

## Teagasc Notes for week ending Friday 22<sup>nd</sup> November 2019

### Calf Housing

There are 5 key requirements for an effective calf shed that performs well in terms of calf health during the calving season. These requirements are as follows:

1. Fresh air with no draughts
2. Space (m<sup>2</sup> /animal)
3. Dry/good drainage
4. Warmth
5. Clean and cleanable

#### Fresh Air

Good ventilation takes away moisture, dust, ammonia, bugs and excess heat, if relevant. 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. The recommended minimum air inlet and outlet per calf is 0.08 m<sup>2</sup>.

Natural ventilation is used in the vast majority of calf houses. This works in two ways:

1. 'The Stack effect': this occurs where warm air rises and leaves the building through an opening in the ridge causing cooler, fresher air to be drawn in at the eaves. The recommended roof slope of 15 to 22 degrees is a major help to the stack effect.
2. 'Wind effect': in this case wind drives fresh air through the building.

Natural ventilation works best when the calf house is positioned at right angles to the prevailing wind and the building is not excessively wide or excessively high.

Air inlets can be provided by two staggered lines of boarding (40 to 50 mm apart) known as 'Yorkshire Boarding' or perforated vented sheeting along the sides of building. Yorkshire Boarding reduces air speed, water entry and the likelihood of draughts.

#### Space per animal

Calves housed in groups require a minimum pen space of 1.8-2 m<sup>2</sup> per calf. Individual pens are generally not recommended and calves should be kept at a minimum in groups of two or larger. Calves must be able to see neighbouring animals and can't be kept in isolation unless there is a veterinary requirement.

#### Dry with good drainage

Calves spend 80% of their time lying down so they need a clean dry bed. A dry environment will also reduce the spread and growth of bugs. All calf houses should be built with a damp proof course to prevent rising dampness. A slope of 1:20 in the calf pen area is recommended. Drainage channels should be positioned approximately 0.8m inside the feed barrier. Where automatic calf feeders are used, there is merit in having this drain approximately 3m within the calf pen. Calves should not be standing on the drain opening during feeding. It is not desirable to have a drain directly underneath feed troughs/buckets.

#### Warmth

Calves perform best at 15-20 degrees centigrade but don't generate sufficient heat to insulate themselves from colder temperatures until after they are weaned. Deep beds of straw are effective in protecting calves from the cold. They should be able to 'nest' in the straw so their legs are covered in straw when lying down. Calves require 15-20 kg straw as bedding per week or one 150 kg round bale of barley straw to rear each calf. An extra feed of warm milk will help calves cope with low temperatures.

### **Clean & Cleanable**

The surfaces on the floors and walls should be easily cleaned. When the calf shed is in use during the spring, the use of water should be kept to a minimum. Hand scrapers are preferable to clean the area in front of the feed barrier as they do not require the movement of calves and avoid the need for water.

When the shed is emptied, clean out as soon as possible, power wash and disinfect. A long rest period will help to eliminate bugs.

### **Natural light**

Natural light is conducive to good animal health and provides for a good working environment. 15% of the roof area as translucent sheets is recommended. Further information and detailed drawings for various calf housing designs are available through your local Teagasc advisor.

