Defending At-risk Cattle From Respiratory Challenges At Arrival

Inforce 3® and One Shot® BVD: the two-pronged defense against respiratory disease

The choice of arrival vaccination programs for stressed cattle could have a significant impact on re-treatment and mortality rates in newly received cattle in feedlots. Recent studies show that using Inforce 3® and One Shot® BVD together can help protect highly stressed cattle from respiratory disease and, in a study, protected more effectively than competitive products.

STUDY #1

Reducing mortality and re-treatment

An Oklahoma State University research study[1] compared the health outcomes following the use of Inforce 3 and One Shot BVD on arrival compared with injectable arrival protocols in high-risk, Southeast-origin cattle.

Upon arrival, calves were assigned to one of three treatments:

1. **Inforce 3** and **One Shot BVD**, followed by **Bovi-Shield GOLD® 5**
2. **Pyramid® 5 + Presponse® SQ**, followed by **Pyramid 5**
3. **Vista® Once SQ**, followed by **Vista 5 SQ**

From the 60-day trial, the following results were found:[1]

- ✓ The use of Inforce 3 and One Shot BVD significantly reduced second (p=0.01) and third (p=0.03) re-treatments compared with Vista Once SQ.
- ✓ The use of Inforce 3 and One Shot BVD resulted in a trend toward reduced mortality compared with cattle receiving Vista Once SQ.

Vaccine programs that include intranasal and systemic virus vaccines in combination with *Mannheimia haemolytica* bacterin toxoids in newly received cattle in feedlots could help **improve cattle health with less mortality** and thus **decrease the use of therapeutic antimicrobials and overall costs**.[1]

INFORCE 3® ONE SHOT® BVD

Second and third re-treatment rates for cattle treated with Inforce 3® and One Shot® BVD were 8.0% and 3.7%, respectively, compared with 13.6% and 6.7% for cattle treated with Vista® Once SQ.[1]

STUDY #2

Reduce mortality by incorporating on–arrival intranasal vaccine[2]

A feedlot study looked at bovine respiratory disease (BRD) prevention in **5,240 high-risk heifers** sourced from Texas, Oklahoma and Missouri.

The study evaluated the effects of administering Inforce 3 at the same time as an injectable modified-live virus (MLV) vaccine containing *M. haemolytica* toxoid.

It also measured the effects of using Inforce 3® and an injectable bovine viral diarrhea (BVD) Types 1 and 2 viruses vaccine in lieu of an injectable MLV vaccine containing infectious bovine rhinotracheitis (IBR) virus and BVD.

In this study, use of a protocol including Inforce 3 had:

No Negative Impact on:[2]

- ✓ BRD Morbidity
- ✓ BRD Relapses

Improved:[3]

- ✓ Mortality Due to BRD
- ✓ BRD Case Fatality Rate
- ✓ Reduced Total Mortality
- ✓ Average Daily Gain
- ✓ Dry Matter Conversion

Treatments consisted of:

	Parenteral Antigens				Intranasal Antigens		
Protocol	**IBR**	**BVD**	**MH***	**CL***	**BRSV***	**PI_3***	**IBR***
BOV	✓	✓	✓	✓			
IF3**	✓	✓	✓	✓	✓	✓	✓
PYR	✓	✓	✓	✓			
Combination	✓	✓	✓	✓	✓	✓	✓

* IBR = infectious bovine rhinotracheitis; BVD = bovine viral diarrhea; MH = *Mannheimia haemolytica*; CL = clostridial 7-way; BRSV = bovine respiratory syncytial virus; PI_3 = parainfluenza 3 virus.
**Injectable IBR given at Day 14 at revaccination.

INFORCE 3®

Vaccination protocols that implement Inforce 3® intranasal respiratory vaccines, in combination with or in place of MLV injectable respiratory vaccines, did not cause any negative effects on cattle health or performance.[3]

For more information, visit with your Zoetis representative or go to zoetisUS.com to see the full portfolio of cattle products.

[1] Step DL, Krehbiel CR, Hixon C, et al. Evaluation of commercially available multivalent modified-live viral vaccines on health and performance in feedlot cattle. *JJ Vaccine Vaccination.* 2015;1(3):1-8.

[2] Szasz JI, Bryant TC, Blood KS, Hardee I, Jennings J, Hughes HD. Comparative effectiveness of intranasal and parenteral vaccines for prevention of bovine respiratory disease in feedlot heifers. *Applied An Sci.* 2023:39;273-281.

[3] Data on file, Study Report No. 20CRGBIO-01-09, Zoetis Inc.

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