



# INFECTIOUS BOVINE RHINOTRACHEITIS (IBR)



## WHAT IS IT?

- IBR (Infectious Bovine Rhinotracheitis) is a highly contagious infectious disease affecting cattle of *all* ages, caused by a viral infection.
- Widespread within the UK, with surveys suggesting around ¾ of herds have evidence of infection.
- IBR can have significant effects on animal health and productivity including pneumonia, milk drop and abortion.
- IBR positive animals are not allowed to be exported to other regions or countries within Europe which have eradicated the disease, and may also affect entry to AI stud farms.

SYMPTOMS – will occur in a number of animals within the group

## PNEUMONIA IN YOUNGSTOCK AND ADULTS

- High fever (over 104°F or 39.6°C)
- Depression and off food
- Increased breathing rate (40-80 breaths/min)
- Runny nose and eyes, with mucus and/or pus
- Severe cases may “mouth breathe”
- Coughing
- White plaques on the nose
- Weight loss and/or ill-thrift

## LOSS OF PRODUCTION IN ADULT COWS

- Milk drop for 3-5 days
- Fever (over 104°F or 39.6°C)
- Runny nose and eyes
- Abortion
- Chronic pneumonia may subsequently develop in adult cows with the development of lung abscesses



## WHAT CAUSES IT?

- The disease is caused by Bovine Herpes Virus, typically resulting in inflammation of the upper airway.
- Infected cattle are the usual source of IBR, with the most common route of transmission by small droplets in the breath. Close contact is therefore necessary for the spread of infection.
- Once an animal has become infected it remains so, despite the development of an effective immune response. These carrier animals can shed virus at any time in their lives when stressed, such as calving or transportation.
- The virus can also be shed in the semen of infected bulls.

## DIAGNOSIS

- Signs of runny eyes and noses, coughing, high temperatures and a number of animals affected within the group is often characteristic, but a number of other diseases can also cause such signs.
- Your vet can take swabs from eye and nose discharges, which the laboratory can then test to confirm the presence of the virus.
- Blood samples can be taken at the time of infection and 3-4 weeks later in at least six animals, to check for a rise in antibody levels (paired serology).
- In dairy herds, bulk tank milk screening can be carried out to test for antibody levels.
- Screening tests of 1<sup>st</sup> lactation heifers can also be used to determine if infection is active or historic.

## TREATMENT

- A live IBR vaccine can be given by the intranasal route in the face of an outbreak. This provides a rapid local response in the upper airways, as well as longer-term protection from IBR.
- Sick animals should be treated daily for at least three to seven days with an appropriate antibiotic, as recommend by your vet.
- NSAIDs may also help reduce fever and promote recovery.

## PREVENTION/CONTROL OF IBR

### VACCINATION

There are a number of different IBR vaccines on the market which can be classified using two main criteria:

- **LIVE VACCINES.** These have a rapid onset of immunity, and give good protection from clinical disease such as pneumonia. They are recommended for use in the face of disease outbreaks.
- **INACTIVATED VACCINES.** In addition to preventing clinical disease, inactivated vaccines appear to reduce shedding from latently infected animals so reducing the spread of infection within the herd. They are therefore recommended for use in IBR eradication programmes.



Recently developed IBR vaccines can also differentiate between natural infection and vaccination:

- **CONVENTIONAL VACCINES.** These generate the same immune response as natural (or wild-type) infection, and so when used you cannot tell the difference between natural infection and vaccination. This is important as carrier animals (latently infected) may still introduce infection between herds, and cannot be differentiated from vaccinated animals.
- **MARKER VACCINES.** These are missing a glycoprotein (gE) on the virus surface, which means that it is possible to tell the difference between an animal that was vaccinated and those which were naturally infected. This is important if eradication of IBR from the herd is to be attempted.

In youngstock, there are a wide variety of vaccines available for the control of respiratory disease either as IBR-only vaccines or in combination with other products.

As with all vaccines, clearly follow manufacturer's recommendations. Vaccination of calves under 3 months of age may not be effective due to cross-reaction with maternally-derived antibodies. Booster vaccinations are required every 6 months to maintain immunity.

### BIOSECURITY

- Buying in cattle represents the main method of introducing infection into the herd (eg. replacement heifers, stock bulls, contract rearing of heifers).
- The herd history (and status if known) that the purchased animal is coming from should be established as far as possible.
- Routine quarantining of all purchased cattle is recommended for a period of at least 4 weeks. Blood samples should be taken to ascertain individual animal IBR status before entry into the main herd. **BEWARE** that some animals with latent infections may come back negative on serology testing....
- There are a number of IBR accreditation schemes using CHECS standards. If possible, buy replacement stock from accredited IBR-free herds.

### ERADICATION

- Eradication is difficult but possible for IBR infected herds, and could progress through to IBR-free accreditation if required for export and/or sale of semen
- Vaccination of all stock with an inactivated IBR vaccine is preferred.
- All animals that have been naturally infected with IBR virus will remain latently infected for life (carrier animals), and so could potentially excrete virus when they become stressed (eg. at calving).
- There is no treatment for these carrier animals to remove the infection.
- Sampling a group of at least five first lactation heifers once/twice a year for IBR antibodies will assess whether there is active infection present within the main milking herd. Monitoring can also be performed by bulk milk tank sampling in dairy herds.

**Speak to your vet to help draw up the best protocol for control and prevention of IBR on your farm**