TEEMORE ENGINEERING

LIVESTOCK HOUSING SPECIALISTS

MONO CALF BUILDING

Designed by Jamie Robertson, Livestock Health Specialist

PATENTED PROTECTED



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Teemore Engineering has over five decades of experience in agricultural innovation and remains dedicated to evolving products to meet the changing needs of modern dairy and beef farmers. Recognised as a market leader in livestock housing, our commitment to sustainability and innovation sets us apart.

In collaboration with Jamie Robertson, livestock health specialist and honorary research fellow at Aberdeen University. Teemore Engineering have brought the Mono Calf Building to the market. This building has been designed with calf health and labour intensity in mind. Here at Teemore Engineering we acknowledge how busy farming life can be, and we have worked to reduce the labour needed to keep calves happy and healthy.

The Mono Calf Building is the best possible building environment, taking into account moisture levels, ventilation, biosecurity and batching systems.

Together, we're shaping the future of agriculture.



Jamie Robertson, livestock health specialist
and honorary research fellow at Aberdeen University.

What is the
MONO CALF BUILDING?

A professional designed purpose-built calf house



Consideration in calf house design should include:

- Building Location
- Natural ventilation
- Mechanical ventilation
- Hygiene
- Thermal Dynamics
- Moisture, Drainage and liquid collection
- Measures to prevent disease transmission

Important considerations when planning the size of a new calf shed

- *Maximum Number of calves it should accommodate*
- *How will milk be fed – manual or automatic feeding*
- *Age of weaning*
- *Age range in each group shouldn't exceed 2 weeks of age*
- *Plans to expand the herd size*
- *TB restrictions and having to keep extra calves*
- *Calf kitchen / preparation area*
- *Extra bay to allow for rest period and preparation for restocking*



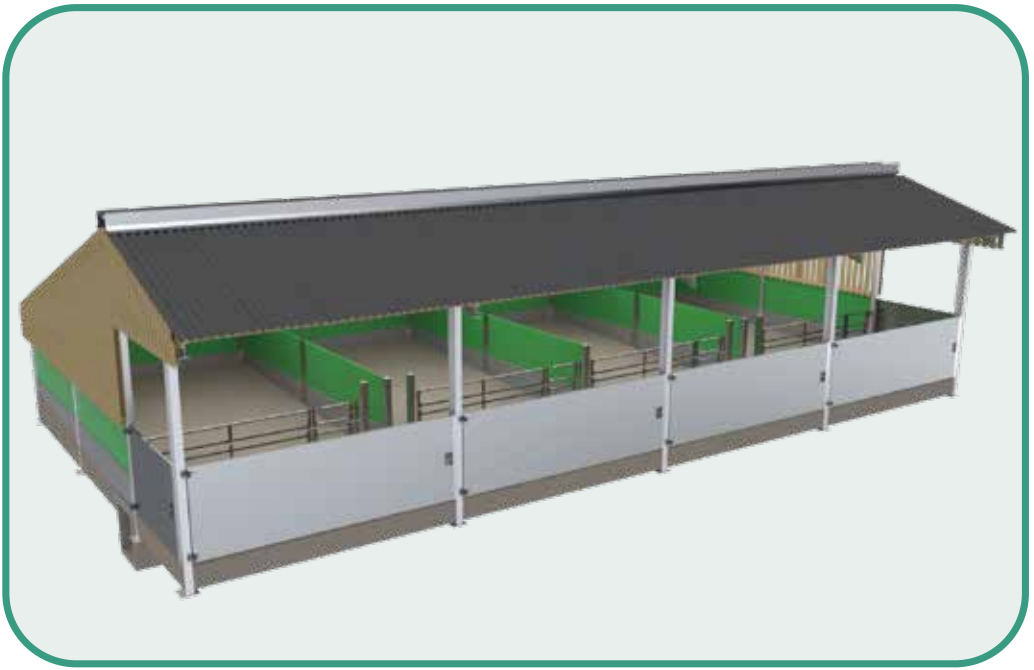






The Importance of Location

- *Young calves have an immature immune system leaving them susceptible to diseases*
- *Stand alone buildings allow for better biosecurity and air flow*
- *Calf sheds should be located upwind from other livestock building to ensure clean fresh air*
- *The back of the mono building should be positioned towards the prevailing wind to maximise natural ventilation*



Capitalising on Natural ventilation







- *Natural ventilation is free and effective provided there is sufficient wind speed*
- *Inlet apertures should be located above the standing height of the animals to prevent draughts*
- *Inlets should be designed to slow wind speed and prevent moisture entering the building.*
- *The open protected ridge is designed to draw the stale air out of the building through the top while preventing raining coming in.*
- *Roller screens are placed along the front of each pen to allowing access into the building while maintaining good ventilation and natural daylight.*

Calculated Mechanical Ventilation



- *Using a Positive pressure fan and duct is necessary in all calf buildings to provide sufficient fresh air on days when there isn't sufficient wind speed*
- *Using a calculated system to design the hole size and position in the tube preventing blowing cool air directly onto the hide of the animal*
- *The fan and duct system guarantees fresh evenly distributed air regardless of the external weather conditions*
- *Fan and ducts are designed to change the air 5-6 times per hour, helping to dispel stale air and moisture which are a breeding ground for bacteria and pathogens.*

Hygiene

- *Calves are born with an immature immune system therefore every step should be taken to protect them while they develop immunity.*
- *Good procedural protocols should be in place and these can be made easier to implement in a properly designed calf facility.*





Building design features which promote Hygiene Features

- *Non porous Poly-propylene panels dividing groups*
- *Joins between wall panels and poly-propylene are sealed*
- *Pens are cleaned from the front of each pen*
- *Sloped floor with 1 in 20 for drainage*
- *Channel at front of each pen to collect liquid*
- *Easy to clean stainless steel drinkers*

Thermal Dynamics

UK and Irish climates are cool and damp for most of the autumn and winter months often when the buildings are fully occupied.

Calves start to feel cold as temperatures drop below 14 degrees.

Keeping buildings fresh is important but can be challenging to achieve without cooling the building further.

The mono calf shed uses non porous Poly-propylene panels between pens and around the outside as a means to reduce the thermal mass of the construction.



Moisture drainage and collection of liquid

Moisture mainly in the form of urine can negatively impact animal performance if not effectively removed from the building.

The importance of a dry straw bed is often over looked and can be hard to manage if building design is incorrect.

The Mono design takes effective care in removing liquid.

- ***1 in 20 slope on solid floors***
- ***Liquid drains to the front of each pen avoiding contaminating adjacent pens***
- ***Collection channel along the front of each pen***



Lowering the risk of disease transmission

Calves are born with an immature immure system and every measure should be taken to protect them.

Farm biosecurity plays a vital role in giving calves the best opportunity.

The Mono calf shed has a solid poly-propylene panels between each pen. This is lowering the risk of disease spreading to the rest of the building.

The gaps between the wall panels and the poly-propylene panels are sealed.





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