



# TB in Your Herd



## **Index**

Introduction	3
Tuberculosis	4
The Skin Test – Testing for Tuberculosis	5
Reactor Animals – Valuation & Removal	7
Post Mortem & Laboratory Tests	10
In Contact Animals	12
Cleansing and Disinfection	13
Inconclusive Reactors	14
Herd Movement Restrictions	15
Animal Restrictions	16
Welfare and Emergencies	18
The Testing Regime	19
Disease Prevention and Biosecurity	20
Tighter Restrictions on Overdue Tuberculosis Tests	21
Bovine TB and Human Health	22

## **Introduction**

This booklet is for use when:

- Animals in your herd have failed the bovine TB skin test or,
- An animal from your herd was diagnosed as having bovine TB after it was slaughtered.

The information in this booklet will help answer some of your questions. Please keep it where you can find it again. However, different farms may have very different circumstances, so you should contact your local Divisional Veterinary Office (DVO) if you have any concerns or questions.

## **Tuberculosis**

*What is tuberculosis?*

Bovine tuberculosis (TB) is a disease in cattle. It is caused by the bacterium *Mycobacterium bovis* which can also affect humans, deer, goats, pigs, dogs and cats, as well as many other mammals including badgers. It is one of a family of bacteria, which cause, amongst other diseases, Johne's disease in cattle, avian TB in birds and leprosy in humans. TB in humans can be caused by both *Mycobacterium bovis* and the human form, *Mycobacterium tuberculosis*.

*How do cattle herds become infected with tuberculosis?*

Cattle are known to have been infected with the bovine type of tuberculosis ever since the cause of tuberculosis was discovered. Thanks to TB control programmes, the level of infection has fallen in recent years.

Evidence of bovine tuberculosis is most commonly found in the throat and lungs of affected animals. This means that the bacteria, which cause the disease, are passed out of the infected animal's body in its breath or in discharges from the nose or mouth.

Cattle can spread this disease to other cattle in a number of ways:-

- Cattle, which come into nose-to-nose contact with an infected animal, may breathe in the bacteria which cause the disease.
- Cattle, which are kept in winter housing with an infected animal, may become infected because the bacteria which cause the disease can be carried in moisture droplets and this kind of atmosphere is commonly found in wintering sheds.

## **The Skin Test - Testing for Tuberculosis**

*What test is used and how accurate is it?*

The tuberculin skin test is currently used throughout the world to test for tuberculosis. The tuberculin test detects the animal's defence against disease. It tells if the animal has been in contact with TB. The tuberculin test is not perfect. However, it is the best test currently available. It can be expected to detect approximately 75% of infected cattle at any one test. Herds in which reactors are found are tested a number of times in order to give the best chance of eliminating infection from the herd. It is further known that when the test is used on cattle without disease, it wrongly classifies a non-infected animal as diseased less than once in 1,000 times. Some cows may be less likely to give a positive reaction if they are close to calving.

*Why was TB infection found in an animal that I sent to slaughter when my last herd test was clear?*

The tuberculin test assesses the disease status of the herd on the day it is completed. Cattle in your herd may be at risk of infection and become infected after the test is completed. This may happen through cattle moving into herd, contact across fences with your neighbours' cattle, or contact with infected wildlife, e.g. badgers. Evidence of disease can then develop quickly in an animal, e.g. 3-4 weeks.

Although the tuberculin test is the best test currently available, it may occasionally miss an infected animal, which may show evidence of disease later when it is slaughtered. This is another reason why TB may be seen in an animal which was clear at its last test.

*How are test results interpreted?*

Interpretation of the tuberculin test has been developed over many years from experimental work in laboratories and millions of actual tests. It has been developed in many countries and here in Northern Ireland we use the results of over 10 million animal tests to allow us to set the best interpretation levels.

Using the readings obtained at the tuberculin test the veterinary surgeon performing the test classifies each animal as negative, inconclusive or as a reactor. These terms are explained later.

Where infection is confirmed in a herd, a more stringent assessment of the rest of the test results may be carried out. This is called severe

interpretation. The test history of the herd and of the herds in the local area is examined. Herds from which reactors may have originated may also be checked. As a result of these investigations, the Divisional Veterinary Office may decide to classify further animals in the herd as reactors or as inconclusives.

*Why are reactors not tested again to check the result?*

The tuberculin test is the internationally accepted indicator of TB infection. Rules for programmes of testing are laid down in European Union directives. When reactors are found, the priority is to remove them from the herd and reduce the risk to other cattle. The tuberculin test already has an inconclusive category, which is used when it is necessary to check results.

## **Reactor animals – valuation and removal**

*What is a reactor?*

A reactor animal is one that has failed the tuberculin skin test. If reactors are found in a herd, this is known as a herd TB ‘breakdown’.

*Do all reactors have bovine TB?*

Reactions to the tuberculin test can sometimes be caused by other mycobacteria. It is impossible to find out in living animals whether the reaction is due to *Mycobacterium bovis* or another mycobacterium. We slaughter reactors and pay compensation. Although this policy may seem wasteful, it has helped us reduce the disease in cattle in this country by removing animals which might have the disease and which could spread it to other animals and to people.

Throughout the country, tuberculosis due to *Mycobacterium bovis* is confirmed in more than half of all herd breakdowns, as described in “*How do I find out if my animal had TB?*”

*What happens when I have a reactor?*

Your herd will be placed under movement restrictions and we will value and slaughter the reactors. There are more details about this process later in this booklet.

*What happens to reactor animals?*

Reactors will be slaughtered. You must isolate them from the rest of the herd until they are slaughtered. This will reduce the risk of them spreading bovine TB on your farm. DARD will examine the carcass to find out the extent of the infection within the animal.

*What about compensation?*

DARD compensates herdkeepers when the reactors are slaughtered. A DARD Valuation Officer will contact you to make an appointment to come to the farm and carry out a valuation.

The Valuation Officer will first check the identification of the reactor and may mark the animal. He will then assess the current market value of the reactor based on his knowledge and experience. You should ensure that any documentation in your possession, which is relevant to the market

value of the animal, (e.g. pedigree certification or milk records or any other relevant information e.g. progeny or sibling performance) is available at time of valuation. In the case of documentation, only original, valid documents will be considered. The Valuation Officer will also ask you whether a female animal is in calf and the stage of pregnancy will be taken into consideration. The Valuation Officer will use the information provided to arrive at the valuation amount.

The Valuation officer records his valuation figure on a Market Value of Animals form (BT29), which you must sign whether or not you accept the valuation. The valuation papers along with any pedigree certificates are forwarded to the DVO.

You may apply to the Senior Livestock Valuation Officer, Valuations Unit at Omagh DVO if you require a copy of the certificate. As compensation you will receive 100% of the agreed market value of the animal.

If you agree to the valuation made by the Valuation Officer, the DVO will contact DARD's haulier who will arrange with you for the collection of the animal as soon as possible. The reactor animal must be kept isolated, fed and watered by you until it is collected.

*Do I have to accept the DARD valuation?*

No. If you fail to agree a market value with DARD **within three working days** you must sign the BT29 form indicating that you have declined the DARD valuation. You then have the option to choose an Independent Valuer (IV) from an approved list, which will be provided to you by the DARD valuer. You must select and notify DARD of your choice of IV **within 2 working days** of being offered the DARD list of IVs. You must make your own arrangements for this independent valuation to be carried out. You will be responsible for any costs, fees or other expenses incurred by the IV selected by you, in carrying out this valuation. If you fail to inform DARD of your nomination within the 2 working days DARD will determine the value of the animal(s) and proceed to remove the animals for slaughter.

If you have nominated an IV within the 2 days, your chosen IV should carry out the assessment and provide both you and DARD with written confirmation of his valuation.

You must ensure that DARD receives the Independent Valuation, in writing from the IV, **within 8 working days** of your nomination.

If this does not occur, DARD will determine the value of the animal(s) and proceed to slaughter. Note that any independent valuation carried out is not final and binding, and may be appealed by either DARD or the owner of the animal(s). Should the timescales outlined in bold in this and the preceding paragraph not be complied with, it will not infringe your right to appeal the

valuation. However, slaughter will proceed after Independent Valuation irrespective of whether an appeal is being made by you or DARD.

### *Can I appeal a valuation?*

If you or DARD are dissatisfied with the determination of the market value of any animal you or DARD may submit an appeal to the TB/BR Valuation Appeals Panel, appointed by DARD for the purpose. Any appeal must be submitted in writing within 30 working days of the determination of market value to which it relates and must be accompanied by a fee of £100, full details of the grounds upon which the appeal is sought including documentary or other evidence, and the change sought to the valuation. Appeals received after the 30 days will not be accepted. The fee will be refunded if your appeal is successful. Further details on the appeals process are available in form VA2 which will be provided to all herdkeepers who do not accept a DARD valuation.

Following consideration of an appeal submitted by you or DARD, the TB/BR Valuation Appeals Panel shall determine the market value of the animal and such determination shall be final and binding on both you and DARD.

### *Withholding of Compensation Payment*

Under Article 18(6) of the Diseases of Animals (NI) Order 1981 (as amended) the Department has discretion to withhold compensation where it is suspected that an offence may have been committed. If DARD is currently investigating irregularities noted at the time of the test on your herd, compensation may be withheld until the investigation is concluded; after which, a decision will be taken on whether or not, or to what extent payment can be made. You will be informed by letter if compensation is to be withheld pending investigation.

### *Do I have to get the animal slaughtered?*

DARD will arrange this for you, after the animal has been valued DARD will arrange and pay to move it to the slaughterhouse. You will receive forms requiring a declaration of any residues that may be in the animal. The completed form(s) must go with the animal to the slaughterhouse.

The haulier will obtain an MC2L – movement licence – for the reactor. Please check that the ear tag number on the BT28A/B residues declaration forms and MC2L match the number on the animal's official ear tags.

## **Post Mortem and Laboratory Costs**

*How do I find out if my animal had TB?*

Animals are examined post-mortem in the abattoir for visible evidence of tuberculosis. You can find out if TB-type lesions were found to be present in the animal by contacting the Veterinary Officer dealing with your breakdown.

At the post-mortem examination we will take samples and send them to the Veterinary Sciences Division, Belfast. Staff at the laboratory will try to grow the bacteria to see if it is *Mycobacterium bovis*. The bacteria only grow very slowly and it is likely to be **at least eight weeks** before we have any results. It could take even longer. Information is available from the Veterinary Officer dealing with your breakdown.

*Why do you do a post-mortem examination?*

By examining the carcass we hope to find out if your animal was diseased, and if so, whether it was in the early stages of disease or whether it has reached the stage when it could pass the infection on to other animals. This helps us to give you better advice on how to reduce the risk of the disease spreading within your herd. It also helps us decide how much more testing we need to carry out in your herd and in neighbouring herds, and whether we should trace animals that you have bought or sold.

*What are lesions?*

The term "lesion" means the damage, injury or change in the function or structure of a part of the body caused by a disease or injury. In the case of TB, lesions are most common in the lymph nodes of the head and chest and in the lungs. They may also occur in the gut and at other sites. If lesions can be seen with the naked eye they are called "visible" lesions. Sometimes lesions may be present that are too small to be visible on the first examination.

Occasionally we find an animal that has TB lesions throughout its body and such an animal may also show signs of disease while it is still alive. Such cattle are rarely seen nowadays because of yearly testing.

*Why do some reactors show no obvious signs of being diseased?*

Not all TB reactors are expected to show signs of disease. This is because herds are tested at least every 12 months and disease is detected by the test before it has had time to become visible by post-mortem examination.

Commonly, the TB lesion in an animal is smaller than the size of your thumbnail and may be in a site where it can be very difficult to detect.

*If no lesions are found at the post-mortem examination, does this mean that the animal was not infected with TB?*

The post-mortem examination carried out at slaughterhouses is done for reasons of public health, not to confirm TB in the cattle. Inspectors examine those parts of the animal where we know that TB is most likely to occur. They have only a limited time for that examination at abattoir. More detailed examination is possible at the laboratory and TB may be confirmed if seen under the microscope or grown in the laboratory from animals where no lesions were found. We will not pay any extra money if we don't find bovine TB in your animals, as the animal has failed the skin test and is still classed as a 'reactor', by law, these animals must be slaughtered.

## **In Contact Animals**

*What about the other animals in my herd?*

Usually we will only slaughter animals that have reacted to the skin test. However, if bovine TB is confirmed, we may re-examine the skin test results of the animals remaining in your herd using a more severe interpretation. This may lead to animals, which had been classified as "inconclusive reactors' being reclassified as reactors. Also, we may feel it is necessary to slaughter other animals in the same group which have been in close contact with cattle which have had bovine tuberculosis confirmed. You will receive the full market value for these animals.

## **Cleansing and Disinfection**

*What about disinfection?*

*Mycobacterium bovis* can survive in the environment so you will have to thoroughly clean and disinfect all places (other than fields) where you have kept reactor cattle, and all equipment and tools you have used with them. This should kill the bacterium and help prevent the disease spreading to the other cattle in your herd. You should use an approved disinfectant that has been tested for use against TB. DARD staff can provide you with a list of approved disinfectants showing the appropriate dilution rate that will kill TB.

A VO or Animal Health and Welfare Inspector will give you a notice BT33 telling you what cleansing and disinfection you should do. This will depend on your own farm's circumstances. By law, you must carry out the cleansing and disinfection set out in a BT33 notice, but you can employ contractors to do the work if you want to. You should contact the DVO as soon as possible after you have finished the cleansing and disinfection and it will be inspected.

## **Inconclusive Reactors**

*What is an inconclusive reactor?*

Some animals give a reaction to the tuberculin test which is less than the reaction which would classify them as reactors but it is not a negative test result. These animals must be tested again not less than 42 days after the first test. Until the re-test is carried out, these inconclusives must be isolated from other animals in the herd to avoid any risk that infection might spread.

DARD will issue a notice (BT21) to you giving the identification number of the inconclusive reactor and requiring it to be isolated. The notice also explains that the animal may not be moved from the farm unless a licence for it to move is issued by DARD. Inconclusives will only be licensed to move directly to slaughter in a slaughterhouse in Northern Ireland.

*What happens to an inconclusive reactor?*

Inconclusives are re-tested and if the result is negative the restrictions on the animal are withdrawn. If the result at this first re-test is not negative, the animal may be classed as a reactor and removed from the herd. The herd is then restricted. If no signs of tuberculosis are found at post-mortem and after laboratory examination, the herd will be tested once at least 42 days after removal of the reactor and, if negative, restrictions will be withdrawn. If signs of TB are found at post-mortem, the herd may be tested immediately and will also have to wait two further tests at not less than 60 day intervals. When these negative whole herd tests have been completed and satisfactory cleansing and disinfection has been carried out, then the restrictions will be withdrawn.

*Are inconclusive reactors ever slaughtered?*

Occasionally, if bovine TB has been confirmed on your farm we will slaughter inconclusives where they have been in contact with infected animals. In this case, the animals will be valued and you will receive the full valuation.

## **Herd Movement restrictions**

### *Why does my herd have to be restricted?*

Once reactors have been found in a herd, it is necessary to minimise contact with cattle in other herds. Some of the cattle in the herd may be incubating the disease but have not yet reached the stage where they will react to the tuberculin test. Movement of any cattle from the herd is prohibited until a series of tests are carried out to ensure, as far as possible, that only disease free cattle are moved to other herds or to markets. You will be informed of a herd movement restriction on form BT25 and possibly form BT23.

You will be able to take animals direct to a slaughterhouse in Northern Ireland provided the normal cycle of risk herd tests is adhered to. Should the RHT (Restricted Herd Test) or any herd test, be delayed more than 1 month past the due by date DARD will remove the facility for any movement to and from your herd until the RHT due is completed and received at your DVO. Where an animal that is to be moved to slaughter is individually subject to restriction notices (BT21, BT23 or BT28), the animal must be accompanied by a special movement licence (MC2L), which is available from the local Divisional Veterinary Office.

Cattle in restricted herds may not be moved to other herds or to markets. In very exceptional circumstances, cattle from restricted herds may be moved to isolated premises but this will only be with the direct authority of the DVO following an investigation.

If you would like clarification, you should discuss these points with your local DVO.

### *How long are herds restricted because of a TB breakdown?*

Generally herds are restricted until 2 consecutive clear test results have been obtained. The first test of a restricted herd is carried out not less than 60 days after the removal of reactors from the herd. The next test of a restricted herd is done not less than 60 days after the first test. If both these tests are clear and cleansing and disinfection have been carried out to the satisfaction of DARD inspectors, the herd will be de-restricted.

If TB has not been confirmed in the herd, it may be possible to derestrict the herd after a single clear herd test is carried out not less than 60 days after the removal of reactors.

## **Animal Restrictions**

### *Can I buy animals?*

While you are under restrictions you will normally be allowed to bring animals onto the farm shown in the restriction notice (form BT25) but in certain circumstances it may be necessary to stop cattle being brought onto the farm. Should a RHT or any TB herd test be delayed more than 1 month past the due date DARD will remove the facility for any movements to and from your herd until the test due is completed and received at your DVO. We will try to reduce the economic effects of these restrictions as much as possible, provided you adhere to the testing cycle.

### *Can I sell animals?*

You can sell animals for slaughter provided the normal schedule of risk herd tests is adhered to. Should an RHT or any herd test be delayed more than 1 month past the due by date DARD will remove the facility for any movement to or from your herd until the test due is completed and received at your DVO. If the retest cycle is being adhered to then animals must move directly from your farm to the slaughterhouse. Animals that are not individually restricted may be moved to a slaughterhouse provided the herd(s) is/are complying with testing requirements and is/are accompanied by the required movement documents (MC2B and MC2C). Also, the movement must be notified to DARD by the seller on the day of movement using form MC2A.

Except in cases where herd movements are frozen individually restricted animals (e.g. inconclusives or traced animals that have been included on a BT21 notice issued to you) may be moved subject to the conditions of a licence (MC2L), which must be issued by DARD. You should contact your local DVO to obtain an MC2L licence

### *Can I sell inconclusive reactors for slaughter?*

If you are complying with DARD RHT testing requirements you can sell inconclusives for slaughter, but you should discuss it with your VO first. If you decide to slaughter an inconclusive you will probably need to have another herd test. Where an inconclusive is to be moved to slaughter a movement licence must be obtained from the DVO. This licence will be endorsed with instructions to the VO at the slaughterhouse indicating that a detailed post-mortem examination is required and samples are to be submitted to the laboratory.

*What happens if I am unable to sell other cattle from my farm?*

Movement restrictions may cause difficulties such as the need for extra housing and feed for stock that you would normally have sold, for example, stores or heifers. DARD is not empowered to pay compensation for losses which you suffer because you have to change the way you manage your farm or because your RHT or TB herd test, has gone past the due by date as described in '*Movement Restrictions*', and the answer to '*Can I sell animals?*'. These losses may be covered under your farm insurance policy. If you believe that movement restrictions may cause animal welfare problems, you may wish to discuss with your VO.

## **Welfare and Emergencies**

*What happens in emergencies?*

If an animal has to be slaughtered on your farm for welfare reasons, for example, if it is ill or has been injured, please tell us as soon as possible and always before you move the carcass in case we need to examine it. **You should never wait to contact us before arranging to have an animal slaughtered, if the delay would put the animal's welfare at risk.**

Your veterinary surgeon will need to sign a casualty slaughter form before the animal leaves your farm.

If the casualty animal is a reactor the DVO will decide how to deal with it, but action must not be delayed if this would put the animal's welfare at risk.

*When restrictions are removed from a herd, can animals be moved freely immediately?*

**Yes** – as soon as restrictions have been removed **in writing**.

When a herd has undergone a series of tests and DARD considers that the infection has been eliminated, a notice is sent to the herdowner advising him that restrictions are withdrawn from the herd (form BT26).

## **The Testing Regime**

*What testing will my herd need?*

Once we have confirmed that an animal from your herd has bovine TB, you must have **two clear whole-herd tests in a row**, involving every animal in the herd, before we will lift the restrictions. These herd tests must be carried out at least 60 days apart. We may apply a more severe interpretation than we apply to routine tests to make sure your herd is cleared of the infection as quickly as possible. There must always be 2 clear tests following removal of reactors when TB has been confirmed.

If bovine TB is not confirmed on post-mortem or laboratory examination, and there are only a limited number of reactors, it may be possible to remove restrictions after only **one clear herd test**.

A further test will be arranged for your herd 4 to 6 months after movement restrictions are lifted to check that no infection remains.

Should the test be delayed more than 1 month past the due by date DARD will remove the facility for any movement to and from your herd until the test due is completed and received at your DVO.

*What animals need to be tested?*

In general, once we have found reactors on your farm, we will need to test all your cattle, including calves less than 6 weeks old. Very occasionally we may agree not to test certain groups of animals (for example, housed barley beef bulls). If you wish us to consider this, you should discuss this with your VO before your test is carried out.

## Disease Prevention and Biosecurity

*What can be done to prevent another breakdown of the herd?*

With TB in the country, it is impossible to guarantee that a herd will remain clear of disease. However, it is possible to reduce your risk of disease by the following:

- **Cattle Purchase.** If you must purchase cattle, try to do so directly from a known source and avoid cattle that may have been frequently moved. Take particular care about the origin of breeding cattle, as these animals may be the core of your herd for some time. If possible, isolate after purchase and ask your veterinary surgeon to carry out a tuberculin test on the animal(s). (Your veterinary surgeon will need to obtain permission from DARD to perform this test; and you will be responsible for paying his fee).
- **Bought-in beef store cattle** for finishing should be kept separately from your breeding stock.
- **Minimise contact with badgers**, fence off badger setts to prevent access by cattle. Avoid grazing fields which contain badger setts, if possible. Raise troughs and drinkers to prevent badgers getting access; prevent badger access to farm buildings, feed and feedstores (including silage pits).
- Try to **maintain good boundaries** that prevent contact between neighbouring cattle, or don't graze cattle in adjacent fields.
- **Avoid sharing equipment**, vehicles etc with other farmers.
- **Do not use slurry or manure** from other herds on your land.

## **Tighter Restrictions On Overdue Tuberculosis Tests.**

**Ensure your TB test is completed on time** and your facilities allow good quality testing by your vet.

If your TB herd test is not completed by the due by date, APHIS will apply restrictions automatically, and you will be unable to move animals out of the herd except to slaughter. Animals can however still move into the herd.

If your TB herd test remains outstanding for one month past the due by date, APHIS will automatically apply full restrictions on your herd. No animals may move into your herd, except for one bull (with DARD permission). No animals may move out of the herd, except for non emergency welfare cases moving to slaughter with prior approval of DARD. Non emergency welfare cases must be accompanied by licence obtained from DARD.

If your annual TB herd test remains outstanding for 3 months beyond the original due date, the herd will require two clear tests taken at least 60 days apart (the second of which you will have to pay for) to re-establish its TB status.

If your test remains outstanding for 4 months beyond the original due date enforcement action is initiated, this may include prosecution.

## **Bovine TB and the risk to Human Health**

*What is the human health risk?*

Bovine tuberculosis can affect humans but today the risks are considered to be very low due to the routine testing and slaughter of cattle and the pasteurisation of milk. Although the risk is small, we do not ignore it. Milk purchasers are informed of your restriction if you are selling milk and we tell the medical authorities if we confirm bovine TB in your herd. The medical authorities may arrange for you and your family to have a check up, but this is not always routine. If you have any worries about your or your family's health, you should explain the circumstances to your doctor.

*Can I carry on selling milk?*

Milk from any positive reactor may not be used for human consumption. The milk from such animals should be withheld from the bulk tank and disposed of in the farm slurry system. If you wish to spread this milk directly on the land you must apply for a waste licence exemption from the DOE. Milk from the rest of your herd, including milk from inconclusive reactors can continue to be sold

*What if I sell unpasteurised milk?*

You will not be allowed to continue to sell your own unpasteurised milk or unpasteurised milk products (such as cream, yoghurt, cheese and so on) for human consumption, even if bovine TB is only suspected, until your herd is shown to be free of TB.

*Should we drink raw milk from the bulk tank?*

DARD recommends that you should not drink unpasteurised raw milk. You will not know if you have bovine Tb in your herd unless signs are found at routine slaughter, or at a TB herd test.

*Can I feed reactor milk to calves?*

It is illegal, under domestic legislation in Northern Ireland to feed milk from reactor cows to calves unless it has first been sterilised.

*What happens to the meat from reactors and inconclusives?*

Meat inspectors will inspect the carcass at the slaughterhouse. It is rare for any problem related to bovine TB to be seen in the meat. The meat inspectors will remove any visually affected parts of the carcass and the rest of the carcass will normally pass as fit for humans to eat unless another problem is found which makes it unfit. Cattle born before 1<sup>st</sup> August 1996 do not enter the food chain and are removed by an alternative system.

**Subsidies** See DARD website for up to date details  
<http://www.dardni.gov.uk/grantsandsubsidies/gas0012.htm>