zoetis

“THERE’S ONLY ONE BRD PROGRAM FOR ME”

RAPID IBR & MH PROTECTION IS EASY

ONE SPRAY
ONE SHOT
ONE TIME

Scan the QR code
for more information.

"THE BEST WAY TO MANAGE BRD IS BY PREVENTING IT. EARLIER IS ALWAYS GOING TO BE BETTER"

DR. LEISA BROWN, CATTLE VET, NSW

Bovine Respiratory Disease (BRD) is a common cause of illness and death in cattle triggered by the interaction of stress factors, viral and bacterial infections. BRD is effectively a lung infection in cattle which presents as pneumonia and pleurisy which has a high morbidity (sickness) and mortality (death) rate. **BRD is an important disease because it impacts animal welfare and productivity.**

BRD typically occurs after a stress event (i.e., weaning, mustering, transportation, changes in feed or water intake etc) and when common respiratory viruses are circulating through the herd such as **Infectious Bovine Rhinotracheitis (IBR)** and Pestivirus. The combined impact of these on young cattle creates an opportunity for bacteria that normally sit dormant in the throat to move down into the lungs and cause bacterial pneumonia and pleurisy to develop. ***Mannheimia haemolytica* (MH)** is one of the most common bacteria precipitating the BRD complex.

When BRD is present in a herd, in addition to production losses due to deaths, **there will also be a reduction in average daily gain and lower feed conversion efficiency** in infected cattle. This also results in a **reduction in meat quality**, and in particular, a **reduction in marbling.**[1]

BRD can have **lifelong impacts** on the animal's growth and reproductive potential.[2,3]

BRD CAN CAUSE:

- **Production losses**
- **Reduced average daily weight gains**
- **Lower feed conversion efficiency**
- **Reduction in meat quality**
- **Reduction in marbling**
- **Sickness and deaths**

"WEANING'S A REALLY HIGH POINT FOR THE DISEASE, SO WE'VE REALLY GOT TO NAIL IT THEN"

GEOFF HAYES, CATTLE PRODUCER, PROPERTY & LIVESTOCK AGENT, GLEN INNES NSW

Stress can have both physical and physiological effects on cattle, especially young cattle. This leaves them vulnerable to the impacts of infectious viruses and secondary bacterial diseases, which ultimately results in BRD.

A PRIMARY CAUSE OF BRD IS STRESS. YOUR CATTLE ARE MOST SUSCEPTIBLE TO BRD DURING:

- **Weaning**
- **Mustering**
- **Transportation**
- **Movement through sale yards**
- **Mixing and social restructuring**
- **Changes in weather**
- **Changes in diet**

"IT'S PROBABLY MORE WELL KNOWN IN THE FEEDLOT BUT IT'S STILL A SIGNIFICANT PROBLEM ON PASTURE"

CHRIS FINWICKE, JOHN DEE, WARWICK QLD

BRD is not just a feedlot disease, it is now an important disease that needs to be considered over the entire life of the animal as it moves through the supply chain, and on-farm cattle are at significant risk of this disease, particularly at stressful times like weaning.

We know this **disease is often hidden** because twice as many cattle have diseased lungs identified at the abattoir than the number identified sick when alive.[4]

HOW DO CATTLE WITH BRD LOOK?

Cattle by nature disguise illness and try extremely hard to hide their symptoms when affected. Subtle symptoms in 1-2 animals may indicate a greater level of disease within the herd.

- **Poor performing cattle**
- **Tail in weaners**
- **Coughing**
- **Runny nose / drooling**
- **Off feed**
- **Socially distanced / standing apart from other animals**
- **Head and/or ears drooped**
- **Eyes half closed, redness in eyes, tearing and discharge**
- **Increased respiratory rate / abnormal breathing**
- **Fever / temp >39°C**
- **Lethargy**

"ONE SPRAY FOR IBR"

Infectious Bovine Rhinotracheitis (IBR) is an acute, contagious respiratory disease of cattle caused by bovine herpesvirus type 1 (BHV-1), commonly affecting the respiratory tract and the reproductive system. It is highly contagious, resulting in rapid spread of respiratory disease among young cattle. **80-90% of herds demonstrate past exposure to IBR** with the presence of IBR antibodies evident on blood test[5].

IBR is an acute infection which may be characterised by visible signs including sudden onset of fever, salivation, rhinitis (red, runny nose), conjunctivitis (red, watery eyes), inappetence and difficulty breathing.

If the disease is allowed to progress, respiratory distress increases, and open-mouth breathing may be evident.

Once IBR infection takes hold, secondary bacterial infection can occur (such as MH), leading to bronchopneumonia and potentially death.

Rhinogard IBR is a unique single dose intra-nasal spray specifically designed to combat IBR. What's more, it's an attenuated live vaccine contains an Australian strain of IBR. Attenuated live virus vaccines work by replicating to produce an immune response without producing disease.

When administered intra-nasally, Rhinogard IBR produces a **potent local immune response** in the upper respiratory tract[6,7,8] as well as an **antibody response in the blood** (systemic immunity).

Local immune mediators present in the respiratory tract secretions of cattle are important for protection against respiratory disease caused by IBR. The concentration of these immune mediators at 3-4 days post vaccination have been found to be associated with a decline in viral replication[7,8]. In short, **Rhinogard IBR vaccine stops the IBR infection at the site it gets into the body.**

As Rhinogard IBR is delivered intra-nasally, maternal antibodies will not interfere with a calf's response to the vaccine. Therefore, Rhinogard IBR can be **given to calves at any age.**[9]

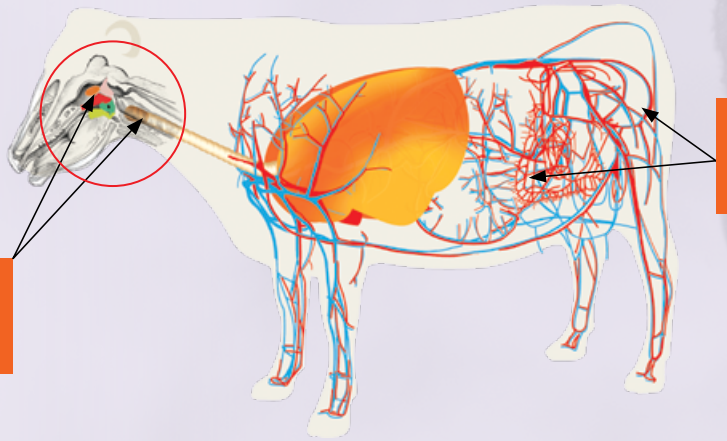
RHINOGARD IBR

- ✓ **SINGLE DOSE vaccine for IBR control**
- ✓ **RAPID onset of immunity[8]**
- ✓ **NO PRIMER dose required**
- ✓ **SIMPLE to use INTRA-NASAL spray**
- ✓ **Labour saving with a single muster**
- ✓ **REDUCE WASTAGE with a 50 dose and 10 dose pack**

KILLED INJECTABLE IBR VACCINES

- Killed injectable IBR vaccines typically **only stimulate a blood antibody response (systemic immunity)[8]**
- Blood antibodies (systemic immunity) alone is not known to be correlated with protection[10,11]
- This means **no local defence** is developed in the respiratory tract at the site of infection
- **Need to wait for 14 days post the 2nd injection for the peak immunological response**

HOW DOES RHINOGARD IBR WORK?



Local immune response in the upper respiratory tract (at the site where the infection takes place)

Systemic immune response (blood antibodies)

Scan the QR code for Instructional Videos.

"ONE SHOT FOR MH"

Australian surveillance shows that *Mannheimia haemolytica* (MH) is one of the **most common bacterial components** of the BRD complex.[12]

In healthy cattle, MH lives dormant in the upper respiratory tract in the throat. When the animal is vulnerable due to stress and/or viral infections, the bacteria **quickly invade the lower respiratory tract causing Bovine Respiratory Disease (BRD).**

Mild respiratory illness and nasal discharge will quickly develop into severe pneumonia and even death once MH gets to the lungs.

Not all affected animals will show obvious signs during a respiratory outbreak, but they are still likely to suffer a **setback in performance.**

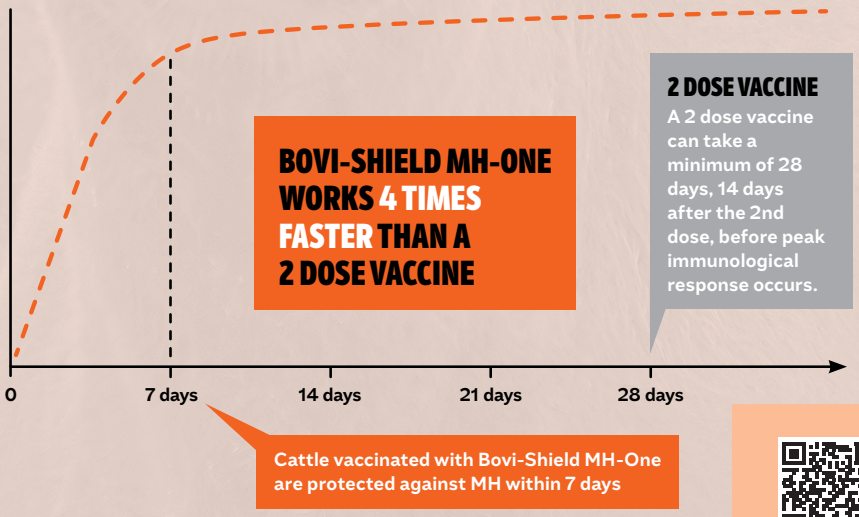
Bovi-Shield MH-One is the only single shot MH vaccine that has demonstrated protection through registration challenge studies. Protection starts within 7 days and lasts at least 17 weeks, ensuring your cattle receive the most effective disease control program prior to, or at weaning and feedlot induction[13].

WHY BOVI-SHIELD MH-ONE?

- **The only single dose MH vaccine with proven protection through registration challenge studies**
- **Unique single dose adjuvant technology**
- **Highly potent: mix fresh on farm for maximum potency**
- **Rapid onset: immunity within 7 days so benefit is seen on farm**
- **Protection at time of challenge on farm or at feedlot entry**
- **Protects for at least 17 weeks[13]**
- **Saves handling twice and the added cost of a second dose**
- **Independently proven: effective against Australian strains of MH[14]**

DON'T THINK TWICE

- **Rapid cover is critical in environments where young, newly weaned, susceptible and unsocialised cattle are involved.**
- **Bovi-Shield MH-ONE provides fast protection; maximising opportunities for increased weight gain and better meat quality.**
- **Compare Bovi-Shield MH-One with typical 2-Shot programs.**



Schematic representation of immune response with a single dose vaccine

Scan the QR code for Instructional Videos.

"THERE'S ONLY ONE BRD PROGRAM FOR ME"

"ANY SETBACK BETWEEN WEANING AND WHEN THEY ENTER THE FEEDLOT COULD BE MASSIVE LOSSES FOR THE COMPANY... THAT'S WHY IT'S BEEN VITAL TO GET ON TOP OF BRD."

SCOTT MCMAHON, CATTLE PRODUCER, NSW

"IT'S ABOUT LABOUR SAVINGS, TIME SAVINGS. THE RHINOGARD AND BOVI-SHIELD IS SO FAST ACTING. GET 'EM DONE EARLY AND THAT WAY THEY KEEP GOING FORWARD."

STEVE THOMPSON, CATTLE PRODUCER, NSW

"IN AN IDEAL WORLD ALL CATTLE WOULD BE VACCINATED FOR BRD BEFORE THEY COME IN FOR SALE. THE QUICKER WE CAN PRODUCE BEEF OR KILOS... THE MORE PROFITABLE OUR COMPANIES WILL BE."

SHAD BAILEY, CATTLE PRODUCER & STOCK AGENT, NSW

"THE BIGGEST BENEFIT OF A ONE-TIME VACCINATION PROGRAM IS THE SPEED OF ITS EFFECTIVENESS. IT'S AS SIMPLE AS THAT"

CHARLIE PERRY, CATTLE PRODUCER, NSW

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ONE SPRAY
ONE SHOT
ONE TIME

RAPID IBR & MH PROTECTION IS EASY

SCAN THE QR CODE TO WATCH OUR VIDEOS.

"IF CATTLE GET BRD, THEY'RE ILL-THRIFTY AND PERFORMANCE REALLY SLIPS"

GEOFF HAYES, CATTLE PRODUCER,
PROPERTY & LIVESTOCK AGENT, GLEN INNES NSW

"THE VACCINE PROTOCOL IS VERY EASY TO IMPLEMENT. THEN ONCE YOU'VE GOT THAT DONE YOU'RE SETTING YOURSELF UP FOR THE BEST RESULTS YOU CAN POSSIBLY ACHIEVE."

SAM BRYCE, CATTLE PRODUCER & CONSULTANT, QLD

"ANIMAL HEALTH IS IMPORTANT TO MAXIMISE GENETICS ON FARM AND DOWN THE CHAIN. HAVING A ONE TIME BRD VACCINATION PROGRAM MAKES LOGICAL SENSE FOR PRODUCTION EFFICIENCY ON FARM"

SCOTT WRIGHT, CEO, ANGUS AUSTRALIA

"THE ADVANTAGE OF ONE TIME BRD VACCINES IS THE EASE OF USE FOR EVERYBODY... AND THE ANIMALS WILL BE PROTECTED FASTER."

DR. LEISA BROWN, CATTLE VET, NSW

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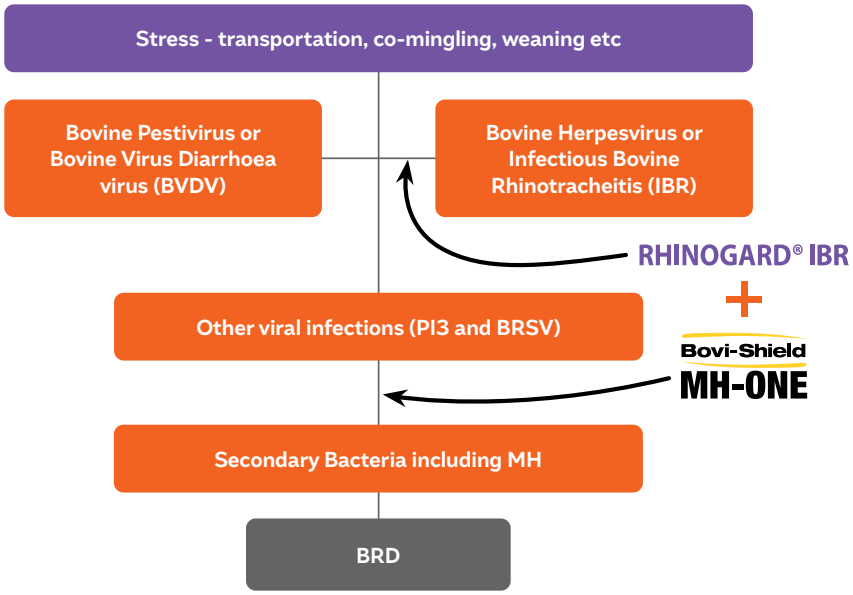
"RHINOGARD AND BOVI-SHIELD WORKING TOGETHER, IT'S JUST SO SIMPLE AND EASY... WHY WOULDN'T EVERYONE DO IT."

WENDY BRYCE, FEEDLOT MANAGER, QLD

The most **comprehensive BRD vaccination program includes Rhinogard IBR and Bovi-Shield MH ONE** delivered at the same time.

The flow chart demonstrates that when both vaccines are used together, there are two different stages in the disease process where the cascade of events leading up to a BRD outbreak is inhibited.

Rhinogard works at the early stage of disease development to reduce the impact of IBR in the chain of events. For cases where other viruses are involved early on, Bovi-Shield works later to prevent pneumonia caused by MH. Together they have a broader impact on pulling up the course of the disease than either product used in isolation. In addition, both vaccines are single dose and are rapidly efficacious.



Management times to use BRD vaccination

Age/Time	Weaners	Trade cattle	Back grounding	Feedlot
Rhinogard IBR	✓	✓	✓	✓
Bovi-Shield MH-One	✓	✓	✓	✓

ONE SPRAY
Rhinogard for IBR

ONE SHOT
Bovi-Shield MH-One

ONE TIME
No need to muster twice

Don't wait for protection in your weaners. Get protection on farm and have them feedlot ready.
Call Zoetis on 1800 814 883 or your local reseller or vet for more information

References: 1. Blakebrough-Hall C, McMeniman JP, Gonzalez LA. An evaluation of the economic effects of bovine respiratory disease on animal performance, carcass traits, and economic outcomes in feedlot cattle defined using four BRD diagnosis methods. J An Sc. 2020 98:2:1-11 2. Van der Fels-Klerx HJ, Martin SW, Neilen M, Huirne RBM. Effects on productivity and risk factors of Bovine Respiratory Disease in dairy heifers; a review for the Netherlands. NJAS. 2002;50:(1)27–45. 3. Griffin D., Animal Health Research Reviews 2014:15(2): 138-141. 4. Wittum T, Woollen N, Perino L and Littledike E (1996). Relationship among treatment for respiratory tract disease, pulmonary lesions evident at slaughter, and rate of weight gain in feedlot cattle. Journal of the American Veterinary Medical Association 209: 814–818. 5. St George, T. D., et al. (1967.) A serological survey of mucosal disease and infectious bovine rhinotracheitis in cattle in Australia and New Guinea. Aust Vet J 43:549-557. 6. Todd JD Immune response to Infectious Bovine Rhinotracheitis Virus (IBRV) following natural infection or vaccination by intranasally or parenterally administered vaccine International Symposium on Immunity in Infection of the Respiratory System in Man and Animals London 1974. Develop. Biol. Standard. 28:526-529 (Karger, Basel 1975). 7. Todd JD et al Interferon in Nasal Secretions and Sera of Calves After Intranasal Administration of Avirulent Infectious Bovine Rhinotracheitis Virus:Association of Interferon in Nasal Secretions with Early Resistance to Challenge with Virulent Virus Infect. Immun. 1972, 5(5):699. 8. Zoetis data on file. 9. Rhinogard Product Label 10. Patel JR Relative efficacy of inactivated bovine herpesvirus-1 (BHV-1) vaccines Vaccine 2005 23:4054-4061. 11. Lazarowicz M et al Testing of two vaccines against infectious bovine rhinotracheitis Schweizer Archiv fur Tierheilkunde; 1983. 125(11):797-808 12. MLA - Diseases of feedlot cattle, 1995, Project DAN.064 13. Bovi-Shield MH-One Product Label 14. Confer AW et al., Comparative study of bovine Mannheimia Haemolytica isolates from Australian and US cattle, Oklahoma State University 2011.