



nantwich
farm vets LTD

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A Change in the Air

The nights are drawing in, and with them comes the biggest temperature swing of the year. Warm afternoons, cold damp mornings and long still nights are exactly the conditions that fill our diaries with pneumonia calls each autumn.

The bugs haven't changed. What changes is that the calf's defences drop and, just as importantly, the building may stop doing its job.

WHY AUTUMN CATCHES BUILDINGS OUT

Most calf sheds rely on natural ventilation — warm air rising out of the ridge and drawing fresh air in through the sides. That “stack effect” needs either a decent temperature difference or some wind to drive it. On a still, damp October morning there is neither, so stale, humid air simply sits over the calves.

That matters because moisture is what keeps bugs alive. In winter the main job of ventilation is removing moisture and keeping humidity below about 80%, which shortens the survival time of aerosols carrying micro-organisms. 5 °C and damp feels a lot colder than 5 °C and dry — and damp also lets harmful organisms survive far longer outside the calf.

FRESH AIR WITHOUT DRAUGHTS

Opening everything up at the sides of your calf shed can create excessive air movement at calf level, chilling calves and suppressing their airway defences. Air speed at calf height should be around 0.25 m/s; anything faster counts as a draught, and velocities above 0.8 m/s have been linked to deeper lung consolidation.

Worth checking before housing:

- **Inlets and outlets.** Aim for roughly 0.05 m² of inlet and 0.04 m² of outlet per calf, with the outlet at least 1.5 m above the inlet.



- **Air space.** About 6 m³ per 60 kg calf, rising to 10 m³ at 61–85 kg.
- **Air changes.** At least six per hour, even in cold weather.
- **Drainage.** Falls to the outside, no wet patches, no sitting slurry under the straw.
- **Shared airspace.** Calves and older cattle in one building creates a recycling system for pathogens.
- **Bedding.** Straw deep enough for calves to nest with their legs covered.

COLD, WET CALVES

Calves under three weeks are the most vulnerable, with a lower critical temperature of 10–15 °C depending on airspeed. Below 15 °C, feed an extra 50 g of powder (or a third of a litre of whole milk) per day for every 5 °C drop, and use a min–max thermometer at calf height rather than guessing.

WHERE NATURAL VENTILATION CAN'T COPE

Some buildings are simply too sheltered or too low to ventilate themselves. Positive pressure tube ventilation can deliver consistent airflow, but it needs designing properly — 35–105 m³/hour per calf, at least four air changes per hour, and air arriving at the lying area at under 0.25 m/s. A badly specified tube is worse than none at all.

We're happy to come and smoke test your calf shed, measure airspeed and humidity at calf level, and work out what — if anything — needs changing before the weather turns.



Clean Lungs, Better Cows

Autumn is when calf pneumonia usually comes back onto the agenda. Sheds fill up, nights get colder, days stay warm, and by November someone is asking whether we should treat the whole group of calves.

But pneumonia isn't simply an outbreak that arrives in October and leaves in March. It is endemic: the pathogens are already present, and autumn changes the level of pressure. The aim should therefore be to prevent lung damage before it starts, rather than firefighting clinical cases.

THE DAMAGE YOU DON'T SEE

The calves we treat are only the tip of the iceberg. Lung ultrasound studies have found subclinical pneumonia in 23–67% of calves, with one recent study finding lung consolidation in more than half examined. Importantly, consolidation was associated with increased mortality even where clinical disease had not been recorded. So, on a farm where 10% of calves are treated, the true number with lung damage could be four or five times higher. Those calves are never treated, never recorded, and go on to become your heifers.

The financial impact is significant. AHDB estimates the UK cost at around £50 million a year, with individual cases costing £30–£80 and more than £500 when an animal dies.

The bigger cost comes later. A systematic review of 27 studies found that heifers diagnosed with pneumonia as calves had 2.85 times the odds of dying and 2.30 times the odds of leaving the herd before first calving. They also had lower growth rates and produced 121 kg less milk in their first lactation.

Where lungs are scanned rather than assessed clinically, the figures can be even more striking. Calves with lung consolidation in their first 56 days produced 525 kg less milk across their first lactation. Heifers without consolidation at 60 days had a first-service conception rate of 62%, compared with 52.5% for those with consolidation.

Damaged lung tissue does not grow back. A cow calving down with scarred, consolidated lung is carrying that through every heat stress event, every transition period and every mastitis challenge of her life.

FIVE STEPS TO BETTER LUNG HEALTH

1. Find out what you're dealing with

Viral infections such as RSV, IBR, PI3 and Coronavirus behave differently from bacterial pathogens such as *Mycoplasma bovis* and *Mannheimia haemolytica*, and



the control plan changes depending on what you have. Nasopharyngeal swabs, BAL, paired bloods and post-mortems can identify what is actually circulating on your farm, not what was on the farm down the road.

2. Use culture and sensitivity

If treatment appears less effective than it used to be, investigate rather than switching antibiotics on a hunch. Multidrug resistance is common in bacteria recovered from cattle with respiratory disease, and reduced macrolide susceptibility has been well described in *Mycoplasma bovis* — an organism that also causes chronic pneumonia that responds poorly to treatment whatever you use. Culture and sensitivity can help identify resistance and ensure treatment is targeted and responsible.

3. Vaccinate early and appropriately

Vaccination has been shown to reduce lung consolidation, including in calves without obvious clinical signs. Work carried out last year found that combining intranasal and injectable vaccination slowed the progression of lung consolidation in both healthy and affected calves. The programme should be based on your farm's disease pattern, with timing designed to provide protection before the highest-risk period.

4. Scan the lungs

Lung scanning is quick, is done calf-side and takes a couple of minutes per animal with no clipping. It can identify damage that clinical examination misses, assess whether treatment is resolving lesions and show whether prevention is working. Scanning calves at around 3, 6 and 9 weeks can help pinpoint when the challenge is occurring.

5. Treat properly before weaning

Pre-weaning is where the returns are greatest. Treat at the first signs of illness, use an NSAID alongside appropriate antimicrobial treatment, follow the recommended treatment course and reassess the calf - ideally with the scanner. A quiet calf isn't necessarily a cured calf. Half-treated lungs become chronic lungs.

THE POINT

A heifer's lifetime performance is largely decided in her first few months. Lung health deserves the same attention as colostrum and growth rates. Protecting the lungs in the first few months can mean better growth, younger age at first calving, better conception rates, more milk in the first lactation and more cows surviving to a second and third.

If you'd like to put a lung health plan in place before housing—including screening, sensitivity testing, vaccination or calf scanning—speak to us at your next visit or give the office a ring.



BTV and Bull Fertility

Yet another bluetongue (BTV)-related article, I'm afraid! I'm sure you're all getting a little sick of the sight of it by now, but there is some strong evidence to suggest that BTV infection can significantly reduce bull fertility.

As you will be aware by now, BTV causes pyrexia (fever) and general illness, both of which can suppress fertility. However, evidence also suggests that BTV can directly affect sperm production. Infected bulls can have a higher proportion of abnormal sperm, with poorer sperm motility that can remain reduced for some time after the bull has become PCR negative. There is also evidence that bulls can spread BTV through their semen, providing another potential route of transmission alongside the midge population.

Spermatogenesis — the process of producing sperm — takes around two months from start to finish in a bull. This means that any significant illness or infection can potentially affect sperm production for the following two months.

The common signs of bluetongue include lethargy, crusting or reddening around the eyes, nose and mouth, and lameness. However, some infected bulls may show very few, if any, obvious clinical signs. This means an infected bull could potentially go unnoticed and subsequently be turned in with the herd for breeding.

The only way to properly assess whether a bull is fit for breeding is through a bull fertility examination, including semen collection and assessment.

With plenty of autumn-calving cattle coming up for service over the next couple of months, it is important to know that your bulls are in working order before turning them in. If you would like your bulls fertility tested, the ideal time is around two months before they are due to go in with the cows.

Vaccinating your bulls before the breeding season is also worth considering. However, there have been reports that vaccination may temporarily affect fertility, so we would strongly advise vaccinating bulls well in advance of service — ideally more than two months beforehand.

As always, if you have any concerns about your bulls or would like to discuss fertility testing, please get in touch with the practice.



Dates for your diary

New Herdpersons Course

Wed 7 Oct - Wed 4 Nov, 10am-12pm

Individual modules still available for booking!

This comprehensive introduction to all the key areas of modern dairy farming is ideal for anyone new to the industry or those wanting to refresh their skills and knowledge. Although the full course has started, places for individual modules each Wednesday can still be booked, £60 + VAT each.

Wed 7 Oct - Calf Rearing Essentials

Wed 14 Oct - Calving and Transition

Wed 21 Oct - Milking Routine & Mastitis

Wed 28 Oct - Fertility Fundamentals

Wed 4 Nov - Lameness & Mobility Scoring

Medicine Course

Thursday 15 October, 10:30am-1pm

Our Red Tractor compliant course covers legislation, responsible use and best practice for administration and handling of veterinary medicines on farm. Includes a hot lunch. £70 + VAT.



Intermediate (3-day) Hoof Trimming Course

Wed 18 - Fri 20 November

A course suitable for all skill levels, from those with no trimming experience to those having done it for years and needing a knowledge refresher. Theory includes anatomy, lesion identification and risk factors, and on-farm practical includes use of both knives and grinders. £800 + VAT.



Get in touch...



nantwich
farmvets LTD

Hurleston, Nantwich, Cheshire CW5 6BU



01270 610349



office@nantwichfarmvets.co.uk
orders@nantwichfarmvets.co.uk



www.nantwichfarmvets.co.uk

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