

CALF REARING

The aim of successfully rearing heifer replacements must be to provide a level of nutrition that will enable optimum growth rates and rapid rumen development at a reasonable cost.

The Environment

- Pens need northern exposure for sunlight with open fronts.
- Pens should be twice as deep as wide to eliminate draughts.
- Pens should be airy – not warm and humid – air must ventilate.
- Solid partitions between pens, 1.5 metres high minimum.
- Adequate drainage – Sawdust or shavings, 100mm deep. Not treated and topped up regularly.
- 2-3 square metres per calf and 25 calves max. per pen.
- Adequate roof overhang to avoid rain entry.
- Outside access when warm & sunny. Paddock rotation within and between seasons.
- All calf feeders at mouth height or slightly higher.
- Fresh water in all pens.
- Calf pens should be up to speed and disinfected. Make sure your disinfectant kills bacteria, viruses and protozoa.
- Disinfect pens once or twice weekly through the season.
- Wash feeders daily and disinfect twice weekly.

Calf Management

- Iodine spray navels a.s.a.p after birth.
- Collect calves in a clean trailer and disinfect the trailer weekly.
- Ensure calves have received fresh colostrum within 6 hours of birth. (2-4 litres) Use a 'Calf Drencher' if unsure.
- Keep similar age and sized calves in each pen. Fill pens as you go, once full calves should stay in that pen during entire time they are housed.

- Any suspect calves that are depressed, have swollen navel, swollen joints, diarrhoea or just off their feed should be isolated immediately and treated a.s.a.p . A wait and see approach is usually more costly when dealing with calves.
- Diarrhoea, or scouring, is the most common disease of young calves.

Scouring is caused by local irritation of the intestinal lining by infectious or chemical agents

1. Incorrect nutritional management.
2. Bacterial infections.
3. Viral infections.
4. Internal parasites.

The infections are often a secondary result to poor nutritional or housing management.

SIGNS OF SCOURING

1. Calf off food, or "hangs back" from feeding.
2. Calf huddled up and unhappy – isolates itself and won't interact.
3. Wet tail, hocks & thighs: White, brown or black watery dung (may be flecked with blood).
4. Hair stands on end.
5. Mouth feels cold.
6. Skin that feels "leathery" and "tents" when pinched, ie. dehydration.
7. Rectal temperature may be high (above 39.5°) or low (less than 38°).
8. Calf sits or lies out flat and is unable to stand.

TREATING SCOURS

A scouring calf urgently requires water and electrolytes to correct imbalances, and must also receive a source of energy. Most scouring calves can be saved with just electrolytes, whether the cause is dietary, bacterial or viral, without the need for antibiotics.

Example: A 45kg calf that is 10% dehydrated requires 4.5L of electrolytes just to restore the lost body fluid. It then needs another 4-5L of fluids to meet its daily maintenance requirements. That's a total requirement of 9-10L per day.

How do you decide how dehydrated a calf is? Here are some pointers to help:

- Mild scour < 5% dehydrated. The calf will be mildly depressed, urine output will decrease but it will still remain relatively alert and look to feed.
- Moderate 6-8% dehydrated. Eyes become sunken, skin is tight, calf is depressed but still standing, and mouth & nose are dry. It is less enthusiastic to feed.
- Severe 10% dehydrated. All above signs more pronounced, legs & ears cold to touch and calf remains down.
- Skin tightness is a sign of dehydration. In a normal animal, if you pinch a fold of skin firmly and release, it will rapidly spring back to normal. In a dehydrated animal the skin will remain 'tented' for several seconds. The longer it remains 'tented', the more severe the dehydration.

When you give electrolytes (salts etc) the calf becomes thirsty. If you have given 6 litres of electrolytes it will go looking for another 4L of water to make up the rest of its daily requirement. If fresh clean water isn't available in every pen, the calf will go looking for water-this may be from a puddle, drains or even each others urine. Do not overlook the importance of ad-lib clean water.

Research has shown that diarrhoeic calves should continue to receive at least some, if not all, of their normal milk product, as scouring calves given their normal milk ration **plus** oral electrolytes developed firmer faeces, had higher body weight gains, recovered faster and had higher blood glucose concentrations than calves on oral electrolytes only.

Debate still exists as to the effect of electrolytes on milk clotting in the stomach of calves. Therefore we advise feeding alternatively at 2-3 hour intervals.

CALF FEEDING GUIDE:

- A calf should be fed approximately 12 percent of its body weight per day. Feeding much below this amount causes poor growth due to lack of necessary nutrients. Feeding higher levels of whole milk can result in more rapid growth rates, but it is not recommended because it decreases meal consumption and prolongs time to weaning due to slow rumen development.
- Ideally the milk should be warmed to at least 18 C, especially during the early weeks, to avoid further stressing of the calf. Try to feed the milk at approximately the same time of day.
- Whole milk should never be watered down as this will prevent clot formation and can result in diarrhea.
- CMRs should be reconstituted to about 15% DM. Ad lib water should be available to calves from day 1.
- At birth, calves do not have an active rumen. While increasing rumen size is part of the calf's development, it is more important that the papillae lining the rumen develop. The longer the papillae the greater the surface area available for absorption of nutrients. If the rumen is not developed sufficiently at weaning then calves are likely to suffer a growth check.
- Meal is far more effective at stimulating rumen papillae development compare to hay or milk. Meal should be made available from at least 1 week of age. Meal should have 18-22% crude protein, 10-25% fibre and an energy level of at least 11.5-12.5 MJME/kgDM. A coccidiostat should be added to prevent scours caused by coccidia.
- Once concentrate intake exceeds 0.5kg/calf/day milk volume can start to be reduced and once intake exceeds more than 1kg/calf/day calves can be weaned.
- **Do NOT** wean just on body weight. Calves should have a pear shaped abdomen indicating a fully functional rumen.
- Concentrates need to be fed for at least 1 month post weaning up to a maximum of 2.5kg/calf/day.
- Late or poor calves should be offered additional meal to help them catch up with the rest of the mob.