FriarsMoor Livestock Health

Newsletter
November 2024

# AIR QUALITY IN THE CALF HOUSING

By Lucy Hepworth BVSc MRCVS

Whilst the weather this October has been challenging for us all at times, the warm damp climate is optimal for survival of pathogens that cause pneumonia and scours. Most airborne bacteria and viruses can only last 5-10 minutes in fresh air but if only 50% of the air is fresh then viruses last for up to 1 hour.

It is recommended that there are 6-8 air changes per hour in a calf shed. In practice, this can be assessed with smoke tests on a still day and timing clearance from the shed.

Pathogens need moisture to survive. Relative humidity in a calf shed will depend on water inputs (stocking density, any rainfall into the shed, leaking water sources, water used for cleaning etc.), and effective water removal (drainage and ventilation). Air changes take water vapour out of a calf shed and this reduces relative humidity (RH) to ambient. In damp conditions; crypto, rotavirus, salmonella and mycoplasma can all survive for months. The ideal would be for RH to be under 70%. It is very easy and cheap to install relative humidity monitors in the calf shed. The Brifit Wireless Thermometer Hygrometer work well, they transmit the data via bluetooth to an app on a smartphone. A set is under £20.

As well as pathogens, stale air will have increased levels of ammonia and dust in it. Ammonia is produced from urine in the warm bedding. Exposure to ammonia weakens the defence system of the calf's upper respiratory tract, rendering it more vulnerable to respiratory viruses getting into the lungs. We can smell ammonia between 10-25 ppm. The target for a calf house is under 10ppm so if you can smell ammonia at calf level, ammonia levels will be too high. To get ammonia levels below target, a calf house needs sufficient air changes. The drier the bedding – the slower the production of ammonia.

Whilst ventilation is imperative for ensuring air is fresh and RH is minimised, it is key that air speed is right at calf height. Air speed should be about 0.2m/s. When assessing ventilation in calf housing, I will often use my anemometer to check air speed at calf level.

Common respiratory and scour pathogens do not survive as well under 5$^{0}$C. However, calves will feel the cold, particularly when under a month old. Damp bedding and wind chill will add to this. The lower critical temperature (LCT) is the temperature below which a calf needs additional energy to keep warm. For a calf <4 weeks old, the LCT is 9$^{0}$C in a dry draught free (0.2m/s) environment. This increases to 17$^{0}$C at an air speed of 2m/s. Put a maximum and minimum thermometer up in your calf house so that you can monitor night time temperatures to know when to use your cold weather protocols (increased milk volume, heat lamps, calf jackets etc).

Getting the environment of the calf right is key to minimising pneumonia. Clearly, nutrition also plays a big role in resilience as well as boosting natural immunity with vaccination. Many farmers have already got their vaccination protocols in place for this autumn and winter, but it isn't too late. Intranasal protection is achieved within 10 days of administration. Do get in touch if you would like to assess your calf housing further or have any questions on pneumonia control this season. Animal health and welfare funding is still available for all farms this year and can be a useful way of funding these visits.

# FriarsMoor Livestock Health

In collaboration with GVS

## Dairy Sheep & Goat Conference

### 27th & 28th January 2025

Scan the QR code for our secure online registration to the Dairy Sheep & Goat Conference.

## STAFF NEWS:

We would like to wish a warm welcome to Sophie Cole who will be joining the office team this month.

We would like to introduce you to Bonnie Evelyn Livingstone who arrived on Tuesday 15th October. We are pleased to say both mum and baby are doing well, and we can't wait for cuddles!

We said goodbye to Leanne for a little while as she starts her maternity leave.

## DATES FOR YOUR DIARY:

**13 NOV**

### AUTUMN CALVING BENCHMARK MEETING

11.30am to 1pm

Join us for a quick lunchtime meeting to round up this year's calf rearing season.

**19 NOV**

### MASTERING MEDICINES

10am to 1pm.
West Stour Village Hall

The course is aimed at beef and sheep clients and will include identifying the condition you are treating, the best medicine to administer, the dose rate, route of administration and the withdrawal periods and storage and disposal.

**5 DEC**

### WORLD SOIL DAY

**11 DEC**

### MILKSURE

MilkSure✓

11am to 2pm.
West Stour Village Hall

MilkSure training improves the professionalism around medicine use on dairy farms and drives higher standards. This is to avoid medicine residues and to help reduce antibiotic resistance.

**TO REGISTER YOUR INTEREST FOR UPCOMING MEETINGS PLEASE CALL THE FARM OFFICE ON 01258 472314**

## New Build Update

As with all the best laid plans between mice and men, and like all big building projects, we are having a few last minute issues that we would need to sort out before the building is "signed off". Stay tuned for further updates!!

friarsmoorlivestockhealth
friarsmoorlivestockhealth.co.uk
friarsmoorlivestockhealth
friarsmoorfarmvets
farmoffice@friarsmoorlivestockhealth.co.uk
01258 472314