

# Multi-faceted approach to prevent calf pneumonia

## PNEUMONIA

**Alastair Couper, of Capontree Vets, looks at reducing risk of the disease in calves**

It is important to know what type of pneumonia cattle are suffering from as if affects the choice of vaccination and, in some cases, might affect treatment. **Are there different types of pneumonia? Do you need to know what you've got or just treat it?**

In many cases no, but it matters for vaccination choice and in some cases may affect treatment. **Are there different types of pneumonia?**

Yes, very much so. Pneumonia can be caused by several different bacteriae (*Pasteurella multocida*, *Mannheimia haemolytica*, *Haemophilus somnus* and *Mycoplasma bovis*). There are also viral causes namely IBR, RSV, PI3 and BVD and don't forget parasitic lungworm too. **Do you need to know what you've got or just treat it?**

It can be very important to

know which pathogens are responsible for a pneumonia outbreak. It is possible to vaccinate cattle to protect against the main viral types of pneumonia (IBR, RSV and PI3), bacterial pneumonia caused by *Mannheimia haemolytica* and parasitic lungworm caused by *Dictyocaulus viviparus*.

However, it is expensive and pointless to use a multitude of vaccines if these agents are not contributing to the pneumonia problem.

Antibiotics can be used to treat the bacterial agents, but are not effective against virus-like or parasites.

So, knowledge of the pathogens involved is vital to decide on the most suitable and

cost-effective treatment/vaccination protocol.

**Are pneumonia outbreaks simply a result of one or more of these pathogens being present?**

No. Calf pneumonia is a complex, multi-factorial disease that occurs as a result of interaction between not only the presence of respiratory pathogens, but environmental and management factors too – stress being a particularly big contributing factor.

The stress factors involved include changes in the weather, temperature and humidity, weaning, mixing groups and any changing of feed.

Environmental factors such as buildings being designed



**ADVICE:** Alastair Couper

to allow adequate ventilation while offering protection from draughts and cold are very important as are management procedures to limit disease spread, such as avoiding overcrowding, keeping bedding as clean and dry as possible, maintaining animals in groups within the one air space and not mixing animals from different batches and ages.

Adopting an "all-in, all-out" policy with thorough cleansing and disinfection between groups is ideal. Pneumonia pathogens are coughed out and spread via airborne secretions from the respiratory tract, so quarantining infected animals

to remove them from the communal airspace and reduce spread is very important.

As always, with home-bred calves, adequate colostrum intake is vital to maximise antibody levels in the bloodstream so helping protect young calves from disease in general. **How do we go about diagnosing the different types of pneumonia?**

Pneumonia can be diagnosed on clinical signs such as respiratory distress, nasal discharge, coughing, fever etc, but diagnosing which agents are present requires veterinary involvement.

During an outbreak of pneu-

monia vets can take swabs from the nasal passageways or samples of fluid from the trachea and small airways of affected animals to identify which respiratory pathogens are present.

Of course post-mortem examination is appropriate if an animal dies. After an outbreak, blood samples can be taken retrospectively to detect which respiratory pathogens the calves were exposed to.

The majority of pneumonia outbreaks are caused by more than one pathogen and it is often the case that the lungs are attacked and damaged by one of the respiratory viruses which then allows the bacterial pathogens (which are normally present but only in the upper airways) to invade.

**Is there one simple solution to calf pneumonia?**

No. The solution to calf pneumonia involves a multi-pronged management approach to provide the correct environment for healthy calves, to reduce stress factors and to use appropriate vaccination strategies to reduce and minimise challenge so that the immune system of the calf is not overloaded and can fight off infection when encountered.

