About this factsheet
A thorough understanding of the nutritional needs of lambs is essential to the success of any commercial production system. Since feed is one of the most significant costs involved in the production, nutritional needs of lamb must be met in the most cost-effective manner.

Commercial feeding of lambs

The single main input into all sheep production systems is feed. Sheep, like other ruminants, survive on a basic diet of grass and legumes (forages). However, supplements are needed to optimize growth. The cost of supplement concentrate feed, though, is constantly rising and most sheep farmers are finding it increasingly difficult to meet these rising costs. With this in mind the Caribbean Agricultural Research and Development Institute (CARDI) embarked on the Caribbean Sheep Production and Marketing (CSPM) project, which sought to provide a feasible solution to this problem. The project was based in Tobago, Barbados and Guyana. The West African and Barbados Blackbelly breeds were used, and recommendations proposed in this factsheet are restricted to semi-intensive and intensive sheep rearing systems.

NUTRITION
Proper nutrition of lambs entails the provision of the following:

- Energy
- Proteins
- Minerals
- Vitamins
- Water

A feeding regime of forages and concentrates is employed by farmers to ensure that lambs are provided with these requirements.

FORAGES
Forages form the basis of all feed regimes and adequate amounts should be provided. It is recommended that a grass and legume mix should be fed to lambs.

A good quality grass such as pangola, elephant grass and other improved grasses should be used.

Legumes like gliricidia (wild tamarind) and leucaena (quickstick) are excellent sources of protein. They are easily established and can be used as a source of live fencing. Kudzu is also a good protein forage.

Leaves from the gliricidia/leucaena branches can be stripped using a small gauge BRC wire or ring. The soft branches can also be used. Do not feed hard stems to the lambs.
Table 1  Amount of forages and supplement to feed animals

<table>
<thead>
<tr>
<th>Live weight (kg)</th>
<th>Estimated DM intake (g)</th>
<th>Estimated total forage intake (g)</th>
<th>Recommended minimum fresh forage intake (g)</th>
<th>Rec. maximum supplement intake (14% CP) (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>150</td>
<td>750</td>
<td>250</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>300</td>
<td>1500</td>
<td>750</td>
<td>150</td>
</tr>
<tr>
<td>15</td>
<td>450</td>
<td>2250</td>
<td>1250</td>
<td>200</td>
</tr>
<tr>
<td>20</td>
<td>600</td>
<td>3000</td>
<td>1750</td>
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<tr>
<td>30</td>
<td>900</td>
<td>4500</td>
<td>3000</td>
<td>300</td>
</tr>
<tr>
<td>35</td>
<td>1050</td>
<td>5250</td>
<td>3750</td>
<td>300</td>
</tr>
</tbody>
</table>

Note: 45 g (4.5 kg) = 1 lb

The recommended amounts in the table above should give an average weight gain of 150-175g per day. Lambs that are less than 10kg should be given a creep feed of 14% crude protein. Lambs should be weaned at 10-12kg once they are healthy. Lambs should reach market 35-40kg in 200 days.

The cut grasses and legumes should be chopped and wilted overnight before being fed to the animals. A four to one grass to legume mix is recommended. A maximum ratio of two to one grass to legume mix can be used if desired.

**HOW MUCH FORAGES TO FEED?**

Animals consume 2.5% to 3% of their body weight in Dry Matter\(^1\) (DM). This can be estimated by calculating 3% of their live weight and feeding that amount of forages to them. Table 1 can be used to quickly approximate how much forage to feed. Remember to have fresh water available at all times.

**SUPPLEMENTS**

Supplements are fed to lambs in small quantities to provide them with additional essential nutrients. Concentrates are used as the main source of supplements in most semi-intensive to intensive sheep production systems in the Caribbean and are basically made up of ‘concentrated’ sources of energy, protein and other nutrients, so that small amounts of concentrates provide large amounts of energy, proteins, etc.

**HOW MUCH CONCENTRATE TO FEED?**

The cost of concentrate feed is high. The farmer must therefore weigh the cost against the expected increase in productivity when deciding how much concentrates to feed. Research done through the CSPM project proposes that the most cost effective level of concentrate feeding is an average of 225 g (1/2 lb) of commercial concentrate. Feeding double that amount 450 g (1 lb) will not double the growth rate of the animal.

It is recommended that an all purpose ration (14% crude protein) be used for concentrate feeding. However, the use of concentrates must be as a supplement to forages, so that there will be optimum use of the available forages before the supplements are offered.

Table 1 also gives an indication of the maximum amount of concentrates that can be fed.

**MIXING YOUR OWN SUPPLEMENT FEED**

A cost effective alternative to store-bought rations is mixing your own feed. This can be done individually through farmers’ groups or cooperatives, where bulk purchases of raw input can greatly reduce the cost to the individual farmer.

The research conducted in this project used a farm-mixed ration in the proportions shown in Table 2.

The feed can be mixed manually using shovels...
Table 2 Farm-mixed ration

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percent of feed</th>
<th>Amount in kg per 45 kg of feed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat middling</td>
<td>65.0</td>
<td>29.25</td>
</tr>
<tr>
<td>Citrus pulp</td>
<td>31.0</td>
<td>13.95</td>
</tr>
<tr>
<td>Fish Meal</td>
<td>3.0</td>
<td>1.35</td>
</tr>
<tr>
<td>Cattle pre-mix</td>
<td>0.4</td>
<td>0.18</td>
</tr>
<tr>
<td>Salt</td>
<td>0.6</td>
<td>0.27</td>
</tr>
</tbody>
</table>

and bagged to be stored for further use. Several rations can be formulated depending on the ingredients locally available at reasonable cost to the farmer. Remember to always provide the animals with adequate amounts of water.

The following points must be remembered when implementing a feeding regime for your lambs:

- The performance of lambs is very significantly improved by feeding grass/gliricidia mixtures as opposed to grass alone.
- The forage intake of animals is not significantly affected by the level of concentrate feed offered.
- There is no significant advantage of feeding 450 g of concentrates over 225 g.
- There is no significant difference in growth performance of lambs fed similar quantities of commercial ration or farm mixed ration.
- The cost of the rations should therefore determine which ration the farmers should use.