

Teagasc/Animal Health Ireland CalfCare Open Days

The Simple 1,2,3 of Calf Rearing

Supported by Volac





Colostrum Management

Getting the right amount of colostrum into calves as early as possible is the secret to good calf management. Calves that get enough colostrum are less likely to get sick and will thrive better.

Use milk from the

- 1st milking to feed calves within
- 2 hours of birth
- 3 litres of clean safe milk.

Why is it important?

Colostrum (“biestings”) is the first milk that the cow produces. It is richer than normal milk in many respects, but especially in its content of immunoglobulins (antibodies). These antibodies are proteins that are built by the immune system to prevent infectious diseases.

The quality of colostrum is defined by the concentration of antibodies which varies between cows. Beef cows and lower yielding mature dairy cows generally have richer quality colostrum.

The second and subsequent milkings of a dairy cow contain less antibodies and should not be considered colostrum but as transition milk. Transition milk is milk that is not saleable from the first eight milkings.

Nutrition of the young dairy calf

1. Feed at least 13 – 15% of calf birth weight in whole milk or high quality milk replacer (6 litres for H, Fr, HF x NR; 5 litres for HF x J; 4.5 litres for J calves.
2. Clean water and adequate amounts of a starter concentrate should be provided at all times.
3. Calves should be weaned when eating at least 1kg starter concentrate.

Key Targets: Monitor & Record Performance

- Mortality of < 3% up to three months
 - Daily live weight gain of 700 – 800 Grams per day up to 12 weeks
 - Weaning at 10 – 12 weeks at 85 – 100 kg
 - Minimal labour, minimal treatment and medication cost per calf
- Milk Feeding
- Feed 13/15% of body weight of whole milk or good quality milk replacer (5 – 6 l/day)
 - Milk replacer should have 25% milk proteins and be fed at 12½ - 15% concentration
 - Avoid feeding waste milk where possible
 - Feed extra when temperature drop below 10°C

Feeding Systems

- Use system to suit labour on farm
- Housing, hygiene and general husbandry important
- Do not go to Once A Day Feeding until 4 weeks of age

Water/Roughage/Calf Starter

- Clean water daily from 3 days of age
- Water required to encourage concentrate intake and develop rumen
- Have ad lib fresh clean barley straw
- Introduce calf starter, preferably coarse ration, from 5 days of age
- Starter at 12 MJ, 18 – 20% Crude Protein

Weaning

- Wean when healthy and eating 1 Kg of Concentrate for three consecutive days
- Wean at >85 kg live weight
- Gradual weaning preference to abrupt weaning

Parasite Control in First Grazing Season (FGS) Dairy Calves

Parasites of importance for calves in the FGS are gut worms, lungworms and liver fluke. Dairy calves have no immunity to parasites and are at risk of subclinical and clinical disease. Initially, suckler calves are at a lower risk of parasite infestation due to their milk diet and limited grass intake.

Monitoring

- Clinical signs; weight loss and scour (gut worms) and coughing, especially after exercise (lungworm).
- Daily live weight gain (DLWG) should be above 0.8kg/day.
- Faecal egg count (FEC) for gut worm eggs 2 months after turn out. >200epg requires treatment.
- Frequent FEC's should be considered if "tactical" dosing is to be used.
- Fluke egg counts may be carried out when calves are at grass for more than 12 weeks, if the risk of fluke over wintering on pasture is deemed high. If there is any suspicion of harmful infections at a younger age, blood samples can be taken to check for the levels of liver enzymes.
- Only patent lungworm infections can be diagnosed using faecal samples.

Control

1. Gut worms

- Grazing Management
 - Lower risk pastures include: new or reseeded pastures, silage after grass, pastures grazed by sheep for 1-2 months, pastures that are grazed rotationally.
 - Higher risk pastures: pastures recently grazed by young stock, permanent pasture.
- Good Nutrition
 - Can offset some of the negative effects of parasites.
- Appropriate use of antihelmintics:
 - Strategic management: Turn out onto cleanest possible pasture. Treat within 3 weeks and repeat (check residual activity of drug used to calculate interval between doses) until mid-July. Calves should be kept on low risk pasture.

Further treatment may be required if calves are moved to a high risk pasture.

- Tactical Management: Monitor FEC and DLWG and treat when $FEC > 200$ and DLWG is < 0.7 . After grass should be used to reduce risk.
- Therapeutic Management: Treat only when signs appear. This strategy is higher risk but may be the only available option in certain situations such as on organic farms.

2. Lungworm

- Lungworm infections are less predictable than gut worm infections and they make their main impact through clinical disease - hoose or husk. Fatalities can occur. Close monitoring for early clinical signs of respiratory disease, particularly coughing, is the best approach for management of lungworm infection.
- Grazing Management: Turn calves out onto low risk pasture as one group.
- Appropriate use of anthelmintic: Anthelmintic must be used therapeutically when calves are coughing and may be used strategically in conjunction with pasture management. Anthelmintic used to treat gut worms are also effective against lungworm.
- Vaccination: A live lungworm vaccine is now available in Ireland. It is necessary to complete the vaccination schedule 2 weeks prior to turnout.

3. Liver Fluke

- Improve drainage and fence-off wet areas.
- It may be unnecessary to treat with flukicides until the autumn and/or at housing as spring-born calves will initially carry no liver fluke.
- Advice varies depending on weather, fluke forecast and farm history.

Management of Scouring Calves

Scour in young calves is caused by a variety of infectious agents, including parasites, viruses and bacteria. These will damage the intestines, which leads to the calves losing salts and water in the form of diarrhoea.

1. **Remove**

Isolate the calf to stop the spread of disease.

2. **Rehydrate**

The single most important treatment is to replace the salts and fluids. Up to 10 litres per day of salts and fluids can be lost with scour. Give one or two extra feeds (2 litres each) of a good quality oral rehydration solution as soon as the calf starts scouring and while it is scouring independent of the milk feeds. You can safely give electrolytes by stomach tube if the calf refuses or is unable to drink.

3. **Feed milk**

Feeding milk does not prolong or worsen the scour, it rather is necessary to heal the guts and to keep the calf in good condition so that it can fight the disease. Therefore scouring calves should be fed with normal amounts of milk as long as they are willing to drink.

CalfCare Electrolyte Solution

For Oral Use only

Mix in 2 litres of warm water:

- 8 grams (half a tablespoon) of Low Salt
- 12 grams (one tablespoon) of bread soda
- 40 grams (2 to 3 tablespoons) of glucose

Feed by bucket or nipple feeder alternating with milk feeds

Biosecurity

What are the most important disease threats to your stock from outside your farm?

Direct disease spread from animals

- Purchase of stock
- Neighbouring animals breaking into your farm

Direct Disease Spread from Animals

Purchase of Stock

Purchased stock or added animals are those bought-in, 'borrowed' or returned from marts, shows or contract rearing premises. Therefore they can include both new animals and existing home-farm animals. Bought-in animals are the most dangerous. Many diseases are carried by animals that are not sick and appear completely normal. They are silent carriers which can bring disease into the herd quietly but effectively. All introduced animals carry a risk for introduction of disease irrespective of their age.

The best and most obvious way to reduce the risk of new diseases coming into your herd from added animals is to close your herd.

You are not a closed herd if you are:

- buying in bulls
- borrowing bulls
- exhibiting at shows
- sharing cattle handling facilities for testing
- directly returning unsold cattle to your farm
- using common grazing or housing.

Neighbouring animals breaking in onto your farm

Boundary fencing should prevent break-outs, break-ins, nose-to-nose contact between herds and reduce aerosol spread of infectious agents by livestock. Fence out your neighbours cattle and fence in your own by providing good boundary fences. Double fencing may include electric fences; ditches and hedging also reduce the risk of

neighbouring animal contact.

Indirect disease spread

- Farm visitors
- Colostrum
- Slurry (imported)
- Shared animal equipment
- Wildlife

Indirect Disease Spread

Farm Visitors

Every farm has visitors, and every farmer should aim to minimise disease risks from outsiders. High risk visitors are those who have direct and frequent contact with other farm animals and your cattle, e.g. veterinary practitioners, other farmers (especially those who also work on your farm), AI technicians, agricultural consultants, hoof trimmers, scanners, sales personnel and collectors of deadstock.

- Keep farm visitors to a minimum.
- Limit farm entry points - and only have one farm entry point.
- Use signage to direct farm visitors to a contact point or a mobile number.
- Reduce direct contact between visitors and your stock.
- Provide personal protective clothing for visitors such as gloves, footwear, overboots, overalls/gowns.
- Provide cleaning facilities for visitors - maintain and use hand-washing and boot-washing and disinfection facilities. Make it routine practice to have all visitors disinfect all protective clothing on entry to the farm.
- Restrict deadstock collectors to areas away from where livestock are kept - bring deadstock out to the truck rather than bringing the deadstock collector vehicles into the farmyard.

Slurry

Imported (brought in from another farm) untreated slurry, farm yard manure, sewage and other bio-wastes are possible sources of disease, including Salmonellosis, TB and Johne's disease. The disease risk reduces with storage. However, disease causing

organisms such as Johne's disease bacteria can still be present after many months and sometimes for over a year.

Farm Equipment

High risk animal equipment is that which is contaminated with body fluids (saliva, blood, nasal secretions, and birth fluids) or faeces and is used directly on or by your animals. These fluids can all carry disease causing organisms. Examples include equipment for calving, de-horning, hoof paring and, scanning, nose tongs, stomach tubes, gloves, portable crushes, multiple injectors, weighing scales and trailers.

Wildlife

Infections can potentially come in from wildlife such as badgers (TB), crows/ pigeons/ seagulls (Salmonellosis), cats (Toxoplasmosis), deer (TB), dogs and foxes (Neosporosis), goats (TB), rats (Leptospira) and midges (Schmallenberg).

- Operate a vermin control programme
- Maintain bait at appropriate protected sites in the farmyard to reduce vermin numbers.
- Make sure that all bait points are clearly identified and are fixed to a wall or the ground.
- All bait points should be dog and childproof.
- Reduce access to feed and animal wastes
- Provide netting or flaps to reduce bird access to feed.
- Provide a closed shed for stored feed.
- Clean up feed spillages.

AHI has produced a series of leaflets on biosecurity and they are available online at <http://www.animalhealthireland.ie/page.php?id=132>



Johne's Disease

Johne's Disease is a challenging condition with multiple factors associated with its spread between and within farms. It is essential that you seek advice on interpreting diagnostic tests and developing a control programme for your farm with your veterinary practitioner.

Cleanliness

Ensure calving cows are clean and the calving environment is free from dung. The calving pens should be frequently and thoroughly cleaned. Sufficient fresh bedding should be put down so that the pen floor is dry and clean between each calving.

Cows

If there are any animals that have tested positive for Johne's Disease that are still in the herd, ensure they calf in an isolation area and that their milk or colostrum is not used to feed any calves that will be retained for breeding purposes. Ensure that sick cows are not kept in or near to the calving pens.

Calf Removal

Calves should be removed from their dams as soon as possible (within 15 minutes) after calving so that they have minimal exposure to cow dung. This could be to a nearby clean refuge made of straw bales.

Colostrum/milk

Calves must only be fed colostrum and milk from their own dam or a known low risk cow (e.g. a cow that has repeatedly tested negative for Johne's Disease). The use of pooled colostrum or milk is a major risk for calves becoming infected by Johne's Disease.

Calf Rearing

During the first 3-6 months of life calves should be reared in an environment where there is no risk that they will be exposed to the dung of adult cattle.

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