

How a purpose-built calf shed can minimise health issues



Animal health is a key topic at the BEEF2024 open day, and Galway farmer Colm Reilly outlines the benefits of building a state-of-the-art calf-rearing shed. **Mark Moore** reports

Background

The farmer

Colm Reilly farms 28 ha near Caherlistrane Co Galway. He recently built a state-of-the-art calf rearing shed. Colm also works full-time in his own business, constructing and renovating chimneys.

The researcher

John Donlon is a specialist cattle vet, who works as a researcher in Teagasc Grange. His interests include calf housing/BRD; dairy calf to beef performance; the ruminant microbiome and its influence on calf health.

The advisor

John P Kilboyle works from the Teagasc office in Tuam. He advised Colm Reilly on the design and location of the new calf-rearing shed.

Before he built his customised calf-rearing shed, Colm Reilly had been using a slatted shed with a lie back to rear 60 bought-in calves. "It wasn't designed for calf-rearing which meant that tasks were inefficient and time-consuming," he says. He now rears 100, which arrive in groups from the beginning of March, in the purpose-built shed.

John Kilboyle advised Colm on the choice of location and shed design: "One of the key advantage of the shed is that the floor has a 1:20 fall from back to front and a drainage channel at the front of the pens to remove urine and associated smells quickly," says John. "Calves spend about 80% of their time lying down so they need a dry bed. A dry environment will also reduce the spread and growth of bugs."

The calves are bedded on wood shavings, which costs about €12 per calf annually. "Wood chip works for Colm's calves because they are a month old when they arrive," says John Donlon. "Younger animals benefit from good quality straw, which they can nestle into. It is essential to keep the calf bed dry and ammonia levels very low."

There are 10-12 calves per pen and they have 2.3 sq. metres each. Mesh at



John Donlon, Colm Reilly and John P Kilboyle.

the roof outlet prevents birds getting in. The main doors are always closed.

Colm, who is a qualified plasterer, says he project-managed the building of the shed and did a lot of the work himself including fabrication of calf pens, concrete work, shed erection. The shed cost approx. €45,000 to build; he did not apply for a TAMS grant.

Calf rearing system

"I buy in batches of 10 with 10-30 calves per week arriving on farm from the first week of March," says Colm. "Most of the calves are male Angus X Friesian with some Belgian Blues X Friesian & Friesian X Friesian."

The calves are approximately four weeks old on arrival and Colm puts huge emphasis on sourcing quality



Colm's shed is built with Yorkshire Boarding on the windward side and Space Boarding on the other for optimal comfort and ventilation.

calves from as few sources as possible. He puts a lot of emphasis on judging the animals by their conformation: "85% of the calves this year were sourced from one farm whose stock I have found performed well on farm in previous years," he says.

"This helps ensure the quality and consistency of calves I'm getting, along with reducing the risk of disease introduction into the herd having previously sourced calves from four farms."

"Buying calves from a large number of sources or from marts can increase the risk of disease spreading," says John Kilboyle. "Colm's approach is wise." The calves have access to

fresh water, straw as fibre/roughage source and ad-lib access to concentrates once they arrive on-farm.

They are also given electrolytes for their first feeds on the farm. Their feeding programme of milk replacer is focused at getting the calf to increase intake of concentrate to develop the rumen.

"I mix the milk replacer based on weight rather than volume as the density of the powder can vary a lot. It takes about 45 minutes to feed the calves in the morning." Colm says a few simple changes to his calf rearing system in 2024 have really simplified the feeding process and given it great consistency.

Water heater, mixer & pump

"I have installed an on-demand gas water heater to heat water for mixing the milk. And I have fabricated a milk kart with motorised mixer and pump, which allows me to mix the feed for all calves in one go, and then evenly feed all calves with right volume daily."

Calves are fed at 06.30 and 07.30 on Sundays. The calves like consistency," says Colm. "Although the shed has been designed to allow for the potential installing of an automatic calf feeder in the future if needed, I will find it hard to justify given the milk feeding system and feeding programme I have in place at the moment."



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Colm with his wife Edel, and daughter R'ealta.

Disease prevention

"Another key design feature of this shed is the ventilation it provides to keep air fresh while having no draughts," says John Kilboyle.

"Air inlets are provided by using Yorkshire boarding on the windward side and space boarding on the sheltered side of the shed, with an air outlet in the form of a capped ridge."

Good ventilation takes away moisture, dust, ammonia, bugs and excess heat. It also kills harmful organisms living in the air – viruses, for example, will survive for a shorter time in fresh air than in stale air. Dust and ammonia irritate the respiratory tract and make the animal more vulnerable to respiratory disease.

John Donlon says the complete

absence of any coughing whatsoever by the calves in the shed is a good sign. "If you hear any coughing, the calves may have sub-clinical pneumonia. In the future vets will ultrasound scan the lungs of calves at arrival to detect pneumonia."

"We do that now at Teagasc Grange – this allows us to make better treatment decisions earlier and reduce the loss in performance associated with BRD."

And speaking about the BRD project at Teagasc Grange, he added: "All the calves involved in this project will be monitored using lung scanning, which is a new technique that allows us to detect respiratory disease earlier."

Meanwhile, Colm noted that the Beef Health Check Report for all stock finished last year had come back clear indicating the animal health plan he



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has implemented, is working.

Colm is also interested in the calf microbiome, the community of bugs living within and around calves and the influence on health and performance. John Donlon said Teagasc Grange is currently investigating how a calf's microbiome changes over time and in relation to disease events.

Colm is also really interested in vaccination strategies and preventing and treating scour in the early days and weeks following turnout.

John Donlon says cleanliness is key, so the shed is a good start. "Ideally the beef farmer would decide the vaccination programme before the calf left the dairy farm," he said.

Vaccination

"The gold standard would be to give an intranasal vaccine on arrival and follow up with an injectable vaccine later but this is expensive."

Colm is also concerned by summer scour. It can occur if calves have access to too much lush grass, especially in early days/weeks following turnout. He explains having a well reared calf (+120kg) at turnout and getting the calves to 'clean out' a paddock are two key factors helping him avoid summer scour outbreaks on farm.

"Calves go out to grass when they are 120 kg, and they receive one kg of meal per day on paddocks which are strip grazed." And as Colm manages the calf-rearing phase so well, "the calves are set up to perform well on grass and maximise lifetime performance on the farm and finish in a 20 month system," says John Kilboyle.

"I think we have to be constantly looking for new ways of doing things," concludes Colm.

"That's why I'm interested in seeing what Teagasc Grange are doing at the open day and also taking part in the Tuam Dairy Calf-to-Beef Discussion Group. You will always pick up something useful."