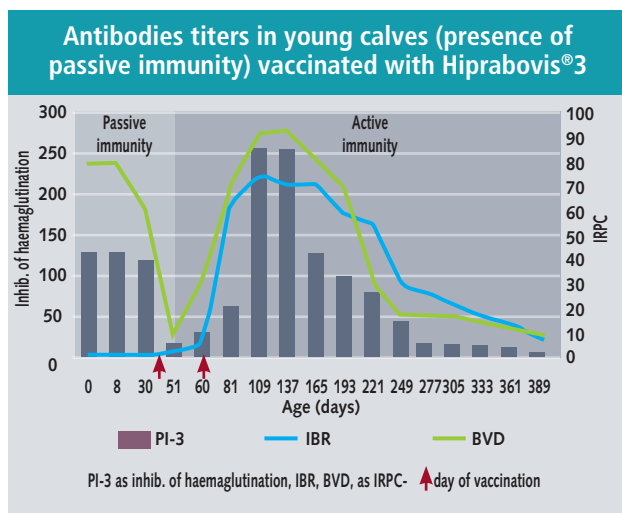


# New Zealand BVD Field Study for Hiprabovis 3

## Background

**Hiprabovis 3** is an inactivated trivalent vaccine. It is recommended for use in cattle to ensure broad spectrum vaccination against several important viral diseases which affect the reproductive and respiratory systems.

The graph below shows the serological response to the three Hiprabovis 3 antigens - bovine viral diarrhoea (BVD), infectious bovine rhinotracheitis (IBR) and parainfluenza-3 virus (PI-3) - in two month old European dairy calves<sup>1</sup>. The response to Hiprabovis 3 vaccination, even in very young calves, was rapid, substantial and prolonged during the first year of life.



**Graph 1. Serological response in calves from the three Hiprabovis 3 antigens**

Hiprabovis 3 is primarily used for calf vaccination programs in NZ. Interestingly, of the two BVD vaccines registered in NZ, only Hiprabovis 3 has registered EU claims<sup>2</sup> for use in calves (under 8 months of age).

Historically there was confusion in the NZ market as to whether (i) just a single Bovilis BVD booster vaccination, or (ii) both a sensitiser plus booster vaccination program, was required to achieve fetal protection in heifers previously vaccinated with Hiprabovis as calves. This confusion meant farmers were reluctant to vaccinate their calves due to additional BVD vaccine costs as heifers.

Consequently, AgriHealth and manufacturer Hipra SA in association with a lower North Island veterinary practice recently conducted a New Zealand field study to evaluate the antibody response of yearling heifers vaccinated as calves with Hiprabovis 3.

## Hiprabovis 3 Study: Evaluation of the BVD antibody response of yearling heifers

The objective of the study was to test whether heifer response to booster vaccination with Bovilis BVD was the same, whether these animals were sensitised with Hiprabovis 3 or Bovilis BVD as calves.

The study enrolled 40 healthy yearling dairy heifers. The selected study animals were run together on a commercial heifer grazing property, along with other dairy heifers. The animals were managed in accordance with generally accepted NZ farming practices.

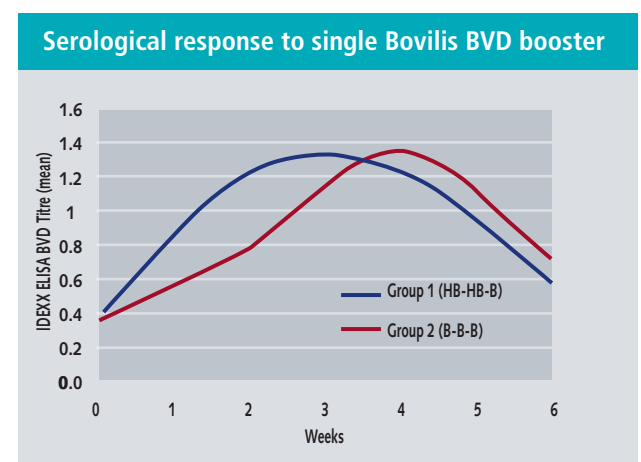
Prior to placement at a lower North Island heifer grazing property, the 20 heifers in group one (HB-HB-B) had received a primary vaccination course of two doses of Hiprabovis 3 as four month old calves. In contrast, the 20 heifers in group two (B-B-B) had received a primary vaccination course of two doses of Bovilis BVD as four month old calves.

Following co-mingling for over six months, all animals were booster vaccinated with a single dose of Bovilis BVD vaccine at 15 months of age, prior to the planned start of mating.

Blood samples were taken from the study heifers prior to vaccination, and on days 14, 28 and 45. The BVD antibody titres were measured by IDEXX (total antibody) ELISA test.

## Results

Approximately half the heifers in both groups tested seropositive for BVD antibodies immediately prior to the Bovilis booster vaccination. Further testing indicated no



**Graph 2. Serological response in heifers following booster vaccination with Bovilis BVD**

evidence of active BVD infection (ie no PI animals) in the mob, as these seropositive animals were all IDEXX ELISA positive and Pourquier (p80) ELISA negative. Consequently this seropositive titre was almost certainly due to vaccinal antibody. There was no difference between the two groups.

Both heifer groups developed comparable serological titres following Bovilis BVD booster vaccination, irrespective of whether they received a primary vaccination course of Hiprabovis 3 or Bovilis BVD the previous year as calves. This similar immunological response to vaccination is clearly shown on graph 2.

The heifers remained in very good health throughout the study, with no animals requiring treatment for ill health. All 40 animals were present at each study intervention.

### Conclusion

The serological response to booster vaccination with Bovilis BVD was equivalent, whether the animals were sensitised with Hiprabovis 3 or Bovilis BVD.

### Clinical Relevance

This NZ field study demonstrated that Hiprabovis 3, a broad spectrum calf vaccine program, can be combined with a single Bovilis BVD booster vaccination in heifers pre mating. The immunological response to BVD resulting from this program is equivalent to animals receiving Bovilis BVD vaccine as calves.

For further information please contact

**AgriHealth 0800 821 421**

### References:

1. Laboratorios Hipra S.A. Data on file
2. European Union Datasheets for Bovilis BVD and Hiprabovis 3
3. AgriHealth NZ Ltd, Study HB-LH-0010-11

Hiprabovis 3 is a restricted veterinary medicine, registered pursuant to the ACVM Act, 1997, No A07140.

Bovilis BVD is a restricted veterinary medicine, registered pursuant to the ACVM Act, 1997, No A08237 and is a trademark of MSD.

**The serological response to the IBR fraction of Hiprabovis may interfere with pre-export ELISA testing, so care should be taken with vaccination in herds where animals might be exported**

# HIPRABOVIS 3

Trivalent inactivated vaccine

## Protect the future of the herd by vaccinating calves with broad spectrum Hiprabovis 3.

The only combination vaccine for BVD, IBR and PI-3 virus.



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