thead>
<tr>
<th>Days</th>
<th>% DM</th>
<th>% CP in DM</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>13.38</td>
<td>9.61</td>
</tr>
<tr>
<td>90</td>
<td>21.38</td>
<td>5.93</td>
</tr>
<tr>
<td>180</td>
<td>23.25</td>
<td>4.87</td>
</tr>
</tbody>
</table>

To obtain optimum animal output from grazing:
1. Shade (trees)
2. Clean water
3. Avoid overgrazing/defoliation
4. Avoid compacted soils
5. Grazing night and day

THE FIELD

50% For grazing
50% For the plant
- Maintain persistence
- Dominate weed growth
- Conserve soil and avoid erosion

For more information visit:
http://www.jddb.gov.jm

Jamaica Dairy Development Board
Hope Gardens, Kgn 6.
Selection of Species

A: Select the species most appropriate for local conditions and requirements
B: Determine the agronomic characteristics
- Adaptation to the local soils
- Yield potential
- Growth pattern
- Adaptability to climatic conditions
- Nutritional quality
- Utilisation: i.e. grazing or cut and carry

EXAMPLES

Tolerance

- Drought
- Boggy Conditions / Flooding
- Trampling

SEEDS
- Germination
- Purity
- Viability
- Quality

VEGETATIVE PROPAGATION
- Healthy plants
- Use mature rhizomes or stolons

Organic Fertilisers
- Legumes
- Animal Manure
- Leguminous crop residues
- Manure crops

Inorganic Fertilisers
- Urea (Nitrogen)
- Super phosphates
- Potassium chloride

Management And Use

The Key Points

A. Stocking Rate

EXCEPTIONS

<table>
<thead>
<tr>
<th>Pasture Type</th>
<th>Stocking Rate</th>
<th>Milk Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfertilized pasture</td>
<td>0.8–1.5</td>
<td>1000–2500</td>
</tr>
<tr>
<td>Grass + legume mix</td>
<td>1.5</td>
<td>4000</td>
</tr>
<tr>
<td>Pasture fertilized with nitrogen</td>
<td>2.5</td>
<td>4500</td>
</tr>
<tr>
<td>Irrigated pasture + nitrogen</td>
<td>7.0</td>
<td>15000</td>
</tr>
</tbody>
</table>

B. Grazing Frequency and Height

Use a rotational grazing system

<table>
<thead>
<tr>
<th>ROTATION</th>
<th>GRASS HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–10 days grazing</td>
<td>minimum 15–20 cm</td>
</tr>
<tr>
<td>21–30 days grazing</td>
<td>maximum 30 cm</td>
</tr>
</tbody>
</table>

BAD PASTURE MANAGEMENT

OVERGRAZING → DEGRADATION → WEEDS

- Reduced yield
- Pasture too mature
- Irreversible degradation
- Low nutritive value

A WELL ESTABLISHED, WELL MANAGED PASTURE RESTRICTS WEED GROWTH.