



Thoughts on Bovine Respiratory Disease Control and Prevention

Author: Colin Mason BVM&S BSc Cert CHP MRCVS



At the start of 2026 where are we as an industry with bovine respiratory disease control and prevention? Below is not a complete discussion on every possible angle of this topic but provides some considerations and food for thought.

The challenge:

Bovine Respiratory Disease (BRD) remains one of the major health, welfare and production challenges facing beef and dairy systems in the UK and the major challenge in young stock systems. The costs to the industry in terms of reduced production efficiency, consequent increased carbon emissions, antibiotic use not to mention animal welfare and farmer wellbeing are hard to fully measure but remain significant. On the plus side there are considerable variations between farm and season with some excellent outcomes which offer hope as to the potential solutions.

Over the years as an industry, we have learned a lot about how to manage BRD and many of the 'tools' are available, however as our knowledge has increased our production systems and staffing levels have changed which potentially adds to risk.

We understand a lot:

The major and minor pathogens involved in BRD in current UK systems are well understood. There are good vaccines available for most and it is possible to eradicate two of the viral causes (BVD and IBR) from farming systems.

With the advent of cheap and reliable PCR technology for diagnostics it is apparent and safe to assume that most farms have most pathogens within their animal populations with many present within the respiratory tracts or environment as a matter of course. Most calves meet these pathogen challenges; some develop disease and some do not. Yes, we can use our armoury of vaccines at strategic times to help manage this risk. As an industry can we get better vaccine uptake using the tools that we have? We also need to dive deeper to maximise the resilience and disease resistance of our cattle.



The long view:

As well as understanding the pathogens we now have a better quantification of the impact of pneumonia on liveweight gain for beef systems. Also, the long-term effects of respiratory disease in dairy calves cast forward to their reduced performance in first lactation and herd survival chances beyond first lactation. On dairy farms we now collect much more data on daily liveweight gains (DLWG), one of the best indicators of overall calf performance and this is helping the industry raise the bar. Now rather than going for doubling birthweight by weaning, should we be aiming more towards a tripling of birthweight?

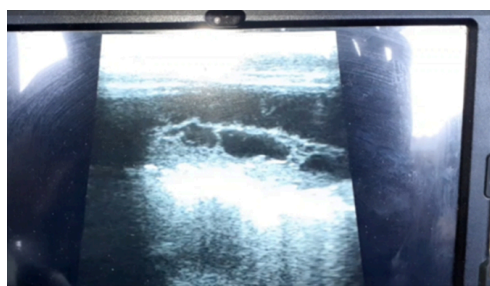
It never ceases to amaze that subtle drops in DLWG pre-weaning below 0.8kg / day can have a long terms legacy effect on heifer and adult cow performance in the milking herd. Even if everything goes well post weaning in the first 8 weeks of life, growth rates and respiratory disease risk set the course for the future.

How much do we detect?

The true incidence of respiratory disease in UK animal populations is not fully known. Like many things it also depends on how hard we look! Stock people on farms are very good at picking up many of the severe cases. However, detection in larger groups of cattle is difficult. Observations based on feed intake, sometimes from a distance may miss the early cases, cattle are hard wired by evolution to mask and hide the more subtle clinical signs and coughing, particularly in more dusty environments can be normalised.

However, leaps of progress are being made in our ability to detect disease earlier. Remote sensor technology, cameras and thermal imaging can detect reduced activity, reductions in feed intake, weight change and rises in temperature all of which could identify the earliest possible clinical signs. Add this to the possibility of automatic draughting of at risk cattle for further examination and treatment, massively reducing stress for the animal and farmer are great hopes for the future. As with all things this technology will get better, cheaper and more normal in use over time.

Another sea change is the common use of trans-thoracic ultrasound using kit available to all farm vets as an examination tool for BRD. This can in some ways replace the stethoscope and allow us to visualise what is going on inside sections of the lungs and massively increase our understanding of the levels of both clinical and sub-clinical pneumonia in animal groups.



With this technology comes the challenge of how we use the information generated, particularly a potential realisation that the levels of lung damage in calf groups may be higher than we thought. Processing this can be sensitive, but when measured it gives us a baseline to work on and incentivises management changes to make a real difference.

Coming back to the simple, standing in a shed and listening to the background levels of coughing can tell us a lot. Repeated coughing is not normal and particularly for our calves if one is coughing it is very likely to have associated lung damage.



The full list of risk factors is long:

Not only is it long, but variable and specific for each farm and it is through active health planning and review with the farm team and vet team that specific plans can be made.

To make one general point however we should not in any way underestimate the effects of animal stress on their resilience, linked directly to their immune response in fighting off respiratory infections.

Stress = cortisol release = a compromised immune response for every animal affected.

Many stressors in modern young stock systems come from handling, transportation and mixing of groups particularly with dairy beef systems. The effects are hard to fully quantify but are likely to be huge.

Re-imagining systems where loading of animals (perhaps the most stressful bit) is simplified, journey times are short, animals are kept in stable groups based on herd of origin and handling and shedding systems take out stress will all have a significant impact. The use of stress appeasing pheromones is another potential gain at times when stress cannot be avoided.

Fine tuning these marginal gains for each unit can make a significant difference to the bigger picture overall.

“ We should not in any way underestimate the **effects of animal stress** on their **resilience**, linked directly to their **immune response in fighting off respiratory infections**. ”



For dairy systems:

The highest risk comes in the younger milk fed calf until well after weaning.

Colostrum and transition milk feeding as always is the key to building calf resilience. The industry has achieved huge leaps forward in this area in terms of colostrum provision, assessment and trouble shooting. For beef from dairy systems should each calf come with a colostrum passport or should each source dairy farm be colostrum management accredited? Going forwards we know what is needed and it is linking up the supply chain from start to finish that will have the biggest effect.

Is our respiratory disease problem a calf scour problem at source? As day follows night a calf that scours is much more likely to then develop respiratory disease of some sort. As an industry we should question even the mildest case of scour (like we should coughing) and look to reduce case numbers as much as possible. The tools are there to do this in terms of vaccines and hygiene protocols.

Cold stress and milk feeding levels in response are the other major considerations for UK farming systems give a lower critical temperature of the young calf of between 10 and 15 Celsius.

**For beef suckler and finishing systems:**

Air quality, shed air inlet, waste air exhaust capacity and stocking rate are the key areas to review. Shed capacity for stock numbers is key both for the cold damp days of autumn but also consider the heat stress risk and temperature humidity index in the summer months. Both factors at different times of year can significantly impact performance and health.

Circling back to vaccine use a key challenge ahead of weaning is time, staffing and facilities to handle cattle for vaccinations. Vaccines always work at their best when given ahead of weaning. Devising handling systems that can make the job simpler and reduce stress around weaning as low as possible will really help make the best out of any vaccine investment put in place.

So where are we as an industry with respiratory control and prevention?

We have a better understanding than ever before on disease impacts on health and animal performance, the tools to assess this on farm and detect disease early. Additionally we have the knowledge to continually evolve our veterinary health plans with the long term aim of more sustainable animal production with a reduced reliance on treatment. Joining up the supply chains so that each part of the chain positively impacts what comes next with all eyes focussed on the end product is a key part of this process.



Visit www.ruminantrevival.co.uk
Email us on info@ruminantrevival.co.uk
Phone 08455 644786