

# TOP FARMERS KNOW-HOW TEST FOR AND CONTROL BVD



### BVD is widespread:

- 95% of dairy herds show evidence of past exposure (BVD antibody detectable in bulk tank milk)
- At of 2015, approx. 60% of dairy herds were "actively infected" (s:p >0.75)

**Contact with PI animals is the source of active BVD infection.** So, BVD control requires two phases:

- **Find and eliminate PIs**
  - Monitoring
  - Culling PIs
- **Prevent new PIs from being created**
  - Biosecurity
  - Vaccination

## MONITORING

### BVD antibody testing

- Blood or milk samples from >9 animals
- Indicates herd's level of past exposure to PIs
- Higher group antibody = more recent & widespread PI exposure
- S:P > 0.75 means there may be a PI in contact with the herd now: "active" BVD infection

### BVD virus testing

- Blood, milk or body tissue (ex: ear notch) from one or more animals
- A positive test means an animal which has been tested is either a PI or is transiently infected
- Isolate and retest positive animals (or cull them straight away)
- Cull all confirmed PIs ASAP — they will always be a source of BVD infection!
- Get vet involved to find PIs or possible sources of PI contact

## BEST PRACTICE MONITORING & CULLING PROGRAM FOR DAIRY FARMS:

1. Bulk milk testing
  - Antibody (s:p): 2-3 times per year
  - Virus test (PCR): necessary if bulk milk antibody is >0.75, or has gone up significantly since last test. Recommended 1-2 times per year, before mating, when all cows are contributing to the vat
  - Get vet involved: if you need to find a PI or a source of PI contact, they will be able to help!

**LIC** Certificate of Analysis  
Bulk Milk BVD Results

Animal Health

LIC Lab Order: [redacted] AHL Sample #: [redacted] Report Date: 21 September 2018  
Client Reference: [redacted]

Preview Comments (if any) for last two samples associated with this Order:  
J Smith Farm, 123 Dairy Road, Smithville | J Doe Veterinary Services, 456 Vets Lane, Smithville

Bulk Milk Sample	AHL#	Collection	RReceipt	result	BVD ABELISA	SP	BVD PCR
Fonterra		03/09/18 21:30	09/09/18	08/09/18	very high exposure	1.24	neg
Fonterra		17/09/18 17:28	19/09/18	28/09/18	very high exposure	1.14	POSITIVE ***
Fonterra			due 28/02/19		pending		

**BVD bulk milk PCR** \*\*\*Monitor Pack: Does NOT include a PCR test for last sample  
The final sample of the monitor pack is tested by antibody ELISA only (exposure test) - specifically to monitor BVD exposure in herds with low levels of immunity. Antibody levels will take time to fall after active infection & removal of PI. This sample was not tested by PCR (virus test) because all status of cows in herd does not change so expect same as spring unless cows culled or purchased, or removal of PI. If part of herd dried off and c-d extra costs for standard package. To confirm PI removal after culling, order an extra bulk milk PCR test.

Comments:

The graph shows all recent results for this herd Participant Code, including multiple daily company supply numbers of submitted vat samples.

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2. Calf & purchased/leased animal testing
  - Virus test (PCR or Antigen ELISA) blood samples or ear notches
  - Cull/reject any PI animals you find
  - This checks how well your biosecurity and vaccination programs are working
3. Service bulls
  - Virus test (PCR or Antigen ELISA) blood samples or ear notches
  - Vaccinate (sensitiser & booster) 1 month before mating

**Additional biosecurity & vaccination measures are necessary if your animals are ever at risk of PI contact.**

## REFERENCES

1. Weir, A. (2016). Epidemiology of BVD in New Zealand dairy herds. Massey University PhD thesis dissertation.
2. Hill, F et al. (2010). Testing of pooled sera to predict the BVDv infection status of cattle. VetScript. 05/2010: 38-39.
3. MC Gates, CA Evans, C Heuer, H Voges & JF Weston (2021) Temporal trends in bulk tank milk antibody ELISA and PCR test results for bovine viral diarrhoea in New Zealand pastoral dairy herds, New Zealand Veterinary Journal, 69:2, 73-82.



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