

TN182 Guidance for tuberculosis in goats in England and Scotland

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Who is this leaflet for?

1. This advice and guidance leaflet is an introduction to tuberculosis (TB) for owners of domestic goats in England and Scotland. It explains what TB is, why and how we test for it and what happens if TB is detected in goats.
2. It also gives some advice on how you can reduce the risk of introducing TB to your herd.
3. There are different legal requirements in Wales, particularly regarding reporting requirements, testing and compensation. Further information is available at: [Animal Health: Bovine TB](#).

What is TB?

1. TB is a chronic, primarily respiratory infectious disease of mammals caused by a group of closely related bacteria known as the *Mycobacterium tuberculosis* (MTB) complex. This group includes:
 - *M. bovis* - responsible for TB in cattle and other mammals, including occasionally people. Cattle are the natural host of *M. bovis*, but nearly all warm-blooded animals, including goats, deer, pigs, camelids and badgers are susceptible to the infection. This broad range of animal hosts complicates the eradication of bovine TB
 - *M. tuberculosis* - the primary cause of TB in people, though it rarely causes disease in animals.
2. This advisory leaflet is mainly concerned with TB caused by *M. bovis* and all further references to 'TB' in this document denote the disease resulting from infection with *M. bovis*.

How is TB transmitted?

Transmission of TB can occur between animals, from animals to humans and, much more rarely, from humans to animals and between humans.

Transmission between animals

TB can spread either directly (animal to animal) or indirectly (via infective material, e.g. manure, urine, bedding, contaminated feed and water). This can include contact with:

- infected cattle to other domestic animals (e.g. goats)
- infected wild animals or
- contaminated equipment, feedstuffs, water and slurry.

Transmission to people

The transmission of TB from goats to people can occur:

- from the consumption of raw (unpasteurised) milk or dairy products made with unpasteurised milk from goats infected with bovine TB (effective pasteurisation removes the risk of transmission of TB to humans)
- by inhaling the bacteria shed by infectious animals in respiratory and other secretions or
- through contamination of unprotected cuts or abrasions in the skin while handling infected animals or their carcasses.

Signs of TB in goats

1. TB is very difficult to diagnose in goats on clinical examination alone, as the signs of the disease are not very specific. TB should be considered in cases of chronic loss of condition and appetite, reduced milk yield and debilitating disease, with or without respiratory signs. A chronic cough can be a sign of TB in goats and should in particular be considered when a goat has failed to respond to antibiotic treatment for a respiratory infection. Animals may also be latently infected without exhibiting any obvious clinical signs.
2. In the first instance, you should always seek advice from your Private Veterinary Surgeon (PVS) if you are concerned about the health of any animal on your farm.

What if I suspect TB in my animals?

If you, or your vet, suspect that a live goat is affected with TB you are advised to immediately notify the Animal and Plant Health Agency (APHA), who will undertake an investigation. If TB is still suspected, restrictions may be imposed on the movement of animals from the premises.

What about infected carcasses (or part carcasses) at slaughterhouses, knackery yards, hunt kennels and laboratories?

All goat carcasses suspected of being affected with TB must be reported to the local APHA office without delay. This is a legal requirement. The person reporting suspicion will be asked to hold suspect material only (the entire carcass is not required) and to ensure identification by retaining the ears or by recording all ear tags, and any other information which might assist in tracing the herd or origin, until the APHA office is able to arrange a visit by a Veterinary Surgeon.

Situations in which TB testing of goats may be necessary

Whilst goats are not routinely tested for TB, APHA can serve a notice on a goat keeper requiring the animals to be tested at the government's expense in order to ascertain the presence of TB. This may be necessary in one of the following circumstances:

- for 'diagnostic' purposes, e.g. when suspect lesions of TB have been reported during post-mortem examination or post-mortem meat inspection of goats, in order to check test the herd of origin
- when the causative bacterium of TB (*M. bovis*) has been identified in goats by Polymerase Chain Reaction (PCR) or culture in tissue samples
- when there is a TB breakdown in a cattle herd or other livestock adjoining (or co-located with) a goat herd, where epidemiological investigation of the adjoining livestock breakdown reveals a risk of the goat herd being affected
- to allow removal of movement restrictions following the disclosure of TB test reactors, clinical cases or confirmed slaughterhouse cases
- when goats have moved onto your farm from another herd in which *M. bovis* has been detected by PCR or culture (tracings), or
- other situations where suspect goats may be affected or infected with TB.

Goat owners can also arrange for their animals to be privately tested for TB by their own vet at their own expense (e.g. before or after goats are moved into a herd - pre-or post-movement testing), although this should only be done with prior approval from APHA.

How do we test goats for TB?

1. The test used is the Single Intradermal Comparative Cervical Tuberculin (SICCT) test, commonly known as the tuberculin skin test, which is also used to screen cattle for TB. Tuberculin is a mixture of proteins extracted from cultures of the bacterium that causes TB.
2. The skin test involves injecting a small amount of 'bovine' tuberculin derived from *M. bovis* and 'avian' tuberculin derived from *M. avium* (the bacterium that causes tuberculosis in birds) into the deep layer of the skin. The skin is first clipped and the thickness of the skin fold measured in millimetres using special callipers before the tuberculins are injected in the middle of the neck. After 72 ± 4 hours, the veterinary surgeon returns and re-measures the skin at the site of the injections to determine if the animal is classified as a reactor, inconclusive reactor (IR) or pass.

Restrictions on the herd and additional testing

1. Where TB is suspected in a goat herd, restrictions will be served to limit the movements of animals on and off the premises. These will remain in place until APHA is satisfied that the herd is free from TB.
2. Where TB has been identified in a goat herd by PCR or culture, movement restrictions can only be removed once all test-positive animals have been slaughtered and any remaining animals in the herd have had two consecutive skin tests with negative results. The skin tests must be separated by an interval of at least 60 days (Short Interval Tests (SITs)).
3. In England, Ministers may authorise the carrying out of compulsory tests under Section 3 of The Animal Health Act 1981 and Article 7 of the Movement of Animals (Restrictions)(England) Order 2002. The keeper will be served with a Tuberculosis Test Notice and a Notification Letter requiring them to complete a test within a set time.
4. In Scotland, compulsory testing can be required under Article 7 of The Tuberculosis in Specified Animals (Scotland) Order 2015.
5. If dairy goats test positive to the tuberculin test, or if TB infection is identified on Post Mortem Examination (PME), PCR or culture in a herd of dairy goats, APHA will inform the Chief Environmental Health Officer of the relevant Local Authority. Until all TB restrictions are removed, the goat herd owner will be responsible for ensuring that milk from IRs and negative testing goats in your herd may only be used for human consumption if it is heat treated before it is placed on the market. The milk from TB reactors can be collected in the slurry system, and cannot be used for human consumption under any circumstances.
6. If TB caused by *M. bovis* is confirmed in your goat herd, APHA will inform your local Health Protection Team, so that any health risks to those in contact with the goats can be investigated. Depending on the nature and presentation of the disease in goats and the degree of human contact, TB screening may be offered to those with close and persistent contact with the infected goat herd. Further information on human TB screening is available at: [Tuberculosis screening](#).

Treatment of animals with suspected TB

All sick animals must receive veterinary attention as soon as possible. However, if TB is suspected in a goat, APHA must be immediately notified and the animal should not be treated with antimicrobial drugs for tuberculosis.

There are no vaccines approved in the UK for the vaccination of goats against TB.

Compensation

In England, legal provision to pay compensation for goats that are identified as reactors or Direct Contacts (DCs) and therefore require compulsory slaughter is found in the Diseases of Animals (Ascertainment of Compensation) Order 1959.

In Scotland, there are provisions under Article 21 of the Tuberculosis in Specified Animals (Scotland) Order 2015, to pay compensation for non-bovine species (including goats) which require compulsory slaughter.

How to reduce the risk of TB in your goats

Discuss this with your Veterinary Surgeon - no two goat units are identical, and advice wherever possible should be based on your own circumstances:

- your PVS can advise on steps you can take to reduce the risk of introducing TB into your herd. TB is a chronic and insidious disease and it can take several months or even years from exposure to the organism to the development of clinical disease. In other words, healthy looking goats may carry the infection and transmit it to other animals. It is good practice to test animals either before they are brought on farm, or on arrival (so called 'Pre- and Post-Movement testing'). They should then be isolated from the main herd and be retested not less than 60 days after the first test before joining the herd, as there is a period of several weeks after an animal becomes infected, when TB is not detectable by skin testing or blood testing
- if a goat dies on your premises for an unexplained reason, it is strongly recommended that you arrange for your PVS to carry out a post mortem examination. Alternatively, you can arrange for a post mortem to be completed at your local APHA Laboratory or Investigation Centre. Post mortem examinations are one of the main ways in which TB in goat herds can be detected
- you must also keep comprehensive records of the movement of animals onto and off your premises.
- movements to events where your animals will have close contact with other TB susceptible species (e.g. livestock shows, travelling to other farms for mating) should be kept to a minimum and where possible, avoid co-grazing goats with such species on your premises
- badgers may be able to transmit TB to your goats, and there is also a risk from other wildlife such as wild deer. Badgers are known to regularly visit buildings to feed, and in doing so, they can contaminate unprotected food sources. Make your farmyard less attractive to wildlife, particularly badgers, by taking practical measures to stop them from gaining access to feed stores, silage clamps and feeding troughs
- where possible, keep your livestock away from high risk areas where you have identified badger setts and latrines. Goats are browsers and are more likely to stray into hedgerows and woodland. Feeding at pasture increases the risk of

contamination, avoid feeding concentrates on the ground and clean out troughs regularly

Aim to make salt and mineral blocks inaccessible to badgers by raising them off the ground where possible. Water troughs should also be raised to the maximum height that the smallest goat in the herd can drink from, which will discourage, but is unlikely to prevent badger access, so clean water troughs regularly.

Further information

Public Health England, in association with Health Protection Scotland, APHA and other bodies, has produced a leaflet providing information on how to reduce the human health risks associated with TB in animals: [Tuberculosis \(TB\): diagnosis, screening, management and data.](#)

Contact your local APHA office for further practical advice and guidance or visit the APHA website: [Animal & Plant Health Agency \(APHA\).](#)



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Data Protection:

For information on how we handle personal data visit www.gov.uk and search Animal and Plant Health Agency Personal Information Charter.

APHA is an Executive Agency of the Department for Environment, Food and Rural Affairs and also works on behalf of the Scottish Government, Welsh Government and Food Standards Agency to safeguard animal and plant health for the benefit of people, the environment and the economy.