



Giving calves a head start in life

Green Acres farmer Pat Bowden has completely revamped the calf housing facilities on his farm, writes **Gordon Peppard**



SINCE JOINING the Teagasc Green Acres Calf to Beef programme two years ago, Pat Bowden has been concentrating his efforts on developing a successful calf to beef enterprise.

He recently sold the last of his suckler cows and has decided to substantially increase the number of calves that he is going to rear from calf to beef.

Having one system/enterprise on the farm will make it more streamlined and easier to manage.

In the past, Pat would have bought in around 70 Friesian bull calves in the March/April

period and these would have been reared as steers to be slaughtered from 26 to 30 months of age off of grass in the third grazing season.

The plan going forward is to rear 80 Friesian bull calves in the autumn period and a further 100 calves in the spring.

These will be slaughtered as steers between 24 and 28 months of age.

In order to successfully rear this number of calves, Pat has decided to invest in a dedicated calf rearing shed. Calves were previously reared in a lean-to and old stables that were on the farm.

These houses weren't ideal as calf rearing sheds and created a lot of labour, due to calves in a number of different locations and small sheds that needed to be cleaned out by hand.

In early January, the new calf shed was started and completed by local builder Michael Bergin, Lisdowney, Co Kilkenny.

All internal works were completed by Pat and his father over the last few weeks.

The shed is now ready for the first intake of calves and when I visited the farm during the past week the first group of calves had arrived.



Pat Bowden in the new calf shed on his farm at Lisdowney, Co Kilkenny

FOR Pat Bowden the calf house must provide the calf with easy access to milk, straw, concentrates and fresh water. It also needs to provide warmth and a dry bed in a well-ventilated but draught-free environment to maximise animal performance.

Pat sees the investment as an opportunity to improve his working conditions and make

it easier to feed and care for large numbers of calves under the one roof.

LOCATION

In deciding where the calf house should be located, Pat picked an area at the periphery of the yard, where there is plenty of space around the building, while leaving room if the shed needs to be extended in the future.

The location of the calf house

in relation to prevailing winds and other sheds, trees etc. must be taken into consideration when planning a new house.

If there is not enough protection from adverse weather conditions wind and rain will drive into the building resulting in wet beds and cold calves.

The calf house should ideally be at right angles to the prevailing wind direction.

DIMENSIONS

Pat's new shed is 63 feet long (4 bay) and 47 feet wide. It is a portal span shed with an A roof and no internal pillars.

The shed will be split up into 10 pens, 5 down each side with a 10 feet wide central passage. The shed will be used for calf rearing only as it is very important for disease control not to mix different size/age animals in the same air space.

PEN SIZE

Each pen is 12.5 feet (3.8m) wide by 18 feet (5.5m) deep; this will give a pen size of 225 square feet (21m²).

Given that a calf requires a minimum of 2m², the maximum number of calves per pen will be 10, although 8 to 9 may well be plenty.

If you put ten calves initially into a pen of this size they appear to have loads of space and the temptation is to put many more in.

The reality is at the start of rearing the calf may only be 45kgs and very quickly over a number of weeks they will double in size and weight 90 – 100 kgs. It is at this stage you realise 8/9 calves would have been plenty in the pen.

The pen should not be too deep, to make calf observation easier.

GROUP PENNING

Pat groups the calves together for the first ten to 12 weeks in groups of eight to ten. Ideally calves should be reared in even numbers as they "buddy up"

and changing from this can seriously stress calves, affecting performance.

Pat's plan is to fill the shed as quickly as possible to keep the ages of the calves similar to reduce the risk of respiratory diseases and scour and to keep the group stable once formed.

It has also been shown that calves in stable groups had significantly higher daily live weight gains than those in groups where new calves were being continuously introduced and taken away from the group.

LIGHTING

Calf sheds need to have ample lighting. Ideally provide 10pc

of the roof/side sheeting as translucent sheeting to provide natural light.

As Pat has used Yorkshire boarding on both sides of the shed there should be plenty of natural light so he decided against putting any translucent sheeting in the roof.

Additional artificial lighting has been provided at calf level to aid inspection of calves.

STRAW BEDDING & DRAINAGE

A calf can spend up to 80pc of its time lying down therefore a warm dry bed is essential. Deep straw bedding is the preferred bedding material as it allows calves to nestle down into it – this helps keep the calf warm



The purpose-built shed provides optimal conditions for calves

THE SCIENCE OF GOOD VENTILATION

GOOD VENTILATION in calf sheds is critical. The aim is to reduce air speed at calf height but not to restrict airflow in the shed. You do not want wind blowing too strongly on top of calves, therefore the inlet opening needs to be above calf height with calf protected from it.

The inlet area should be a minimum of double the size of the outlet but preferably it should be 4 times the size of the outlet area.

In order to provide good air into the new calf shed, Pat built a solid concrete wall at the back of each pen up to a height of 6 feet, this will give the calf plenty of protection from wind, draughts etc. On top of the wall then he installed Yorkshire boarding. This is two rows of a six inch board followed by a two inch gap, the second row was placed three inches out from the first row, with the six inch board of the second row, covering the two inch gap in the first row.

The height of the Yorkshire boards is around 5.5 feet (1.67m) giving eave height of approximately 11.5 feet.

With a two inch gap in an eight inch space you have 25pc of the side of the shed letting in air and providing ventilation. Solid sheeting and ventilated sheeting would be a lot more restricted and would let in zero to under 10pc air.

The inlet on each side is 19.2m (length) x 1.67m (height of boarding) x 25pc opening = 8m² x 2 (number of sides on shed) = 16m² of inlet. This is an excellent inlet as it is four times the required outlet of 4m².

Draughts

Draughts at calf level need to be avoided at all costs. Air should be moving over the top of the calves and not at ground level. In order to achieve this rubber flaps can be placed along the bottom of gates and feed barriers if required.

Draughts can contribute to the development of pneumonia; especially in young calves by reducing their body temperature and making the calves feel cold in themselves.

Calves can withstand low temperatures provided there are no draughts in the shed and ample deep warm dry bedding.

Canopy

Canopies at the back of the pen, approximately five feet out from the back wall can help reduce draughts at calf level, they are also very useful to help keep calves warm in very cold weather. Pat will monitor how his shed is working in the first year and canopies may be added next year if required. Canopies need to be at a height where calves



cannot chew them.

Feeding Space & Water

Milk feeding will take place at the front of the pen where Pat can feed the calves from the centre passage without having to enter the calf pen. A milk cart on the farm will greatly ease the heavy carrying of buckets. Pat realises the importance of having the water trough at the

front of the pen so that it can easily be inspected and cleaned regularly. If it's at the back of the pen, it will be full of animal manure and won't be cleaned as regularly. Also it may well be wetting the animal bed.

Fresh straw should be provided in racks on the dividing pens close to the front of the pens also. Don't expect calves to eat from the bed. There are

reasons why the mouth and rear end are at different ends of the body.

Meal should also be provided at the front of the pen, have all the feeding and drinking at the same end of the pen to curtail the messy area to the same place and it is close to the channel to remove excess water, milk and waster at the feeding area.

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