Dairy Calf to Beef Management

The aim of successful calf rearing is to produce a healthy calf which is capable of optimum performance throughout its life from birth through to finishing. A suitable calf rearing system has the following characteristics:
• Good animal performance with minimal disease and morbidity and optimal growth rates.
• Low cost input.
• Low labour input.

Management and care of purchased calves is critical
Predisposing factors affecting the calf’s ability to fight infection are stress, overcrowding, inadequate ventilation, draughts, fluctuating temperatures, poor nutrition and/or concurrent disease.

Calf health management planning
Prior to calves arriving on the farm, develop a calf health and nutrition management plan in consultation with your veterinary practitioner and Teagasc advisor. Buying healthy calves is critical to the profitability of the system.
• Calves should be alert, have clear eyes, dry navel, no swelling of joints, no signs of scour or pneumonia, shiny coat with a good weight for age.
• Calves should be isolated from resident calves for one week to allow them to be monitored for any disease problems and ensure they do not carry or spread infection to the remainder of the herd.

Purchased calves
1. Calves ideally should be at least 14 to 21 days old and have good weight for age (45 to 50 kg at 2 weeks of age).
2. Try to choose calves that have been fed sufficient colostrum.
3. Select calves from as few sources as possible.
Check calves daily for enteric disease (scours) and pneumonia and treat any affected calves promptly, in accordance with your veterinary advised treatment plan.

1. Management of purchased calves at arrival on farm
• Check calves for signs of illness.
• Allow calves 2-3 hours rest before feeding a good rehydration electrolyte as a first feed.
• Take rectal body temperatures. A temperature elevation is often the first sign of sickness.
• Take sick animals to a sick pen for diagnosis and possible treatment by or upon advice of your veterinary practitioner.
• Treat calves with temperatures over 39.5°C (103.1°F).

2. Feeding systems – cleanliness and consistency are critical
Bucket/teat feeding; twice/day, computerised feeders, ad lib feeders can all be successful provided they are clean and treated with good attention to detail.

3. Pre-weaning nutrition
• Feed calves 3 litres of calf milk replacer twice daily (at 375-450 g per feed), supplemented with good quality starter concentrates, and roughage in the form of good quality chopped straw.
• Hay is not ideal as it can reduce starter concentrate intake. Water and starter concentrate intake are vital for development of the rumen.
• Calves should be fed with a liquid diet twice daily until they are at least three weeks of age.
• For a concentration of 12.5% solids use 125g of milk powder and 875 ml of water to make 1 litre of mixed milk.
• Protein levels in a calf milk replacer should be at least 23-26% and consist predominantly of milk proteins. Ensure that the water temperature is not greater than 39°C as hotter temperatures would denature the protein in the milk replacer and reduce calf performance.
• Ensure calves have access to clean fresh water daily. Achieve a target a gain of 0.7kg/day by feeding 750-900g milk solids/day, supplemented with good quality concentrates.

4. Calf scours
Scours cause 35% of calf mortality and are the main cause of mortality. The majority of calf scours are caused by:

a) viruses (rotavirus and coronavirus),
b) bacteria (E. coli and salmonella),
c) protozoa (cryptosporidia and coccidia).
d) nutrition

A scouring calf dehydrates very quickly, and the first focus should therefore be aimed at rehydrating the calf. Treatment consists of pain and fever treatment combined with rehydration and proper nutrition. There is no vaccine available against the protozoa, attention to hygiene is crucial.

5. Calf pneumonia

This is the most common disease associated with housed calves. Approximately 3% of calves born die from pneumonia in the first 12 weeks of life. In severe outbreaks of pneumonia on farms the mortality can be up to 20%. The underlying cause of BRD in weaned calves is extremely complex with the involvement of viruses, bacteria and mycoplasma. Veterinary advice should be sought for a suitable vaccination programme.

- If calves start to scour, isolate them from other calves to avoid cross infection, get electrolytes into them and DO NOT stop feeding them milk replacer.
- Calves should not be weaned until they are consuming at least 1 kg calf starter/day for three consecutive days.
- Wean calves gradually off milk replacer over a seven to ten day period.
- The calf MUST be healthy before weaning. Do not wean calves that show signs of ill-health.

6. Housing

Reduced environmental stresses on calves can be achieved by dry draught free housing.

- Over-stocking should be avoided.
- Ventilation must be good to reduce the burden of infection and risk of mortality.
- Dry, draught free housing will reduce the environmental stresses on calves and adequate air changes resulting from good ventilation will reduce the infection load on the calves. It may not prevent pneumonia. However, the severity of pneumonia will be less and the mortality associated with it, will be reduced.

7. Group Penning

Calves may be kept in single pens (up to 8 weeks old), in groups, or in a combination of both. When group penned, the minimum permissible pen floor space per calf weight and age is as follows:

<table>
<thead>
<tr>
<th>Calf Weight</th>
<th>Calf Age (approx.)</th>
<th>Space Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>under 150kg</td>
<td>Up to 19 weeks</td>
<td>1.5m² minimum</td>
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<tr>
<td></td>
<td></td>
<td>1.7m² recommended</td>
</tr>
<tr>
<td>150-220kg</td>
<td>19-32 weeks</td>
<td>1.7m²</td>
</tr>
<tr>
<td>Over 220kg</td>
<td>Over 32 weeks</td>
<td>1.8m²</td>
</tr>
</tbody>
</table>

However, as a general guide a total floor area of 2.3m² per calf (includes feed passage) with a cubic air capacity of about 7m³ per calf should be provided.

Important Event

**Teagasc/DAFM Forestry Information Meeting**

Teagasc and DAFM will hold a Forestry Information Meeting in the Teagasc Centre, Dungarvan on Thursday March 22nd at 7.30pm to explain the improved afforestation grants and premiums and revised support schemes. This is an excellent opportunity to hear first-hand of the scheme changes. It will be of interest to farmers and landowners thinking about the multiple benefits of forestry as well as current forest owners seeking to optimise their on-farm resource. All are welcome.