

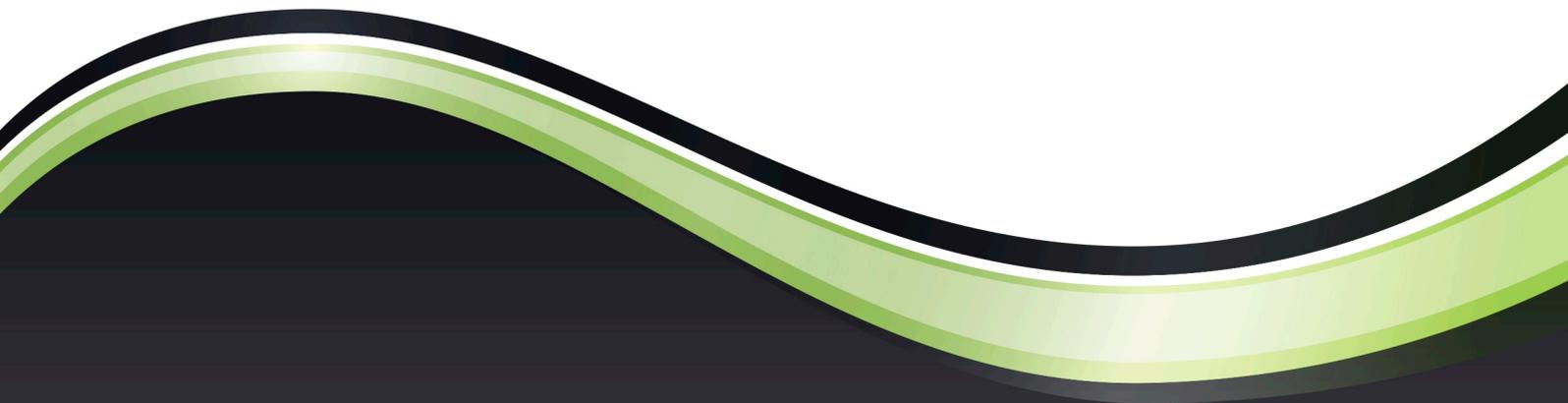


Bovine TB

Technical Document

Incorporating rules for Cattle Health Schemes
on Bovine Tuberculosis (TB) programmes:
CHECS TB Entry Level Membership
CHECS TB Herd Accreditation

May 2021



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1. About Bovine Tuberculosis (TB)

Bovine Tuberculosis is a chronic, contagious, primarily respiratory condition that affects cattle and other animals resulting in progressive wasting and, ultimately, death. It is caused by the bacterium *Mycobacterium bovis*.

M. bovis is shed in bodily secretions, especially respiratory secretions. It can infect a number of species. The main wildlife reservoir in the UK is the badger.

M. bovis is infectious to humans and caused a significant number of deaths in the UK prior to the introduction of pasteurisation of milk and routine meat inspection procedures.

The single intradermal comparative cervical tuberculin (SICCT or 'skin') test carried out on livestock is very valuable in diagnosing and managing TB on a herd basis. It is not, however, perfect, especially with respect to sensitivity. This means that a proportion of truly infected animals may give a negative test result (false negative). A proportion of skin tests carried out on individual animals prior to sale may therefore give a false negative result and cannot be absolutely relied upon.

The skin test is good at detecting cattle herds infected with TB. If a herd repeatedly tests negative for the disease the herd can be categorised as likely to be free of TB. Research has shown that a herd has to have tested clear for 10 years to provide the highest level of confidence that latent (hidden) TB infection is not present.

Because of the difficulties caused by false negative test results and the bacterium being maintained within a wildlife reservoir, eradication of TB is more difficult in comparison to some of the other diseases covered by the cattle health schemes. Herds in parts of the country where *M. bovis* infection is present in badgers may be exposed to a higher background level of 'environmental' infection compared with herds in non-endemic TB areas where risk arises primarily from cattle movements and residual, unidentified infection.

A simple test and cull programme is not sufficient to maintain freedom from TB infection. This must be supplemented by measures to mitigate the risk of stock with undisclosed infection being introduced into herds and implementing measures to limit contact with infected badgers.

Vaccination programmes for both badgers and cattle have a role to play in disease control. There is a licensed vaccine for use in badgers (BadgerBCG™) but administration requires cage trapping and dosing by licensed individuals. At the time of writing there is no licensed cattle vaccine although field trials began in 2021 on the Cattle BCG vaccine and DIVA skin test. BCG-based vaccines do not provide complete protection against infection.

Please see www.tbhub.co.uk for more information about TB.

2. About the CHECS TB programmes

The CHECS TB programmes aim to recognise and reward cattle farmers who take a proactive approach to controlling TB. CHECS TB Herd Accreditation has been available since 2016. CHECS TB Entry Level Membership was launched in 2021. Both are available from CHECS-licensed health scheme providers and operate on the principle of adopting good biosecurity measures and working with the herd veterinary surgeon to minimise the risk of TB entering the herd.

Good biosecurity is central to all CHECS disease reduction programmes, as is a planned approach to disease reduction in consultation with the herd vet. As well as reducing risk of infection, the programmes present risk-based trading opportunities as they signify that certain standards of biosecurity are being attained. In particular, CHECS TB Herd Accreditation offers benefits for farmers with a low risk of TB who farm in regions with a high risk of the disease, or those who wish to minimise exposure from bought-in animals.

An epidemiological analysis¹ of 2019 TB data and historical trends by APHA found that 11% of breakdowns in the High Risk Area of England could be attributed to cattle movements; in the Edge Area this was 21%, and in the Low Risk Area, 38%. Similarly, in Wales the majority of TB breakdowns in the Low TB area are as a result of undetected infection brought in through cattle movements. Outside of low risk areas for TB, indirect contact between cattle and badgers is important and is likely to be the main route for infection. If indirect routes of infection can be identified and addressed, there is more opportunity to prevent infection entering the herd through targeted biosecurity.

CHECS TB Herd Accreditation is based on the findings of research² by Amie Adkins in 2015 on the risk of a herd contracting TB. The research showed that after a herd breakdown, the longer a herd went without a further breakdown, the lower the risk they had of being infected with TB, up until year 10. After this point, the time since the last breakdown had no impact on likelihood of another breakdown.

CHECS TB Entry Level Membership is founded on a concept raised in the Bovine TB Strategy Review published in October 2018³ authored by a team led by Sir Charles Godfray and commissioned by the Secretary of State to Defra. This report first used the term 'no regrets' biosecurity measures, meaning a range of relatively cheap actions a farmer can take to separate cattle from badgers, cattle from other cattle on neighbouring holdings and potentially infected from uninfected cattle. These interventions rely on common sense and require the application of some time and effort but not a large financial investment. Implementing these 'no regrets' biosecurity measures should reduce the risk of a TB breakdown. Please visit the CHECS website www.cheecs.co.uk for an extensive range of answers to frequently-asked questions.

¹ Bovine TB epidemiology and surveillance in Great Britain, 2019
<https://www.gov.uk/government/publications/bovine-tb-epidemiology-and-surveillance-in-great-britain-2019>

² Development of risk-based trading farm scoring system to assist with the control of bovine tuberculosis in cattle in England & Wales (2016)
<https://www.cheecs.co.uk/wp-content/uploads/2016/11/Amie-Adkins-bTB-research.pdf>

³ Bovine TB Strategy Review, October 2018.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/756942/tb-review-final-report-corrected.pdf

3. CHECS TB Entry Level Membership

3.1 Objective

CHECS TB Entry Level Membership works on the principle that implementing a series of easily-achievable biosecurity measures can reduce the risk of a TB breakdown. Although TB risk can never be entirely eliminated, a British Cattle Veterinary Association (BCVA) TB-Accredited Veterinary Advisor (BATVA) can help you understand what you can do to start to mitigate that risk for your herd and build on those first steps thereafter. The concept of good biosecurity is one based on science and evidence of routes of transmission but these first steps are ones that all herd owners will see as common sense, requiring little time, effort or financial investment. They cover a range of risk categories and can be tailored to your business. The real value of CHECS TB Entry Level Membership is the ongoing relationship between herd owner and veterinary surgeon, and the ability to gradually build up herd resilience to this very damaging disease through measures that suit your individual circumstances.

3.2 Method

CHECS TB Entry Level Membership is a simple review of biosecurity measures which aims to provide vets and farmers with an opportunity to discuss TB risk on-farm at a basic level and for the farmer to engage in the concept of biosecurity risk pathways.

Working through a CHECS-licensed health scheme (list available from www.cheecs.co.uk), farmers or cattle keepers undertake an annual assessment of biosecurity measures with their veterinary surgeon and submit the completed form back to the health scheme. The vet, the farmer and the health scheme each retain a copy of the completed form. In recognition of specialist knowledge concerning TB control and risk pathways, veterinary surgeons who sign off applications for CHECS TB Entry Level Membership will need to have completed the BATVA training course offered through the BCVA (www.bcva.org.uk – search the menu under Continuing Professional Development).

From 1 August 2021, CHECS TB Entry Level Membership will form the basis for CHECS TB Herd Accreditation. Anyone joining or renewing CHECS TB Herd Accreditation will be required to have CHECS TB Entry Level Membership as a first step. Please visit the CHECS website www.cheecs.co.uk for an extensive range of answers to frequently-asked questions.

3.3 Requirements – the 6 Risk Factors

Discuss the six TB risk factors below with your BATVA who will have undergone the required training and be able to discuss the most appropriate option(s) in each category for your farm. Please note; you must implement or meet at least one option in each of the six sections to qualify for CHECS TB Entry Level Membership. As a Member of CHECS TB Entry Level, you undertake to continue delivering to the agreed standards throughout the subsequent year and until your annual review.

3.3.1. Risk Factor 1: Minimise TB risk from purchased cattle

Purchased animals constitute a risk of introducing TB infection into the herd. The tuberculin skin test has a moderate sensitivity with approximately one in five infected animals missed at standard interpretation. However, the longer a herd has been free of TB, the more you can trust its most recent skin test is truly clear. By understanding the TB risk from purchased stock, more informed purchasing and management decisions can be made. Options to meet this requirement are one of the following:

- A. *I never buy cattle in*
- B. *If purchasing cattle, I only buy from herds less risky than my own (herds which have been TB-free for as many years as mine, or more)*
- C. *Before I purchase cattle, I look up the seller's herd's TB history on ibTB (www.ibTB.co.uk) to inform my purchasing decisions*
- D. *After purchase I look up the seller's herd's TB history on ibTB and alter my management of the purchased cattle depending on the TB risk*
- E. *I operate an Approved Finishing Unit (AFU) or Licensed Finishing Unit (LFU)*

3.3.2. Risk Factor 2: Minimise TB risk from contact with cattle in other herds

TB can be spread between cattle in close contact directly and via aerosols. Ensuring cattle have no nose-to-nose contact over gates, fences or hedges will reduce, if not eliminate, the risk of TB spread from neighbouring cattle. Options to meet this requirement are one of the following:

- A. *I have no contiguous grazing with other cattle holdings*
- B. *I never graze cattle on contiguous grazing at the same time as my neighbour's cattle*
- C. *There is a three-metre, double-fenced gap between my cattle and my neighbour's cattle*
- D. *There is no opportunity for nose-to-nose contact between my cattle and my neighbours' cattle due to a large hedge or wall*
- E. *Temporary use of electric fencing alongside my boundary prevents nose-to-nose contact between my cattle and my neighbour's cattle*
- F. *If I use common grazing, I comply with the TB protocol*
- G. *I operate an Approved Finishing Unit (AFU) or Licenced Finishing Unit (LFU)*

3.3.3. Risk Factor 3: Minimise TB risk from your own animals

An animal that gives a negative skin test result when re-tested following an inconclusive result is known as a resolved inconclusive reactor (IR). Resolved IRs are at an increased risk of having undisclosed *M. bovis* infection and in England must be restricted to the holding for life. Resolved IRs should be removed from the herd to slaughter as soon as possible and practical (the test that leads to restoration of the herd's officially TB free status). NOTE: under CHECS TB Herd Accreditation, this must be within six months of the initial inconclusive skin test result. Options to meet this requirement are one of the following:

- A. *I cull them as soon as possible after the clearing test (within the next month)*
- B. *I do not put them back in calf and cull them at the end of their lactation*
- C. *I do not put them back in calf and cull them when their current calf is weaned*
- D. *I finish them inside on farm for slaughter*
- E. *I sell them to an Approved Finishing Unit*

3.3.4. Risk Factor 4: Minimise the spread of TB through muck or slurry

M. bovis can live for up to three weeks in well-composted farmyard manure (muck) and around six months in slurry. *Ad hoc* sharing of equipment, perhaps due to machinery breakdowns, can save time and money in the short term but could be a risk for introducing TB on to your farm. Contractors can also be a risk due to the difficulty of adequately cleaning and disinfecting their machinery. Options to meet this requirement are one of the following:

- A. *I do not share my equipment or I have my own muck or slurry spreading equipment*
- B. *When using hired equipment or contractors, I ensure equipment is always visibly clean on arrival*
- C. *I ensure muck and slurry are spread onto arable land or mowing grass, or, if they are spread onto grazing grass, that grass will not be grazed by cattle for at least 60 days*
- D. *If importing cattle muck or slurry from other cattle holdings, I ensure it is not spread on to cattle grazing land*

3.3.5. Risk Factor 5: Reduce TB risk to and from badgers

Badgers are known to be an important vector in TB transmission between cattle holdings. TB-infected badgers can excrete *M. bovis* in saliva, urine, faeces and pus from wounds. The most common way for infected badgers to transmit TB to cattle is via contaminated feed and water, and this can be a relatively easy risk pathway to address. Biosecurity measures that reduce indirect and direct contact between cattle and badgers also protect the badger population from TB. Keeping badger populations TB-free where they are not endemically infected is vital. With assistance from your BATVA, you should be able to recognise active and inactive badger setts, latrines and runs. Being aware of the badger activity on your farm can help prioritise areas to protect. Options to meet this requirement are detailed below. You must first choose A, B or C. If you select A or B, you must then select **at least one** option from i), ii), iii) or iv):

- A. *I have produced a simple map of badger activity on my farm for use throughout the year, to record seasonal sett use, runs and latrines. Where badger activity is identified I am reducing risk from contamination of water troughs and feed by (you must select at least one):*
 - i) *Badger-proofing vulnerable water troughs*
 - ii) *Feeding from badger-proof troughs*
 - iii) *Badger-proofing licks*
 - iv) *Protecting stored feeds from badgers*
- B. *I am using wildlife cameras in yards to identify areas of badger activity. Where badger activity is identified I am reducing risk from contamination of water troughs and feed by (you must select at least one):*
 - i) *Badger-proofing vulnerable water troughs*
 - ii) *Feeding from badger-proof troughs*
 - iii) *Badger-proofing licks*
 - iv) *Protecting stored feeds from badgers*
- C. *I operate an Approved Finishing Unit (AFU) or Licensed Finishing Unit (LFU)*

3.3.6. Risk Factor 6: Have a TB test failure contingency plan

A TB breakdown can have unforeseen consequences for animal health and welfare, farmer mental health and farm finances. Identifying which areas of the business would be affected by a breakdown and discussing options available to you with your BATVA can reduce the disruption a breakdown can cause. Options to meet this requirement are one of the following:

- A. I finish all stock on farm or can finish all stock on farm*
- B. I have a plan for youngstock leaving the farm*
- C. I have a plan to be able to replace stock*
- D. I operate an Approved Finishing Unit (AFU) or Licensed Finishing Unit (LFU)*

3.4 Failure to meet requirements

In line with other CHECS disease programmes, participants are expected to renew within one month of the due date. If failures are detected at any time through the auditing process, CHECS TB Entry Level Membership will be suspended with immediate effect until the requirements are met. If you are also CHECS TB Herd Accredited, losing CHECS TB Entry Level Membership will, from August 2021, mean the suspension of CHECS TB Herd Accreditation as well.

4. Principles for CHECS TB Herd Accreditation

4.1 Objective

CHECS TB Herd Accreditation builds on the reduced risk of a TB breakdown conferred by CHECS TB Entry Level Membership. TB Herd Accreditation provides a system by which herds can be assessed and graded according to risk of a TB breakdown. This enables herds to reduce their disease risk further and facilitates trade between herds in a way that minimises disease spread. CHECS TB Herd Accreditation covers both beef and dairy herds.

4.2 Basic principles

CHECS TB Herd Accreditation scores are herd-level and only apply to homebred animals so cannot be used when selling animals that have been brought into the herd, irrespective of the status of the herd they have come from. Hence CHECS TB Herd Accreditation scores can only be used for the first sale; after that, the animal must be sold without a declared score.

All eligible animals must be presented for statutory TB testing when required. The facilities for testing must be such that the test can be carried out and completed accurately and safely. All animals must be identifiable by their unique ear tags or by electronic ID. Engagement with CHECS TB Entry Level Membership and the TB Advisory Service (TBAS) in England or Cymorth TB in Wales is recommended for herds that have joined CHECS TB Herd Accreditation to reduce the risk of a herd breakdown as much as possible.

4.3 Method

In the first instance, farmers or animal keepers should apply to one of the participating health schemes listed on the CHECS website (www.checs.co.uk). You will be asked to fill out a form and sign a data sharing agreement that allows the health scheme to let APHA know you have joined CHECS TB Herd Accreditation, and allows APHA to send your herd's TB test history and any new data to the health scheme so it can allocate a CHECS TB Herd Accreditation score. Any change to your herd's record regarding TB testing, restrictions, breakdowns or clear tests will be notified to the health scheme so that your score can be changed accordingly.

All cattle herds are classed as Officially TB Free (OTF) if their TB tests are up-to-date and there is no suspicion of TB infection within the herd. Your herd may progress from a CHECS TB Herd Accreditation score of 0 to 10, with the higher numbers indicating lower TB risk. There are also mandatory requirements that support the control and of TB (see Section 5).

To calculate the number of years since the last TB breakdown (if applicable), the date that movement restrictions were lifted at the end of the last TB breakdown (TB10 issue date) is used. The score is counted as completed years since that date hence the score is 0 until a full year has passed, when the score will become 1, and so on. The date the herd first achieved a particular score will be included on the Certificate of Accreditation. Should a herd, having reached a particular score, fail to meet the standard and lose its score, but subsequently regain its original score, the date on the certificate will be the date that score was regained.

The herd's veterinary surgeon must make an annual declaration that the farmer is continuing to abide by the mandatory biosecurity measures required by the programme.

It is recognised that herds may choose to test animals and conduct an independent risk assessment outside of the mandatory requirements of this programme. These herds will remain 'unclassified' and will be considered to be of unknown risk of being a source of TB-infected stock for the purposes of this programme.

Please note, statutory control measures are legal requirements that must continue to be observed, irrespective of membership of the CHECS programme. However, the CHECS programme introduces additional measures to reduce risk of exposure to TB and introduction of infection into the herd.

Please visit the CHECS website www.checs.co.uk for an extensive range of answers to frequently-asked questions.

4.4 Scores within CHECS TB Herd Accreditation

Statutory routine surveillance TB testing is completed at intervals set according to the national TB disease control programme (see links at end of document), which may be subject to changes according to regional or local disease prevalence and incidence, and according to individual herd risk. Accreditation scores for herds in the scheme are set according to the number of years that the herd has been OTF, up to 10 years, as seen in the examples below.

4.4.1. Score 10

- The herd is OTF and there has not been a TB breakdown within the herd for 10 years or more
- All required statutory herd tests have been completed in accordance with the required testing regime for this herd
- The herd is operating within a CHECS-licensed health scheme, is adhering to the CHECS TB Herd Accreditation standards and has a current herd health plan covering the required aspects.

4.4.2. Score 9

- The herd is OTF and there has not been a TB breakdown within the herd for nine full years.
- All statutory herd tests have been completed in accordance with the required testing regime for this herd.
- The herd is operating within a CHECS-licensed health scheme, is adhering to the CHECS TB Herd Accreditation standards and has a current health plan covering the required aspects.

There will be a score corresponding to each number of years since the herd regained OTF status after a breakdown (see additional notes) down to:

4.4.3. Score 0

- The herd must be OTF
- There has been a TB breakdown within the herd in the past year
- All statutory herd tests have been completed in accordance with the required testing regime for this herd.
- The herd is operating within a CHECS-licensed health scheme, is adhering to the CHECS TB Herd Accreditation standards and has a current health plan covering the required aspects.

4.5 How test results affect Accreditation

4.5.1. Definition of a clear TB test

In accordance with statutory testing, for a herd test to be clear all animals eligible to be tested must be tested with a negative result. Any animal with an inconclusive result must have further testing carried out with negative results to demonstrate it is not a test positive animal. Until all animals have achieved a negative result, the herd will remain at CHECS TB Entry Level Membership only with CHECS TB Herd Accreditation suspended. If no test positive animals are found, the herd will regain its original score when CHECS TB Herd Accreditation is reactivated. However, 5.3.2 should be noted with regards to inconclusive reactors.

4.5.2. Definition of a TB breakdown

A TB breakdown within the herd is deemed to have occurred when a test positive animal, reactor or inconclusive reactor has been disclosed at any statutory or private TB test conducted on the herd, or a culture positive slaughterhouse case has been found in an animal originating from the herd.

4.5.3. Test positive animals in the herd

Any animal that tests positive for TB by the tuberculin skin test, interferon-gamma test or any other validated test that leads to loss of OTF status, or has lesions suspicious of TB at post-mortem, or a positive *M. bovis* culture is a positive animal and must be reported to APHA or the appropriate authority.

If a test positive animal is identified in a herd through statutory or private testing, CHECS TB Herd Accreditation will be suspended until a TB10 notice is issued by APHA to lift herd movement restrictions; however, CHECS TB Entry Level Membership will be retained provided the required biosecurity standards are still being met. The herd will only have CHECS TB Herd Accreditation reinstated, regaining score 0, once no longer under movement restrictions. The same applies if a test positive added animal is identified in a herd through post-movement testing unless it is confirmed that CHECS TB Herd Accreditation standards (biosecurity and quarantine measures) have been sufficiently observed to allow the herd to retain its original score once no longer under restriction.

4.5.4. Positive test result in an added animal

Disclosure of a test positive animal, reactor or inconclusive reactor that is in quarantine, or if a culture positive slaughterhouse case has been found in an animal originating from quarantine, this does not constitute a TB breakdown under CHECS rules.

However, if an added animal tests positive while in quarantine, the whole of the holding is still subject to restriction in line with statutory requirements. During this period, the herd will retain CHECS TB Entry Level Membership provided the required biosecurity standards are still being met, but CHECS TB Herd Accreditation will be suspended until a TB10 notice is issued by APHA to lift herd movement restrictions. If during the consequent tests no test positive animals are found outside of quarantine, the herd will be restored to its previous CHECS TB Herd Accreditation score as from the date the herd regained OTF status. This will require certification by both the keeper and their veterinary surgeon that the test positive animals were only found in the quarantine facility and that quarantine was maintained.

If the quarantine facility is on a separate holding with a separate county parish holding (CPH) number then the main holding may be unaffected by the statutory restrictions and therefore its CHECS TB Herd Accreditation score would be maintained. APHA may, however, require that the whole herd is restricted and undergoes a check test.

If a suspected slaughterhouse case is found, CHECS TB Herd Accreditation will be suspended until that case is confirmed to be negative by culture. However, CHECS TB Entry Level Membership will be retained provided the required biosecurity standards are still being met.

4.5.5. Offspring of, or calves reared by, female test positive animals

Any calf under twelve months old that has been reared by a cow recognised as a test positive animal must be subjected to a skin test after a suitable interval if this has not already taken place as part of the herd test. It is also highly recommended that additional more sensitive private TB testing is also carried out, subject to appropriate permission from APHA.

To maintain the herd's CHECS TB Herd Accreditation score, the calf should be kept in isolation until it has tested clear. The clear skin test must be carried out at least 60 days after weaning.

Any calf that has been reared by a cow since the time the cow was recognised as a test positive animal must not be retained for breeding or sold as a breeding animal.

4.5.6. Officially TB-Free Suspended & Officially TB-Free Withdrawn herds⁴

Herds yet to regain OTF status after a TB breakdown will maintain CHECS TB Entry Level Membership – provided the required biosecurity standards are still being met – until OTF status is regained, when they will regain CHECS TB Herd Accreditation score 0 (provided they are still meeting the required CHECS TB Herd Accreditation standards).

This does not apply to herds which have experienced a breakdown from an added animal in isolation, which has had no contact with the rest of the herd, which will have their previous score reinstated once OTF again (see note in 4.5.4).

OTFS and OTFW herds will continue as Members of CHECS TB Entry Level throughout any periods of restriction, provided they continue to comply with those biosecurity requirements.

⁴ Classifications of TB breakdowns can be found on the TB hub, see <https://tbhub.co.uk/advice-during-a-tb-breakdown/actions-once-tb-is-suspected-or-confirmed/>

5. Requirements for CHECS TB Herd Accreditation

The following sections detail the requirements for herds participating in CHECS TB Herd Accreditation. While a number of criteria are offered as either/or options under the same headings in CHECS TB Entry Level Membership, you should note that you may be required to meet more than one criteria when stepping up to CHECS TB Herd Accreditation. This is explained under each heading. Further guidance on biosecurity for TB control can be found at www.tbhub.co.uk/biosecurity. Herd owners, managers and veterinary surgeons participating in a cattle health scheme must be familiar with this advice and must achieve the requirements to retain CHECS TB Herd Accreditation and current scores.

A herd health plan covering the control of TB must be in place as part of the requirements of CHECS TB Herd Accreditation. It must be updated at least annually and signed off by both the herd's private veterinary surgeon and by the herd owner or manager. The health plan must be available to the health scheme provider within one week, on request. The herd health plan must cover the aspects listed in this document.

5.1 Risk Factor 1: Minimise TB risk from purchased cattle

5.1.1. Added new animals

Unless an animal to be introduced into the herd has resided since birth in a low-incidence area (the Low Risk Area of England, Scotland or the Low TB area in Wales), it must be subjected to a pre-movement skin test at the holding of origin within 60 days of the proposed introduction.

Post-movement skin testing of added animals is compulsory for members of CHECS TB Herd Accreditation unless the animals have resided since birth in a CHECS TB Herd Accredited score 10 herd where there is no statutory requirement for pre-movement testing. The post-movement test must be conducted between 60 and 120 days after arrival. Pre- and post-movement testing is paid for by the keeper unless it happens to coincide with a statutory test.

On entry to the herd it is recommended that all added animals are placed in quarantine and the general CHECS rules on isolation and testing apply. Observing these rules means that in the case of a positive test result, the animal will not affect the herd's CHECS TB Herd Accreditation score once the herd is no longer under movement restrictions. It is, however, not compulsory for the added animals to be kept in quarantine until the post-movement skin test has been conducted but if the added animal then fails the skin test outside of quarantine, the herd will be deemed to have suffered a breakdown under CHECS standards and the herd will drop to score 0 once OTF status has been regained (see 4.5.6).

All post-movement testing must be conducted by an Official Veterinarian (OV) working within the veterinary practice responsible for monitoring the CHECS standards on the farm. The veterinary surgeon concerned can then certify that the animal has been in quarantine and CHECS standards are being observed.

In England only, with prior permission from APHA, consideration should be given to testing added animals while in quarantine using the interferon-gamma test, or more sensitive serological tests such as the World Organisation for Animal Health (OIE)-

validated Enferplex or IDEXX tests. The farmer should first discuss the potential consequences of a test positive animal on the herd OTF status with their vet. The post-movement skin test would still be required for animals that were subjected to pre-movement testing but a negative interferon-gamma test result would give the keeper additional reassurance to facilitate earlier introduction of those animals into the herd with a reduced risk to the CHECS TB Herd Accreditation score. Although not compulsory, this additional testing is highly recommended, with the aim of identifying *M. bovis* infected animals not identified by the skin test and to prevent the introduction of such animals into the herd, thereby protecting the disease-free status of scheme herds.

5.1.2. Informed purchasing

The longer a herd has tested free of TB, the more likely it is that it is disease free. By understanding this risk, along with an enhanced testing regime and possibly the use of testing technologies with a greater sensitivity than the skin test, more informed purchasing and management decisions can be made and TB risk reduced.

Under CHECS TB Herd Accreditation, it is optimal to run a closed herd and never introduce any purchased animals (option A for Risk Factor 1 under CHECS TB Entry Level Membership). If this is not a viable option, you must confirm the status of prospective purchase animals on the interactive bovine TB mapping tool (ibTB) (www.ibTB.co.uk) before purchasing, and never purchase animals from a herd with a more recent TB breakdown than your own herd.

5.2 Risk Factor 2: Minimise TB risk from contact with cattle in other herds

5.2.1. Farm boundaries

Under CHECS TB Herd Accreditation, no nose-to-nose contact with neighbouring livestock is permitted under any circumstance. Common grazing is not permitted either under CHECS TB Herd Accreditation (option F under Risk Factor 2 for CHECS TB Entry Level Membership).

5.2.2. Shows and sales

Animals attending shows and sales are at risk of contracting TB even when all animals attending the show or sale have been pre-movement tested. Certain agricultural shows have been assessed as lower risk by APHA or by the Office of the Chief Veterinary Officer for Wales and therefore are deemed to be exempt from the pre-movement TB testing requirement. In these cases, CHECS TB Herd Accredited herds will follow the statutory requirements for pre-and post-movement testing, as can be found at www.tbhub.co.uk. Animals returning to the herd from shows and sales which have not been deemed to be exempt from pre-movement testing shall be regarded as being the same as added animals that required pre-movement testing and, as such, will require post-movement testing between 60 and 120 days after the last show before being returned to the herd. Isolation must be maintained between multiple shows in a single season.

5.2.3. Grazing of cattle

Cattle must not be grazed on pasture previously grazed by non-CHECS TB Herd Accredited cattle until a period of two months has elapsed.

5.3 Risk Factor 3: Minimise TB risk from your own animals

5.3.1. Isolation facilities

An isolation facility that prevents contact with other stock is required to isolate test positive or inconclusive animals. This is also advised for all added animals (see 5.1.1). A dedicated building separate from other cattle buildings is ideal, but a separate paddock that prevents contact with other stock may suffice as the isolation facility. No air space, drainage or manure storage may be shared with other cattle. Manure may only be removed from the dedicated storage area to be spread on land or added to the main manure store when all animals in the isolation facility have passed the required health tests and have been added to the herd. If any of the animals in the isolation facility test positive for TB, manure from the isolation facility must not be used in recycled bedding or be disposed of onto pasture that is to be grazed by cattle within two months. Where paddocks have been used to isolate test positive animals or to quarantine cattle, other cattle must not be allowed to graze them for at least two months.

5.3.2. Inconclusive Reactors (IRs)

The removal of resolved IRs is required, as specified in CHECS TB Entry Level Membership under Risk Factor 3 (See 3.3.3), and any of those options for removal are supported under CHECS TB Herd Accreditation; however, under CHECS TB Herd Accreditation, you must do this within six months of the initial inconclusive skin test result. Furthermore, milk from these animals must not be fed to calves.

5.3.3. Other ruminants

Other ruminants can be a source of infection for cattle and you must not co-graze them with your cattle. This applies to all but extensive grazings.

5.3.4. Hygiene

M. bovis can survive for several months in the environment. The cleaner you can keep your farm, yards and buildings, the lower your risk of disease transmission. Feed and water troughs, in particular, must be kept clean; discuss your disinfection schedule with your veterinary surgeon.

5.3.5. Protect water provision at grass

Where-ever possible mains water must be provided. Ponds and other areas where cattle can defecate and drink from the same area should be fenced off. Herds on extensive grazing of at least 50 hectares are exempt from this requirement, but note that enclosed grazings (in-by) are not exempt.

5.3.6. Adapt feeding practices

Avoid high stocking densities and over-grazing. Intensive grazing encourages cattle to graze margins of fields where there is more risk of infection.

5.4 Risk Factor 4: Minimise spread of TB through muck or slurry

M. bovis can survive several months in muck and slurry, and to reduce this risk, it is **strongly advised** that those in CHECS TB Herd Accreditation only use contractors who are National Association of Agricultural Contractors' Assured Land Based Contractors and are participating in the Agricultural Operations Scheme (NAAC – see www.naac.co.uk). Furthermore, compliance with **A, C and D, or B, C and D** measures as laid out in Entry Level Membership under Risk Factor 4 (see 3.3.4) is required.

5.5 Risk Factor 5: Reduce TB risk to and from badgers

To reduce the risk of *M. bovis* being spread to or from badgers, participation in CHECS TB Herd Accreditation requires those who select either options A or B in CHECS TB Entry Level Membership under Risk Factor 5 (see 3.3.5), and find evidence of badger activity, to comply with **all** the requirements from i) to iv) in A or B, namely:

- badger-proofing vulnerable water troughs, and;
- feeding from badger-proof troughs, and;
- badger-proofing licks, and;
- protecting stored feeds from badgers.

Only if you select option C under CHECS TB Entry Level Membership are you not required to comply with any or all conditions in A or B.

5.6 Risk Factor 6: Have a TB test failure contingency plan

In addition to compliance with Risk Factor 6 requirements under CHECS TB Entry Level Membership (see 3.3.6.), your contingency plan will need to identify trading options for cattle whilst under TB restrictions, such as orange and red markets. Also, look into how to apply for a licence to move TB-restricted cattle. Ensure you have contact numbers readily available for local Approved Finishing Units (AFUs). Discuss breeding plan changes with your veterinary surgeon as well as what you would do with any pedigree stock you would ordinarily sell. Familiarise yourself with the application process for a TB Isolation Unit (TBIU). The TB Hub (www.tbhub.co.uk) is a good source of information to help you plan.

5.7 Failure to meet requirements

Failure to provide a current and signed-off herd health plan within one week of it being requested by the health scheme will result in the immediate suspension of CHECS TB Herd Accreditation.

In the event of a TB breakdown, or CHECS TB Herd Accreditation being suspended because a herd fails to adhere to any of the control elements required (as detailed above), it will still retain CHECS TB Entry Level Membership provided it continues to fulfil all the necessary criteria for this. Herds can only regain TB Herd Accreditation and have their previous score reinstated when all mandatory requirements have been satisfied and after the next herd test (assuming entirely clear results).

Herds are given one month after the annual renewal of CHECS TB Herd Accreditation is due to renew. If this target is missed, their Accreditation is either suspended altogether or they remain as CHECS TB Entry Level Members, provided they remain within date and the respective requirements are still being met.

6. Links to National TB control programmes

Great Britain: <http://www.tbhub.co.uk/>

England: <https://www.gov.uk/government/policies/bovine-tuberculosis-bovine-tb>

Wales: <https://gov.wales/bovine-tb>

Scotland: <http://www.gov.scot/Topics/farmingrural/Agriculture/animal-welfare/Diseases/disease/tuberculosis>