

Calf Pneumonia

Pneumonia is the term used to describe inflammation of the lung tissue and airways, thereby reducing the ability of the animal to breathe adequately. Whilst the infectious causes are viral and bacterial, the term bovine respiratory disease complex illustrates that the disease is multi-factorial.



Causal factors include:

- **Poor colostrum intake**
- **Stocking density:** mixed ages in same airspace
- **Environment:** damp, draughts, stale air
- **Stress:** dehorning, castration, group movements
- **Buying-in policy:** mixed sources, unknown health status
- **Inadequate nutrition**
- **Infection:** viruses (IBR, RSV, Pi3 +/- BVD); bacteria (*Mycoplasma bovis*, *Pasteurella*, *Mannheimia* and *Haemophilus*)

Pneumonia is estimated to cost the UK cattle industry £80 million annually.

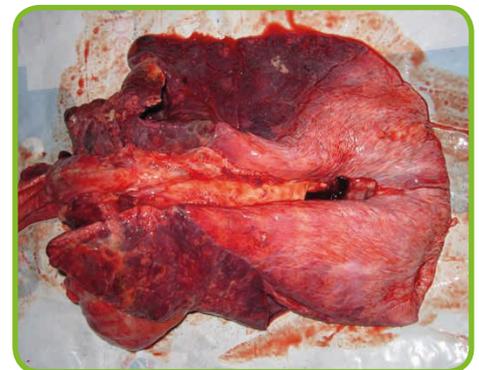
The immediate expense of treatment is tangible, but the impact on food intakes, food conversion efficiency and live weight gain are often overlooked. Outwardly healthy in-contact animals will also be affected: for every animal showing symptoms it is likely that double will have diseased lungs.

A dairy heifer calf affected by pneumonia is likely to suffer a two-week delay to first service and 2 – 4% reduction in yield in her first lactation; in beef animals, carcass quality will be reduced.

In reality, the loss of future performance is the biggest cost of pneumonia.

Symptoms

Sick calves show a combination of coughing, nasal discharge and increased breathing rate/effort, will appear depressed and be slow to feed. Severely affected animals may die despite treatment. **A raised temperature (>39.5C / 103F) is an early sign of infection** and should be acted on quickly, as early treatment is likely to be more successful.



Vaccination

Many pneumonia vaccines are available. Selection should take into account the likely diseases involved, how early the vaccine can be administered, how quickly and for what duration protection is required. They should be administered several weeks before the main risk period.

Vaccines are valuable in controlling pneumonia, but are not a substitute for good management.

Treatment

Sick animals should be treated with an **appropriate antibiotic** (speak to your vet): whilst many causes of pneumonia are viral, secondary bacterial infections are commonplace. An **anti-inflammatory** will reduce lung inflammation and restore growth rates more quickly. It is worth also considering treating all animals in contact – pneumonia is infectious, and whole-group treatments often result in *lower* overall antibiotic use, as well as better live weight gains.



Investigation

This should start by understanding general farm management.

Colostrum management should be assessed by testing baby calves for IgG (immunity) levels, especially if cases are seen in calves <1month old.

Infectious agents can be identified, either by 'lung washes' of very early cases, or blood tests at the end of the housing period.

Housing should also be assessed. Three essential considerations to help reduce challenge from many diseases, not least pneumonia:

1. Too much moisture favours bacterial/viral growth and hence disease. It also absorbs energy, so what you feed will be keeping stock warm rather than fuelling weight gain. Young animals will also be more disease-prone.

2. Lack of fresh air increases survival time of airborne bugs, further increasing the risk of disease. Noxious gases may build up.

3. Excessive air speed (draughts) – particularly at calf level – is associated with energy losses, reduced growth rates and increased risk of disease. Too little results in lack of fresh air.



A veterinary building assessment can help identify problem areas, and provide practical solutions.



Good ventilation is essential in order to fulfil the above requirements. Typically, buildings have too little outlet to produce the 'stack effect' necessary to circulate air.

For pre-ruminant calves the stack effect is less relevant and **sufficient warmth** is vital – building and bedding materials should take this into account, and calf jackets for the first month are beneficial.

Key points

- Pneumonia is a 'perfect storm' of bacteria/viruses, immunity and the environment.
- Treatment costs of affected calves are the tip of the iceberg.
- Prevention is vastly better than cure – lung damage will affect productivity for life.
- *Early* treatment is more successful and should include antibiotic and anti-inflammatories.
- The solution is not held within a bottle of antibiotic – involve your vet and look at the bigger picture.



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