

# Less work, better welfare: the benefits of upgrading your calf rearing facilities

**James Dunne**  
Teagasc Dairy Specialist

**Anthony Mulligan**  
Teagasc Ballyhaise

**N**ow is the time to review your calf rearing facilities. There is still time to plan and carry out any works that may be needed. Some farms will build a purpose-built calf shed. For others, changes to existing housing may be enough to create additional space.

A recent Teagasc Moorepark study investigated peak workload of a seasonal milk production system. It showed that 19.2 hours/cow was required between the months of February and June on dairy farms with an average herd size of 137 cows.

In February and March, calf care accounted for a substantial proportion (21%) of work time. Reductions in labour input for this task in February and March would help reduce the seasonal work peak.

Investing in facilities and/or technology that improves the efficiency of the calf rearing process will reduce labour demand. Seventeen farms within the study were identified as having made substantial calf care changes.

These farms had 26 more cows in 2021 than in 2019, but calf care labour input reduced by 5% (12 hours) and calf care efficiency improved by 16%.

Of the 40 farms that made no substantial calf care changes, their herd size increased by 11 cows, calf care labour input increased by 11% (27 hours). Their calf care labour efficiency declined by 2% between 2019 and 2021.

## Calf housing checklist

Whether building a new calf shed from scratch or adapting an existing one, there are a number of factors to consider:

- Recommended space allowance of 1.8m<sup>2</sup>/calf.
- The house should be well ventilated, but draught free.
- One in 20 slope on floors to allow good drainage.
- No sharing of airspace with older animals; i.e. keep calves in a separate house.
- Solid divisions between pens – minimise disease spread.
- Mechanical access for both bedding with straw, and cleaning out.



The farms that invested in substantial calf changes increased their cow numbers, but calf labour input was reduced by 5% and calf care efficiency improved by 16%

## Space

Provide 1.8m<sup>2</sup> per calf. Therefore, 180m<sup>2</sup> of calf space is required per 100 cows. For example, a standard pen of 4.8m X 4.8m = 23m<sup>2</sup> is adequate for 12 calves. Farmers who have sufficient space for calves (both space allowance and cubic air capacity), are more likely to have healthier calves, reducing the need for veterinary intervention and time spent treating sick calves.

## Ventilation

For a building to ventilate well, it must efficiently exchange stale air from inside for fresh air from the outside. Fresh air comes in through the side-walls (inlet), with spaces divided evenly along both sidewalls of the long axis of the shed and moves outwards through roof openings (inlet area should be double the outlet area).

There should be a minimum 7m<sup>3</sup> air space per calf, which is often one of the main challenges with older existing spaces on the farm. In existing houses not designed for natural ventilation, mechanical ventilation may be the only option.

The sidewalls of calf sheds should be solid up to a height of 1.5m i.e. above calf level to avoid draughts. A draught is excessive air movement (air speed >0.5m/s) at calf level.

Use Yorkshire boarding which has two staggered lines of vertical timber; this will reduce air speed, water entry and the likelihood of draughts.

The Yorkshire boarding should be a minimum length of 1.5 metres, laths 25mm thick, and a maximum width of 75mm with gaps of at least 25mm. The two lines of laths are 25-50mm apart.

Calf houses should be standalone so that airspace is not shared with older animals who tend to carry and transfer, particularly respiratory, pathogens to young stock.

## Drainage

Floor slopes of 5% or 1:20 are necessary to carry moisture away from the beds and out to proper drainage channels. Wet and dirty beds are an enormous issue for calves. Keep the bed dry so it is not having a cooling effect. Getting the moisture away is critical.



## FARMER FOCUS:

**Andrew, Philip & Aodhagón Smith, Farnadolly, Crossdoney, Co Cavan**

Andrew Smith farms with his father Philip and his brother Aodhagón in Farnadolly, Crossdoney, Co Cavan. The farm has seen significant development since Andrew returned home to farm full-time in 2020. "I knew when returning home that there were a number of development projects required, so together we developed a six-year plan," he said.

One of those developments was the addition of a new purpose-built calf rearing facility. Andrew explains: "We are milking just over 200 cows in a block spring calving system. As well rearing all our own replacement heifers, we keep approximately 50 of our beef calves on to sell as forward stores due to the fragmented nature of the farm."

There was an existing calf shed on the farm, which remains in use, but as on many dairy farms the herd had outgrown the existing facilities. "We decided to invest in a new calf shed to improve the calf rearing process and reduce labour in spring."

### Calf comfort and feeding

The new shed is 24m long by 14m wide and made up of four 6m bays. "We built a shed ensuring all the key criteria were met for calf comfort, but it also needed to be easy to mechanically bed and clean out. It was designed to suit automatic calf feeding with a station in each pen." The bedded area is 6m wide, the calf feeding area is 3m wide with the feed passage 5m wide.

The floor in the shed has a 1:20 slope outwards toward the calf feeding to ensure calf beds remain dry. A concrete drainage channel was placed in the centre of the calf feeding area and finished with a calf slat; this ensures a wide channel so it wouldn't become blocked and allows easy cleaning.

The shed was finished with Yorkshire boarding on the sides for good ventilation with windbreaker roller screens on both gable ends of the sheds, which can be easily raised up and down.

A noticeable feature is the amount of natural light that is provided using heatguard polycarbonate roof sheeting. A mechanical ventilation system comes on when the temperature goes over 14 degrees. "It's a significant investment with the full project costing €75,000 plus vat," says Andrew. "But it's an investment for the long term. The quality of the calves we rear has improved while saving us a significant amount of time. We can now rear all our calves comfortably on-farm. Not having to worry about having to sell calves to free up space gives us great peace of mind."



Anthony Mulligan and Andrew Smith – the mechanical ventilation system is operating; (below) the Smiths have set up a self-service retail milk outlet.



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