THE BALANCED DIET

To complete the balanced diet on page 4 the following supplements provide approximately:

<table>
<thead>
<tr>
<th>ENERGY</th>
<th>PROTEIN</th>
</tr>
</thead>
</table>
| A.) Wheat bran  
2.5 kg | 0.5kg Soya bean meal  
or 1.0kg sunflower seed meal  
or  |
| B.) Corn meal  
2.0 kg | 1.0 kg Soya bean meal  
or kg sunflower seed meal  
or 2.5 kg whole cotton seed |
| C.) Yuka meal  
2.0 kg | 1.25 kg soya bean meal  
or 1.25 kg soya bean meal  
or 3.0kg cotton seed cake  
or |
| D.) Rice bran  
--- kg | 0.75 kg soya bean meal  
or 1.0 kg sunflower seed meal  
or 2.0 kg whole cotton seed |
| E.) Sorghum  
2.5 kg | 0.5 kg soya bean meal  
or 1.0 kg sunflower seed meal  
or 3.0 kg whole cotton seed |

IMPORTANT

1. Remember the basic diet is PASTURE.
2. The nutritive value of pastures depends on stage of growth, season and management.
3. Cows need 12 hours grazing time to consume sufficient grass for their daily intake.
4. Salt—minimum 30 g per day/cow.
5. Water—a dairy cow needs 60 to 90 litres of clean water daily.

For information on the nutritional content of the feeds, visit JDDB.

For more information visit:
http://www.jddb.gov.jm
**THE BALANCED DIET**

It is necessary to know:

1. The cow’s daily nutrient requirements for maintenance and production. (See Leaflet No.1)

2. The nutritive value of the basic diet:
   - Grazed pasture
   - Cut grass
   - Sugar cane

3. Supplementary feeds needed to fulfill the cow’s daily requirements for:
   - Energy (TDN)
   - Protein

**Examples of Daily Requirements**

<table>
<thead>
<tr>
<th>LW kg</th>
<th>Milk yield litres / day 3.5% fat</th>
<th>TDN (kg)</th>
<th>Protein (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>350</td>
<td>5</td>
<td>4.37</td>
<td>751</td>
</tr>
<tr>
<td>350</td>
<td>10</td>
<td>5.89</td>
<td>1161</td>
</tr>
<tr>
<td>400</td>
<td>5</td>
<td>4.67</td>
<td>783</td>
</tr>
<tr>
<td>400</td>
<td>10</td>
<td>6.41</td>
<td>1193</td>
</tr>
</tbody>
</table>

**DIGESTIBILITY/ INTAKE**

Tropical Pastures have an approximate digestibility of 60-65%.

A cow can consume 2.0% of her live weight in this pasture in 12 hours.

**Example:**

- **Live weight:** 400 kg
- **Milk yield/day:** 10 litres

Grazing Intake in 12 hours = 2% x 400 kg = 8 kg DM (approx. 25 kg fresh material)

4 kg DM  \( B. \ decumbens \) 4.5kg TDN

4 kg DM  \( \text{chopped Elephant grass} \) 520g CP

The cows daily requirements are:

- **6.42 kg TDN** (see the table)
- **1,193 g CP**

**AVERAGE NUTRITIVE VALUE OF SOME COMMON FEED SUPPLEMENTS**

### A.) Energy rich supplements

<table>
<thead>
<tr>
<th>Name</th>
<th>TDN</th>
<th>CP</th>
<th>TDN</th>
<th>CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat bran</td>
<td>75</td>
<td>13.0</td>
<td>750</td>
<td>130</td>
</tr>
<tr>
<td>Rice bran</td>
<td>66</td>
<td>12.0</td>
<td>660</td>
<td>120</td>
</tr>
<tr>
<td>Maize bran</td>
<td>82</td>
<td>3.5</td>
<td>820</td>
<td>35</td>
</tr>
<tr>
<td>Yuca meal</td>
<td>79</td>
<td>13.0</td>
<td>790</td>
<td>130</td>
</tr>
</tbody>
</table>

### B.) Supplements rich in protein

<table>
<thead>
<tr>
<th>Name</th>
<th>% CP in DM</th>
<th>g/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soya bean meal</td>
<td>50.0</td>
<td>500</td>
</tr>
<tr>
<td>Sunflower Seed meal</td>
<td>43.0</td>
<td>430</td>
</tr>
<tr>
<td>Cotton seed</td>
<td>21.0</td>
<td>210</td>
</tr>
</tbody>
</table>

**Procedure**

1. Select supplements according to availability/price
2. Calculate the amount of **energy** supplement needed to satisfy the cow’s energy requirements
3. Calculate the amount of **protein** supplied by the energy supplement
4. Calculate the amount of **protein** needed to complete the cow’s protein requirements