

# CALF PNEUMONIA CONTROL

#CALFMATTERS

## Calf pneumonia is a cause of major economic loss for the cattle industry.

At a farm level these costs are in the region of £43/€49\* per dairy calf and £82/€93\* per suckler calf<sup>1</sup>. So what makes up these costs? Surprisingly, only 40% is represented by vets' fees and medicines, the remaining 60% results primarily from mortality, reduced growth rates and reduced lifetime performance. Calf pneumonia is the greatest single cause of morbidity and mortality in cattle in Ireland, responsible for 32% of deaths in this age group<sup>2</sup>. It is worth remembering that calf pneumonia can cause irreversible damage to the lungs, meaning that even if an animal recovers its lifetime performance will suffer and it will be more susceptible to future disease challenges; so prevention is most definitely better than cure.



## CAUSES OF CALF PNEUMONIA

Calf pneumonia results from a complex interaction between disease-causing viruses and bacteria and the animal's immune system that can be influenced by external stress factors. The important viral causes of respiratory disease are Bovine Respiratory Syncytial Virus (BRSV), Parainfluenza-3 virus (PI-3) and Infectious Bovine Rhinotracheitis (IBR). Bovine Viral Diarrhoea (BVD) may also be associated with pneumonia in some herds due to the negative effects it has on an animal's immune status. These viruses can cause disease by themselves or damage the defence mechanisms of the respiratory tract and predispose to secondary bacterial infections of the lungs. There are a large number of bacteria that can cause disease in their own right or act as secondary invaders following viral damage to the lung defence mechanisms. The important bacteria associated with calf pneumonia are: *Mannheimia haemolytica*, *Pasteurella multocida*, *Histophilus somni* and *Mycoplasma bovis*.

An animal's susceptibility to calf pneumonia will be influenced by the strength of its immune system. In young calves the single biggest factor affecting the immune system is colostrum. Ensuring calves receive good quality colostrum as quickly as possible after birth will give them the best possible start in life and help reduce the risk of disease. A calf's immunity will also be affected by nutrition, management practices, stress and the environment - with issues in any of these areas having a negative impact on the calf's ability to fight disease. Mixing animals of different ages or from different sources within the

same airspace will increase the risk of respiratory disease. Similarly, if animals are placed in sheds that are poorly ventilated or humid, even high levels of immunity will not prevent disease outbreaks.

## TREATMENT

When faced with an outbreak of calf pneumonia, the first priority is to treat the affected animals to minimise the spread of disease within the group. Treatment will be most effective if it is given as early as possible in the course of a disease so it is important that animals with calf pneumonia are rapidly identified and treated correctly. Producers should look out for coughing, nasal discharge, laboured breathing and a fever. A temperature above 39.7°C is suggestive of an infection.

Given the large number of different infectious agents that can cause calf pneumonia, treatment tends to be administered after clinical signs of disease are seen and outcomes can be variable. Antibiotics and anti-inflammatories are frequently used together.

Producers should contact their veterinary surgeon when they are faced with an outbreak of calf pneumonia so that investigations can be carried out to identify specific causes and risk factors that contributed to the outbreak. Laboratory testing enables identification of the causative viruses and bacteria from nasal swabs, lung washes (broncho-alveolar lavage) or blood samples. Once identified, appropriate recommendations and management changes can be implemented to reduce the likelihood of future outbreaks.



For more information visit [www.calfmatters.co.uk](http://www.calfmatters.co.uk)



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## PREVENTION

Given the multi-factorial nature of the disease, good calf pneumonia control programmes rely on implementing an appropriate vaccine strategy alongside improvements to management practices, to reduce the risk of disease.

Vaccines are available that will enhance protection against the common viral, and some of the bacterial causes of calf pneumonia. It is important that vaccines are administered prior to high risk periods to ensure that there is sufficient time for animals to develop effective immunity.

## CONCLUSIONS

Calf pneumonia is an extremely costly condition. All producers should think about how to prevent it, how to rapidly identify it and how to treat it. As with any disease, prevention is better than cure; calf pneumonia is best prevented by a combination of good management, appropriate building design and ventilation, and effective vaccination against the major pathogens well before the risk period.

<sup>1</sup>Andrews AH (2000) Calf Pneumonia Costs! Cattle Practice 8(2)

<sup>2</sup>All Island Disease Report 2015, AFBI/DAFM Veterinary Laboratories

\*exchange rate relevant at time of print 1 GBP = 1.14 Euro

**USE MEDICINES RESPONSIBLY.** Bovalto® Respi 3 Suspension for Injection contains inactivated bovine respiratory syncytial virus, strain BIO-24, inactivated bovine parainfluenza 3 virus, strain BIO-23 and inactivated Mannheimia haemolytica, serotype A1 strain DSM 5283. Bovalto® Respi 4 also contains inactivated bovine viral diarrhoea virus, strain BIO-25. UK: POM-V IE: POM (E). Further information available in the SPC or from Boehringer Ingelheim Animal Health UK Ltd, RG12 8YS, UK. Tel: 01344 746957. Email: [vetenquiries@boehringer-ingelheim.com](mailto:vetenquiries@boehringer-ingelheim.com). Bovalto and the steerhead logo are registered trademarks of the Boehringer Ingelheim Group. ©2019 Boehringer Ingelheim Animal Health UK Ltd. All rights reserved. Date of preparation: Jan 2019. AHD12265. Use Medicines Responsibly.

## VACCINATION TOP TIPS

### VACCINE SELECTION

A vaccine protocol should be developed with a vet and take in to account the specific features and risks of the production system, history of disease and diagnostic test results.

### CALF HEALTH STATUS

Resilience to disease and vaccine efficacy will be maximised if animals are healthy and receiving good nutrition. Cold stress can have a major impact in young calves. Sick animals should not be vaccinated.

### STORAGE AND HANDLING

Ensure vaccines are stored and handled according to the instructions on the datasheet and that refrigerators are operating at the correct temperature.

### TIMING

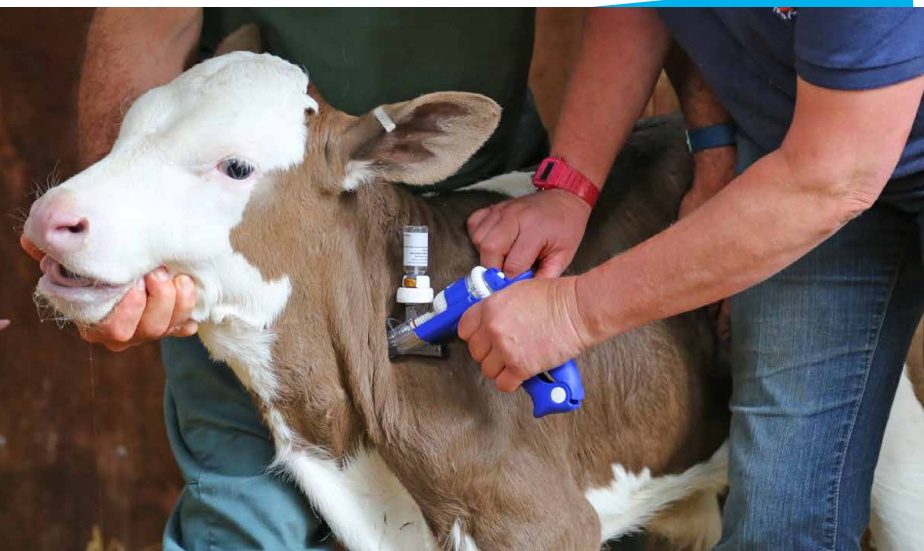
Follow the protocol given in the product datasheet, ensuring that the interval between vaccines in the primary course and subsequent boosters is observed. Time vaccination to ensure immunity has developed ahead of high risk periods such as housing.

### CORRECT ADMINISTRATION

Use an appropriate injector and calibrate equipment before use to ensure that the correct dose is being delivered to each animal; underdosing will affect the efficacy of vaccines. Ensure the correct route of administration is used.

### HOUSING AND MANAGEMENT

Assessing and addressing issues such as air quality, excessive moisture and humidity, overcrowding, and mixing of ages/groups is key to pneumonia control, and enables vaccines to work effectively.



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