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Department of Agriculture,
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How does the bovine TB skin test work?

Information update and facts
relating to Bovine Tuberculosis (bTB)



www.agriculture.gov.ie



The bovine TB (bTB) Skin Test

This is the most widely used test in Ireland. It is also called the single intradermal comparative tuberculin test (SICTT). It has been used successfully in bTB eradication in many countries.

How does it work?

On the day of the test the vet records the identity of the animal, measures the thickness of the skin in two places on the animal's neck, and then injects a small amount of bovine tuberculin in one area and avian tuberculin in the other. Tuberculin is a small amount of purified protein from the TB bacteria. Cattle that are infected with bTB will develop an increased thickness in the skin where the bovine tuberculin was injected. This can range from a few millimetres to a very noticeable swelling. The avian tuberculin is used to distinguish between other bTB-like bacteria, which the animal may have been exposed to, and genuine bTB bacteria. Three days later, the vet again records the identity of the animal, measures the skin thickness at the same sites on the neck, and compares the readings with those taken on the first day.



What do the results mean?

In most situations, called “standard interpretation”, if there is an increased skin thickness where the bovine tuberculin was injected and this is over 4 mm greater than the increase in the skin thickness where the avian tuberculin was injected, the animal is identified as being infected with bTB.

In herds that are categorised as low risk of bTB, if the increase in skin thickness in the bovine site is between 1 and 4 mm greater than the avian reaction, the animal is regarded as “inconclusive”.

In animals or herds with a higher risk of bTB, any increase in the bovine site which is 1 mm or more greater than the avian site means the animal is identified as being infected with bTB. This is known as “severe interpretation” and is only used at the direction of the Regional Veterinary Office





How effective is the test at detecting TB?

The skin test can, on average, detect around 80% of bTB-infected cattle. In some cases, this figure can be higher, and in others it can be lower. There are several factors which can affect it:

- The skin test cannot detect very recently infected cattle, as their immune system has generally not had the time to respond to the bTB bacteria. Usually, around 4 to 6 weeks after infection must have passed before the test can work.
- The skin test can detect around 90% of cattle with bTB lesions. However, as the disease progresses, an infected animal's immune system becomes damaged and the test becomes less likely to work.

Cattle which test positive to this test are over 99% likely to have bTB. Less than 1 in 5000 of them won't have bTB.



Further information is available at

<https://www.agriculture.gov.ie/animalhealthwelfare/diseasecontrol/bovinetb/>