

How can we use the testing of bulk tank milk samples to monitor herds for IBR?

Maria Guelbenzu, IBR Programme Manager

The collection of bulk milk samples provides a cheap and easy way to monitor herds for IBR.

- A negative result for a marker (gE) BTM test means that there are no, or less than approximately 15% of milking animals that have been exposed to IBR.
- Since 2019 DAFM has been carrying out twice per year surveillance of bulk tank milks for antibodies to IBR.
- Results will be communicated to farmers through ICBF.

The collection of bulk milk samples provides a cheap and easy way to monitor herds for IBR. It has been used extensively in control programmes in Europe as a cost-effective way of monitoring dairy herds.

Once an animal becomes infected with IBR, the virus becomes latent and the animal remains an infected carrier for life, developing antibodies that are detectable in blood and milk samples. Therefore, the identification of antibody-positive animals provides a useful and reliable indicator of having been infected with IBR. Any animal with antibodies to the virus is considered to be a carrier and a potential intermittent excretor of the virus. The only exceptions are calves with maternally derived antibodies from their dam, and non-infected cattle vaccinated with non-marker vaccines. Only non-marker vaccines have been on the market in Ireland for a considerable period, but both marker and non-marker vaccines continue to be used in Northern Ireland.

Since 2019 DAFM have undertaken national surveillance of dairy herds for IBR gE (marker) antibodies using bulk tank milk samples, with two rounds of testing per year being carried out each spring and autumn. The results from this testing will shortly be made available to herd owners through ICBF. The communication of the IBR BTM results will be accompanied by targeted messaging in advance of any decision on a national programme.

Interpretation of IBR BTM results

A positive IBR gE BTM test result is obtained in herds with moderate to high numbers of antibody-positive animals. These herds should consult their vets and consider carrying out complete and regular herd vaccination, if not already in place. Vaccination makes it less likely that an antibody positive (latent carrier) animal will reactivate and shed the virus, and less likely that a susceptible animal will become infected and spread the virus after becoming infected. In these herds, vaccination combined with bioexclusion is the most practical and appropriate control option (Figure 1).

Control principles	All negative herd	Low prevalence herd*	Medium or high prevalence herd
A. Bioexclusion	✓	✓	✓
B. Cull/Isolate	✗	✓/✗	✗
C. Vaccination of the herd	✓/✗	✓/✗	✓

Figure 1. Elements of IBR control according to herd prevalence.

A negative IBR gE BTM result indicates that there are no, or less than 15% of milking animals that have been exposed to the IBR virus. For vaccinating herds, this result is evidence that vaccination is working as there is no/low circulation of the virus within the milking herd. In addition, herds with repeated gE negative results are likely to be free of infection, or very close to it, and this can be used as an indication to carry out whole herd testing to confirm freedom or to identify the small number of carriers still present, with these typically being in the older cohort of animals or purchased.

Where to get more advice on IBR?

Detailed information leaflets on IBR and herd biosecurity, along with answers to frequently asked questions on IBR and specific guidance for herds with bull calves that are potential AI sires, are available at from the Animal Health Ireland website.

