A GUIDE TO PNEUMONIA VACCINATION: OPTIONS BY CALF MANAGEMENT SYSTEM

Protecting Youngstock Health for Optimal Performance
Input costs on farm vary and milk and meat prices are impacted by global markets. Both are unpredictable and largely out of farmers’ control.

The focus should be on areas which can be directly influenced and managed for optimal production efficiency e.g. ensuring youngstock attain weight for age targets.

Growth rates are affected by genetics, nutrition and health, with pneumonia or bovine respiratory disease (BRD) the most common health problem affecting calves up to 12 months of age.

Poor respiratory health can impact both growth rates and feed conversion efficiency, resulting in losses through, for example, increased feed costs, increased finishing times, reduced sale weights, or increased age at first calving.

Protecting the health of youngstock is vital to protecting the future performance of the herd, whether beef or dairy.

Vaccination is an integral part of good farm management helping optimise youngstock performance and ultimately lifetime productivity.

Zoetis has the most comprehensive range of BRD vaccines for a flexible approach to safeguarding youngstock respiratory health.
DAIRY HEIFER CALVES

Pneumonia is common in young calves, and dairy heifer calves are particularly susceptible during the first few months of life, a critical period when direct links have been shown between growth rates and age at first calving, first and second lactation milk yield and longevity in the dairy herd.1

These calves therefore require a vaccination programme which can be started from a young age and which works rapidly to ensure the earliest possible protection. Vaccination via the intranasal route is one way to achieve this.

Farm specific risk factors determine the duration and breadth of protection required. Zoetis have a comprehensive range of respiratory vaccines allowing the flexibility to select an appropriate vaccination programme based on the needs of the individual farm.

OPTION 1
3 MONTHS PROTECTION AGAINST BRSV AND Pi3V

Rispoval® IntraNasal can be used from just 9 days of age to provide the earliest possible protection against BRSv and Pi3v. With immunity proven to last at least 12 weeks, young calves are protected during their most vulnerable period.

Rispoval® IntraNasal
Single 2mL dose given intranasally

12 weeks protection against BRSv and Pi3v

OPTION 2
6 MONTHS PROTECTION AGAINST BRSV AND Pi3V (+/- IBR)

Rispoval® IntraNasal, used from 9 days of age, provides the earliest possible protection against BRSv and Pi3v, with immunity proven to last at least 12 weeks. Six months protection against BRSv and Pi3v can be achieved by administering a further dose of Rispoval® IntraNasal 12 weeks after the initial dose. Where required a single dose of Rispoval® IBR Marker Live or Tracherine™ given to calves over 3 months of age will provide 6 months protection against IBR.

Rispoval® IntraNasal
Single 2mL dose given intranasally

12 weeks protection against BRSv and Pi3v

Rispoval® IntraNasal
Single 2mL dose given intranasally

6 months protection against IBR

Tracherine™
Single 2mL dose given intranasally

*No information is available on the safety and efficacy of concurrent use of Rispoval® IntraNasal with Tracherine™ or Rispoval® IBR Marker Live. The decision regarding timing of administration of either vaccine in relation to the other should be made by the prescribing veterinary surgeon on a case by case basis.

OPTION 3
9 MONTHS PROTECTION AGAINST BRSV AND Pi3V + 6 MONTHS AGAINST IBR & BVDV

Rispoval® IntraNasal, used from 9 days of age, provides the earliest protection against BRSv and Pi3v, with immunity proven to last at least 12 weeks. From 3 months of age, a follow on course of 2 doses of Rispoval® 4 will provide a further 6 months of protection against BRSv and Pi3v and also against IBR and BVDv, ensuring ongoing protection against all 4 key viral causes of pneumonia.

Rispoval® IntraNasal
Single 2mL dose given intranasally

12 weeks protection against BRSv and Pi3v

Rispoval® 4
Two 5mL doses given intramuscularly 3-4 weeks apart

6 months protection against IBR & BVDv


*No information is available on the safety and efficacy of concurrent use of Rispoval® IntraNasal with Tracherine™ or Rispoval® IBR Marker Live. The decision regarding timing of administration of either vaccine in relation to the other should be made by the prescribing veterinary surgeon on a case by case basis.
**Young Reared Calves**

Dairy bred beef calves represent a particularly high risk sector, having been born on the dairy farm and commonly sold and moved to a new holding from one week of age, where they may mix with calves from multiple sources. Vaccination is often given on or soon after arrival at the rearing unit.

These calves therefore require a vaccination programme which can be started from a young age and which works rapidly to ensure the earliest possible protection. Vaccination via the intranasal route is one way to achieve this.

Reared calves frequently move holding again at around 12-14 weeks of age which represents another risk. At this age, IBR assumes greater significance in particular where calves go on to share housing with older cattle. Ongoing protection can be provided through a number of different vaccination options. Zoetis have a comprehensive range of respiratory vaccines allowing the flexibility to select an appropriate vaccination programme for each farm.

**Option 1**
6 Months Protection Against BRSv and Pi3v (+/- IBR)

Rispoval® IntraNasal, used from 9 days of age, provides the earliest possible protection against BRSv and Pi3v, with immunity proven to last at least 12 weeks. Six months protection against BRSv and Pi3v can be achieved by administering a further dose of Rispoval® IntraNasal 12 weeks after the initial dose. Where required a single dose of Rispoval® IBR Marker Live or Tracherine™ given to calves over 3 months of age will provide 6 months protection against IBR.

- **Rispoval® IntraNasal**
  - Single 2mL dose given intranasally
  - 12 weeks protection against BRSv and Pi3v

- **Rispoval® IntraNasal**
  - Single 2mL dose given intranasally
  - 12 weeks protection against BRSv and Pi3v

**Option 2**
9 Months Protection Against BRSv and Pi3v + 6 Months Against IBR & BVDv

Rispoval® IntraNasal, used from 9 days of age, provides the earliest protection against BRSv and Pi3v, with immunity proven to last at least 12 weeks. From 3 months of age, a follow on course of 2 doses of Rispoval® 4 will provide a further 6 months of protection against BRSv and Pi3v and also against IBR and BVDv, ensuring ongoing protection against all 4 key viral causes of pneumonia.

- **Rispoval® IntraNasal**
  - Single 2mL dose given intranasally
  - 12 weeks protection against BRSv and Pi3v

- **Rispoval® 4**
  - Two 5mL doses given intramuscularly 3-4 weeks apart
  - 6 months protection against BRSv, Pi3v, IBR and BVDv

*No information is available on the safety and efficacy of concurrent use of Rispoval® IntraNasal with Tracherine™ or Rispoval® IBR- Marker Live. The decision regarding timing of administration of either vaccine in relation to the other should be made by the prescribing veterinary surgeon on a case by case basis.*
SPRING-BORN BEEF SUCKLER CALVES (HOMEBRED OR BOUGHT IN)

Beef suckled calves weaned and housed in autumn benefit from broad respiratory disease protection that provides cover throughout the winter housing period.

For bought-in weaned calves not vaccinated pre-sale, another consideration is getting protection in place as quickly as possible after arrival. Combinations of intra-nasally delivered vaccines may be preferable in this situation.

Zoetis have a comprehensive range of respiratory vaccines allowing the flexibility to select an appropriate vaccination programme based on the needs of each individual farm.

**OPTION 1**
6 MONTHS OF PROTECTION AGAINST BRSV, PI3V, IBR & BVDV

A 2 dose course of Rispoval® 4 provides cover against all four key viral causes of respiratory disease (BRSv, PI3v, IBR and BVDv) for up to 6 months, ensuring broad protection throughout the winter housing period.

| Rispoval® 4 | 2 x 5mL doses given intramuscularly 3-4 weeks apart |

| Rispoval® IntraNasal | 12 weeks protection against BRSV, PI3V, IBR & BVDv |

| Tracherine™ | Single 2mL dose given intranasally |

| Rispoval® IBR-Marker Live | 6 months protection against IBR |

**OPTION 2**
6 MONTHS PROTECTION AGAINST BRSV, PI3V & BVDV +/- IBR

Where protection against IBR is not required or where a marker IBR vaccine is required (marker vaccines allow differentiation between animals which have been infected and those which have been vaccinated) a 2 dose course of Rispoval® 3 will provide cover against three key viral causes of respiratory disease (BRSv, PI3v, and BVDv) for up to 6 months, ensuring protection throughout the winter housing period. Where IBR cover is required from a marker vaccine, a single dose of Rispoval® IBR Marker Live will provide 6 months of protection.

**Rispoval® 3**
Two 4mL doses given intramuscularly

**Rispoval® IntraNasal**
Single 2mL dose given intranasally

**Tracherine™**
Single 2mL dose given intranasally

**OPTION 3**
6 MONTHS RAPID ONSET PROTECTION AGAINST BRSV, PI3V & IBR

For bought-in calves or as an alternative option for home-bred calves where rapid protection is required, and BVDv cover is less important or not required, combinations of single dose intranasal vaccines can protect calves sooner. Rispoval® IntraNasal will protect in just 5-10 days and Tracherine™ in just 4 days, with cover provided for 12 weeks against BRSv and PI3v, and 6 months against IBR. Six months protection against BRSv and PI3v can be achieved by administering a further dose of Rispoval® IntraNasal 12 weeks after the initial dose.

**Rispoval® IntraNasal**
Single 2mL dose given intranasally

**Tracherine™**
Single 2mL dose given intranasally

**Rispoval® IBR-Marker Live**
Single 2mL dose given intramuscularly

**6 months protection against IBR**

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*No information is available on the safety and efficacy of concurrent use of Rispoval® IntraNasal with Tracherine™ or Rispoval® 3 with Rispoval® IBR Marker Live. The decision regarding timing of administration of either vaccine in relation to the other should be made by the prescribing veterinary surgeon on a case by case basis.*
AUTUMN BORN SUCKLER CALVES

These calves are either born outdoors and housed at a young age or born indoors into a higher risk environment, so need a vaccine which can be used early and works fast to provide protection and minimise viral loads in the shed. Vaccination via the intranasal route is one way to achieve this.

Farm specific risk factors, such as whether or not the group remains stable throughout winter, will determine the need for further vaccination, but where ongoing protection is required, the Zoetis respiratory vaccine range allows the flexibility to choose the most appropriate solution for each farm.

OPTION 1
3 MONTHS PROTECTION AGAINST BRSV AND PI3V

Rispoval® IntraNasal can be used from just 9 days of age to provide the earliest possible protection against BRSv and Pi3v. With immunity proven to last at least 12 weeks, calves are protected during the vulnerable first few months of life.

OPTION 2
6 MONTHS PROTECTION AGAINST BRSV AND PI3V (+/- IBR)

Rispoval® IntraNasal, used from 9 days of age, provides the earliest possible protection against BRSv and Pi3v. With immunity proven to last at least 12 weeks, calves are protected during the vulnerable first few months of life.

Tracherine®
Single 2mL dose given intranasally

Rispoval® IBR-Marker Live
Single 2mL dose given intramuscularly

*No information is available on the safety and efficacy of concurrent use of Rispoval® IntraNasal with Tracherine™ or Rispoval® IBR-Marker Live. The decision regarding timing of administration of either vaccine in relation to the other should be made by the prescribing veterinary surgeon on a case by case basis.
BOUGHT-IN STORE CATTLE/FINISHERS

These cattle are at high risk from respiratory disease because of the stress of transportation and change of holding, and potential mixing of batches of animals where disease status for IBR and BVDv may be unknown.

Being older and having already gone through a winter housing period the key risk for these cattle is IBR, and unless vaccinated prior to being sold, they often require rapid onset protection on or soon after arrival at the new holding. Protection against *Mannheimia (Pasteurella) haemolytica* may also be required as this bacteria can be associated with disease in transported cattle.

**OPTION 1**
**RAPID ONSET PROTECTION AGAINST IBR**

Single dose intranasal vaccines work locally to provide rapid immunity. Tracherine™ will protect cattle against IBR in just 4 days and provide 6 months of cover.

![Tracherine](image)

**OPTION 2**
**RAPID ONSET PROTECTION AGAINST IBR AND PI3V**

Single dose intranasal vaccination with Imuresp™ RP protects against IBR and another virus, Pi3v, within just 4 days, and provides up to 6 months of cover. Pi3v is a respiratory virus which causes damage to the local respiratory defences increasing the risk of both IBR, and bacterial causes of pneumonia (such as *Mannheimia (Pasteurella) haemolytica*). The addition of Pi3v alongside IBR provides broader protection for these calves.

![Imuresp RP](image)

**OPTION 3**
**RAPID ONSET PROTECTION AGAINST IBR, PI3V AND M.HAEMOLYTICA**

Single dose intranasal vaccines Tracherine™ or Imuresp™ RP providing rapid immunity against IBR +/- Pi3v, can be combined with Rispoval® Pasteurella, a single dose intramuscular vaccine to provide protection against *Mannheimia (Pasteurella) haemolytica* within 7 days.

![Imuresp RP](image) or Tracherine + Rispoval Pasteurella

**6 months protection against IBR**

**Upto 6 months protection against IBR & Pi3v**

**Upto 6 months protection against IBR & Pi3v or 17 weeks against M.haemolytica**
Rispoval® 4 contains attenuated BRSV strain 375 and PI3 virus strain ts RLB103 with inactivated, adjuvanted IBR virus strain Cooper and BVDV type 1 strains 5960 (cytopathic) and 6309 (non-cytopathic). For the active immunisation of cattle to reduce infection, clinical signs and respiratory disease caused by BRSV, IBR (BHV-1) virus and PI3 virus; and leucopenia and viraemia caused by the BVDV Type 1, cytopathic and non-cytopathic strains. POM-V

Rispoval® RS+PI3 IntraNasal contains modified live PI3 virus, strain ts RLB103 and modified live BRSV, strain 375. For the active immunisation of MDA positive or negative calves from 9 days of age against BRSV and PI3 virus, to reduce the mean titre and duration of excretion of both viruses. POM-V

Tracherine™ contains live attenuated IBR virus strain ts RLB 106. For the active immunisation of calves and growing cattle to reduce viral shedding and clinical signs caused by BHV-1. POM-V

Rispoval® IBR-Marker Live contains attenuated gE negative BHV-1 strain Difivac. For the active immunisation of cattle to reduce the clinical signs of IBR, reduce virus shedding and to reduce BHV-1 associated abortions. POM-V

Rispoval® 3 contains modified live PI3 virus, strain RLB 103 and BRSV strain 375 with inactivated adjuvanted BVDV type 1, strains 5960 (cytopathic) and 6309 (non-cytopathic). For the active immunisation of calves to reduce virus excretion and clinical signs caused by PI3 virus, to reduce virus excretion caused by BRSV infection, and reduce virus excretion and severity of leucopenia induced by BVDV type 1 infection. POM-V

Imuresp™ RP contains live attenuated PI3 virus, strain ts RLB 103 and live attenuated IBR virus, strain ts RLB 106. For the active immunisation of calves and growing cattle to reduce the clinical signs and viral shedding associated with BHV-1 and to reduce PI3 viral shedding from infected animals. POM-V

Rispoval® Pasteurella contains Mannheimia (Pasteurella) haemolytica biotype A, serotype 1 strain NL1009, together with an oil-in-water adjuvant. For the active immunisation of cattle to reduce lesions and respiratory disease caused by Pasteurella haemolytica biotype A, serotype 1. POM-V

For information about side effects, precautions, warnings and contra-indications, please refer to the product packaging and package leaflet.