

farm news

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AHDB has recently launched TB Advantage, a new genetic index to help dairy farmers make informed breeding decisions to select cows which have an improved resistance to bovine tuberculosis (bTB).

This is the first genetic index of its kind in the world. Using data on over 650,000 Holstein cows who have bTB data recorded by the Animal and Plant Health Agency (APHA), more resistant bloodlines have been identified. Heritability is 9% which is about the same as SCC so, in the long term, breeding for more resistant animals should have a positive effect on the bTB status of a herd. That said, as for SCC control, environmental and biosecurity measures are still critical in the management of bTB.

TB Advantage is currently available for all dairy breeds with work under way to establish if the index can be extended to beef breeds. TB advantage is available for all UK proven and genomic bulls. We can also obtain a figure for individual females through our Genomic testing service, Clarifide.



The Genetics of TB

How to use TB Advantage

(from <https://dairy.ahdb.org.uk/technical-information/breeding-genetics/tb-advantage>)

TB Advantage can be used as part of a range of important genetic traits to form a balanced breeding plan for the herd; this way the herd's strengths are maintained and weaknesses improved. The degree of emphasis on the TB Advantage may further depend on whether the herd is within, or close to, a TB affected area or not.

The index indicates the degree of resistance to bTB a bull is predicted to pass on to his offspring and is expressed on a scale which typically runs from -3 to +3 and, as for most other traits, positive values are desired. For every +1 point in the index, 1% fewer daughters are expected to become infected during a TB breakdown.

TB Advantage has small but favourable relationships with all traits currently in the UK breeding indexes, £PLI and £SCI. Selecting bulls with positive TB Advantage therefore will, on average, have no detrimental effect on any other trait. However, farmers should

look at each bull on a case by case basis, as any individual could have weaknesses that should be avoided for a particular herd.

The reliability for the TB Advantage ranges from 20 to 99%, with an average reliability of 65% for bulls with UK daughters, and 45% for those with a genomic index only. Although the reliability of genomic predictions for the TB Advantage is currently less than for some other indexes, it can still be used as part of a dairy herd's breeding strategy and has shown to be valuable in predicting future performance.

Bovine TB – an update

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You may be aware that Defra have recently announced an expansion to the 'Edge' area of England, along with new cattle testing arrangements, to come into effect from 1st January 2018.

Derbyshire, previously part Edge and part HRA (high risk area), will now become fully Edge. The part that was previously HRA (i.e. Derbyshire West) will now be subject to six-monthly testing. The rest of the county will remain on annual testing supplemented with radial testing to check for spread to neighbouring cattle herds within a 3km radius of TB breakdown herds with lesions and/or culture positive animals. These enhanced surveillance and control measures in the Edge area aim to protect other cattle herds and reduce the risk of establishment of new infection in badgers.

It's important, however, that we don't just rely on testing to try and control TB. There are a whole host of other measures that farmers can take to try and protect cattle from TB infection.

Some measures may require significant time and investment, but others will be easy to implement. Infected badgers excrete vast numbers of TB bacteria in their urine, so feed contaminated by badger urine



carries a high risk of transmitting TB infection to cattle. Closing off feed stores at night (making sure that any gaps around doorways are less than 7.5cm) will prevent access by badgers.

Another easy gain is to stop infected cattle entering the herd by asking for TB history information before buying cattle, and by isolating and post-movement testing all higher-risk cattle before they enter the herd. Visit ibtb.co.uk to find out about TB breakdowns in different areas of the country.

TB bacteria can live in manure for up to six months, so storing manure for extended periods before spreading it on pasture can help reduce the risk of infection. And don't spread manure from other farms!

Go to tbhub.co.uk for more information and ideas. Please do take the opportunity to speak to your vet – you don't need to wait until your test to discuss TB control!

Are your buildings secure? Badgers can squeeze through gaps of 7.5cm or over. If their skull can fit through, the rest of the badger can usually follow! This door's badger-proof, but only just – the gaps at the sides are 7cm. The concrete is solid, so badgers can't burrow underneath.

New advice on injection sites

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Many injections used in farm animals are designed to be given in the muscle, and one of the most common sites used is the gluteal muscle (the rump). A recent paper published by the University of Nottingham looked at the dangers of damage to the sciatic nerve in the hind limb associated with intra-muscular injection.

The sciatic nerve is a large nerve which runs through the gluteal muscle. In the study, participants (vets, farmers and vet students) were asked to choose a needle and place it where they would inject a live cow for an intra-muscular injection. The sites were plotted and then the carcass dissected to show the

position of the nerve.



They found that 69% of injections were placed in a location that could cause damage to the sciatic nerve, and this was worse in thin cows. If the gluteal muscle is to be used for injection, the needle should be placed a hand's width behind the hook bone and to the side. This site is further forward and further to the side that many of us are used to.

For more information, have a look at the youtube video produced by University of Nottingham (<https://youtu.be/MXZFjXa2LUA>).

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