

Bovine tuberculosis: call for views on possible measures to accelerate disease eradication in England

Wildlife and Countryside Link response: April 2021

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This response is supported by the following Link members:

- Badger Trust
- Born Free Foundation
- HSI UK
- RSPCA

Section 1: Cattle movements

1. We would welcome views on what should constitute a ‘truly closed’ herd.

A closed herd is very difficult to achieve. A herd that is closed for breeding could still import bTB through poor biosecurity or other operational requirements and behaviours.

We consider a closed herd would, in theory, not do any of the following;

- Buy in replacement cattle of any kind.
- Lease bulls.
- Buy or borrow colostrum (first milk).
- Take cattle, sheep or other livestock to a show and turn them out with the herd.
- Use community or shared / leased pasture and use later for grazing.
- Share fence lines or water sources with a neighbouring farm.
- Share use of a trailer or other vehicles for transporting cattle.
- Bring an unsold animal back from an auction market or sale.
- Have had an animal jump the fence, or a neighbour’s animal do the same.
- Mix different types of livestock in the same area (e.g. cows and sheep).
- Allow service providers (vets, feed trucks, etc.) or other traffic access to the farm without a full disinfection protocol in place.
- Visit another farm, auction market, show, sale or other event where cattle are present without a clothes change & boot disinfection protocol on return.
- Move slurry on or off the farm.
- Move cattle between different parts of the holding that may be geographically separate.

2. We would welcome views on how best to assess the risk of movements. For example, by herd location, by APHA herd bTB risk score (or at least by number of years since the last bTB herd breakdown), or other.

Option 1: Enhancing ibTB to support responsible cattle movements.

- The ibTB system needs to be developed to the stage where it provides as much information as possible to inform safe purchasing decisions and is sufficiently user-friendly to make sure the information is accessible to all levels of IT competence.
- The development of a phone and tablet App that linked to the ibTB and Livestock Information Service (LIS) interface could be especially useful as it would not only increase the use of the information but make it available anywhere and for any type of sale.
- The system could also be developed into a virtual online market where farmers could register their intentions to buy or sell cattle to plan their purchasing around what was available at the time they wished to buy.

Option 2: Mandating the sharing of information at point of sale.

- It is not only essential that bTB information is available at the point of sale (auction) but also that it is mandatory. In countries such as New Zealand, this information is used to classify herds according to their bTB status. This is vital and underpins the use of the ibTB system and any other incentive or mandatory regulative measure.
- Information can include, for example, whether the animal(s) are certified under the Cattle Health Certification Standards (CHCS) or other relevant accreditation/assurance status (if applicable) the date of the selling herd's most recent routine surveillance test, whether the animal is being sold on the back of a clearing test in a breakdown in its herd of origin
- The key benefit of mandatory point of sale information is that it would enable market forces to disincentivise risky trading habits at auction and force farmers who sold cattle to pay much greater attention to disease risk on their farms or risk lower prices. It would create a risk-based trading (RBT) system where purchasers took notice of the information and provide the informational basis for a regulated system.
- Prohibiting other methods of cattle purchase (e.g., direct between farms) could push the problem elsewhere. A simple web-based App would allow farmers with both desktop and smartphone to quickly and easily find available cattle complete with pertinent information.

Option 3: Rewarding responsible cattle movements

(i) Rewarding responsible cattle movements through compensation policy

- Rewarding farmers for responsible cattle movements could improve behaviour.
- However, there is a danger this kind of incentive creates a culture of expectation.

- Should funding for such an incentive scheme be withdrawn in future there is a high probability that the negative behaviours would return.
- Without effective compliance monitoring there is a danger of monies being paid and the negative behaviours continuing unnoticed.
- Most effective practice would be that compensation is paid only where farms are fully compliant.

(ii) Rewarding responsible cattle movements through the testing policy

- The testing regime should be set and apply to all farms with negative consequences for failure to comply.
- Given that the taxpayer is funding routine surveillance testing, there is no excuse for failing to get the tests done on time (subject to genuinely unforeseen or unavoidable circumstances). The testing regime should be universal in order that it is fair.
- The concept of ‘earned recognition’ rewarding individuals for ‘doing the right thing’ does nothing to change the habits of those that do not. The concept should be replaced by a fully formed Risk Based Trading (RBT) scheme that rewards those at the best practice end with higher prices and/or volume of trading at market, while penalising those that continue to fail to comply.
- Farmers should not be ‘rewarded’ for conducting mandatory surveillance tests on time, they should be fined for failing to do them on time. Likewise, presenting dirty cattle for slaughter (clean livestock policy) should result in those cattle being turned away.

(iii) Rewarding responsible cattle movements through testing costs

- Requiring farmers to pay for additional bTB testing due to risky cattle purchasing practices is a step in the right direction.
- The taxpayer should not be expected to carry this cost.
- The Risk Based Trading Group stated in 2013 that if “a voluntary approach was not successful, a mandatory approach must be considered to ensure the success of risk-based trading.”

Option 4: Regulating movements between certain herds

(i) Requiring isolation of purchased cattle pending results of a negative post- movement test

- All cattle farms should have an isolation area not just for imported animals but also for animals that become ill on the farm as a matter of minimum basic cattle hygiene practice.
- The government states that, “Every year, pre- and post-movement bTB tests detect about 8% of all newly infected cattle herds in England’ (5.2).
- Under the current system post movement testing can take place up to 120 days after cattle arrive at the destination farm. We would like to know what units these animals are being moved to, as we see these animals as being a potential risk to wildlife, should they be

carrying bTB, especially if these units are situated in the EA or LRA. We would like more information relating to the rationale for such an exemption.

- Given that the SICCT skin test used for pre-movement testing is only 50%-80% sensitive then the potential for spreading the disease is dangerously amplified if newly imported cattle are allowed to mingle with the existing herd. The focus should be on ensuring that cattle are 'clean' prior to them being moved.

(ii) Restricting movements to herds of lower bTB risk status

- This is long overdue and should be urgently implemented, as a mandatory measure.
- This measure would be dependent on the APHA bTB risk score system being evolved into a fully developed Risk Based Trading (RBT) scheme.
- If combined with a fully developed IT system incorporating the LIS and ibTB into a user-friendly interface it would be possible for farmers to find cattle to buy or customers to sell to that were permitted under the system.

(iii) Restricting movements between defined zones or risk areas

- This proposal is long overdue.
- Whilst overall incidence of bTB has peaked and shown a small reduction in the last two years (*) it is still spreading into the Edge Area (EA) and the Low Risk Area (LRA) (*).
- Cattle movements should be restricted to movements from a lower into a higher risk area (subject to the restrictions outlined above); movements from higher to lower risk areas should be prohibited.

Section two: New approaches to improve the sensitivity of TB movement testing of cattle

4. We would welcome views on these options and their potential impact. Please include any information or evidence you feel could be relevant to inform our assessment and decisions.

Option 1: Wider use of severe interpretation of the comparative skin test

- Given the lack of sensitivity in the SICCT skin test, the severe interpretation should be used for all skin tests.
- Sensitivity can be as low as 49% at standard interpretation. This would equate to one in two to one in five (50% - 20%) infected animals missed.
- The specificity is very good at 1:65,000 (6.4) meaning that false positives are very rare. All previously considered 'inconclusive reactors' should be considered test positive.
- From a disease prevention perspective, reducing/eliminating false negative tests should always be prioritised over reducing false positives – in other words, improving test sensitivity should be prioritised over protecting specificity.

- The costs are covered by compensation for the farmer and the overall benefit in disease prevention is worth paying for in the short term for the long-term gain for both farmers and the taxpayer.

Option 2: Use of bovine only interpretation of the comparative skin test

- As so much of the financial burden is placed on the taxpayer in the form of paying for the tests and for the associated compensation costs, it clearly makes sense to adopt both severe interpretation and bovine only interpretation for the SICCT test.
- This not only provides overall financial benefits, but also improves the speed at which action is taken which is key to the success of the overall bTB eradication policy.
- When longer test intervals are combined with low sensitivity, bTB has more time to spread and develop.
- Bearing down hard on the disease using severe test interpretation based on bovine-only testing will result in more infected cattle being removed before they have a chance to either pass the disease on to other cattle or to be moved to a new herd or location where they may create a new herd breakdown.
- The cost of quickly removing an animal, even if it turns out not to be infected, compared to the cost of dealing with a new breakdown elsewhere, should be considered a cost saving.
- The cost of quickly removing one animal within a herd is far less than allowing it to remain there while it infects many others that will need to be removed and compensated for later.

Option 3: Supplementary blood testing

- Supplementary blood testing (with IFN- γ or other OIE-validated antibody blood tests) as laid out in this option refers only to post-movement testing and only if paid for by the new owner of the cattle.
- This will not be sufficient to have any significant impact on the problem.
- Voluntary measures will not be taken up by farmers. In surveys only 4% of farmers will carry out testing that is not statutorily required and 86% stated that they would only do so if it was mandatory.¹
- These measures need to be mandatory to be effective.
- IFN- γ or other OIE-validated antibody blood tests should be used for all pre- and post-movement testing because cattle movements are the primary driver of the spread of bTB to new herds around the country.
- Statutory IFN- γ testing, in combination with SICCT testing, would ensure the highest possible risk mitigation before any animal leaves the farm. Mandatory isolation at the receiving farm would ensure that any infected animals that the pre-movement test had missed were not able to pass it on to the receiving herd and a further IFN- γ post-movement test would ensure the best possible protection.
- Equally, not allowing animals to leave the HRA at all, or from the EA to the LRA, would immediately prevent further spread of the disease to the lower risk areas.

¹ Farm Practices Survey (Autumn) 2019 - England, DEFRA, 2019.

Option 4: Suspend movements in the event of an inconclusive reactor

- Suspending movements in the event of an inconclusive reactor (IR) should be implemented immediately. IRs are highly likely to be infected due to the exceptional specificity of the SICCT even at standard interpretation, and their movement presents a significant risk of further spreading bTB.
- As soon as any reactor is detected the whole herd should be screened at the earliest opportunity with IFN-γ.

Option 5: Amend the validity of a pre-movement test

- Amending the validity of a pre-movement test from 60 to 30 days is a step in the right direction as it will concentrate the seller's mind on whether or not trading is a good idea at a given time.
- Under the current system it is possible to use routine surveillance tests as a substitute for a pre-movement test, which may encourage impulse trading of small numbers of cattle during the 60-day window.
- The cost of incorporating widespread mandatory IFN-γ testing must be accepted if the government wishes to make any progress towards eradicating bTB before 2038.
- As it stands, the policy is ineffective and the associated costs are unsustainable, given the lack of progress towards bTB eradication.
- The proportion of the national herd in England that is not Officially TB Free (OTF prevalence) remains at roughly the same level as it was in 2010, having peaked in 2018.
 - 2010 - 4.60%
 - 2018 - 6.03%
 - 2020 - 5.00%
- If this lack of progress is maintained there is a risk that the disease will become permanent along with the costs. Investing in IFN-γ and any better testing methods as they emerge is vital.
- The government should be applying the best possible methods to prevent bTB moving around the country. This means more frequent and more effective cattle testing, and applying a highly precautionary approach to moving cattle.

Section three: Assessing the costs and benefits of alternative statutory testing regimes for bTB breakdown herds

5. We would welcome views on these options and their potential impact. Please include any information or evidence you feel could be relevant to inform our assessment and decisions.

Option 1: Owners of herds sustaining a lesion- or culture-positive bTB breakdown (OTF herd status withdrawn) would be able to apply to APHA for approval of privately-funded supplementary antibody testing, without the need to wait for the completion of a statutory IFN- γ herd test.

- The basis for suggesting this option is for those situations ‘where the infected herd was not eligible (or the owner did not wish to wait) for a government-funded IFN- γ test’ (7.11).
- It is suggested that this proposal will be voluntary.
- 86% of farmers will not carry out additional, private testing.
- It is surprising therefore, that having carried out the survey, DEFRA still considers voluntary testing to be potentially worthwhile.
- Government needs to invest in the testing capacity of APHA (or even private providers) to ensure the most sensitive testing combinations are conducted at the most appropriate times on all farms.
- Issues around compensation need to be addressed by the government to make sure they disincentivise risky practices and apply to everyone fairly.
- Expecting farmers to pay privately for tests that prevent them claiming compensation later (without other statutory tests) will be unlikely to act as an incentive.

Option 2: Extend the voluntary private use of the two OIE-validated antibody tests (IDEXX and Enferplex) to certain non-breakdown situations in which private IFN- γ testing may already be authorised. This would include rapid re-testing of inconclusive reactors to the skin test (IRs) in OTF herds, as well as resolved IRs subjected to life-long movement restrictions in OTF herds.

- All the points raised in answer to Option 1 above apply to Option 2.
- Providing a third and fourth test to the range of tests used in combination may be a benefit in certain circumstances.
- This should be at the discretion of the relevant authorities should the government opt to create the powers and structures needed to operate a system of local bTB management for each area or even at farm level.

Option 3: Widen the statutory use of government-funded antibody testing in some types of infected herds (those with persistent and/or recurrent bTB breakdowns).

- Farms with persistent or recurrent bTB breakdowns are the fundamental driver of the spread of bTB.
- They must be the focus of the government's attention, rather than waiting until after 'a full cost-benefit analysis' to address the issue.
- These farms and their farming practices need to be studied in detail without further delay, and compared with other farms, particularly those in the same area that have never suffered a bTB breakdown. This should involve close scrutiny of farmer behaviour, including biosecurity and trading practices and attitudes, along with the epidemiological environment created at these locations.
- Special attention needs to be applied to the environmental contamination from these farms and its role in the persistence of bTB infection.
- The same attention to bio-security needs to be applied to LTB farms as it is to Approved Finishing Units (AFUs).²
- Following the application of slurry to land or reapplying for OTF status the farm must be cleared of all cattle and left ungrazed for 60 days. However, Barbier *et al* 2016 concludes that worms can continue to maintain bTB for 60 days, which was the cut-off point for the experiment. Other research suggests that bTB can be cultured from soil samples after a year³ or even 15 months⁴, so the period may need to be longer.

Section four: Tighter control of cattle movements following the short interval test that restores a herd's OTF status.

6. We would welcome views on this option and its potential impact. Please include any information or evidence you feel could be relevant to inform our assessment and decisions.

- Any further testing, when combined with movement restrictions and compulsory risk-based trading, will always be a positive benefit to the policy of eradicating bTB from cattle.
- The costs and average likely uptake of c.6k cattle per year needing this test make it good value for money given that Long Term Breakdown (LTB) herds play such a significant role in the maintenance and spread of bTB within the national herd.
- As with all aspects of the bTB eradication strategy, investing now will save money later.
- Reliance on the SICCT skin test, even at severe interpretation, will inevitably result in some infected animals remaining undetected, given its low sensitivity.
- IFN- γ tests should be used for both routine surveillance testing and pre-/post-movement testing from LTB farms for at least a year after they regain OTF status.

² https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/668551/guidance-tb131e.pdf.

³ Ghodbane et al, 2014, <https://www.microbiologyresearch.org/content/journal/micro/10.1099/mic.0.073379-0#r24>

⁴ Young et al, 2005 <https://aem.asm.org/content/71/4/1946>

- This is because any LTB farm will not only have dispersed infection within the herd, may also have resulted in widespread environmental contamination of the farm.
- It is concerning that reclaiming OTF status requires only two short interval tests at 60-day intervals.
- This is at odds with the EU standard (2 clear tests six months apart over 12 months) which, in theory, the UK should have been applying up until leaving the EU in 2020.
- 120 days is not sufficient time for any latent infections to show up with the SICCT test, or for the broad contamination of the farm to have abated given the known persistence of bTB in the environment.⁵
- This is particularly important where AFUs wish to regain OTF status as the environmental contamination at such units may be deeply ingrained.

Section five: differentiation of compensation based on herd owners' implementation of basic ("no regrets") bovine TB biosecurity measures.

7. We would welcome views on this option and its potential impact. Please include any information or evidence you feel could be relevant to inform our assessment and decisions.

- The government should be focussing on ensuring that bad behaviours are not rewarded, and that regulations are established, effectively communicated, and strictly enforced.
- There are significant costs to the taxpayer and the environment that could be prevented if better testing, risk based trading and sound biosecurity were mandatory.
- Risky behaviour should be unacceptable and sensible practice (best practice) should be expected, rather than rewarded.
- It is not fair for responsible farmers or the taxpayer to have to subsidise poor behaviour and practice.
- The suggestion in paragraph 9.6 of the government's response to the Godfray Review (2018) that 'herd owners who meet **basic** biosecurity standards should continue to receive full compensation' is the wrong approach.
- Basic biosecurity standards should be a minimum requirement for any compensation at all.
- Failure to meet these standards should result in no compensation. The same should apply to risky trading practices.
- There is no suggestion in the Call for Views as to how the government will monitor and enforce any standards it wishes farmers to adopt or who will pay for them.

⁵ Barbier, Ghodbane, Young *et al* etc.

Section six: Herd Health Plans for persistent TB breakdown herds.

8. We would welcome views on this option and its potential impact. Please include any information or evidence you feel could be relevant to inform our assessment and decisions.

- The government is targeting a basic common-sense remedy only at farms that have suffered persistent or long-term breakdowns (LTB herds), on the basis that such herds 'account for a significant proportion of Defra's spend on TB testing and compensation' (10.2).
- The government seems to understand the importance of these measures but is not proposing to make them mandatory.
- Given that so many farmers 'hope' they will not get a breakdown (Defra review of cattle purchasing behaviour - ZF0532 Endicott *et al*, 2020) and too few farmers implement even basic biosecurity, it seems unlikely that anything will be achieved through this proposed measure.
- Herd health plans should therefore be proactive, rather than reactive and be developed for all cattle farms.
- bTB advice (including health plans) should be universal rather than applying only after a breakdown, when it's too late.
- It is also concerning that the proposed health plans are envisaged to be created in only a very few hours and only by local private vets.
- The relationship between farmer and vet is one of client and contractor, which creates a potential conflict of interest.
- Health plans need to be preceded by a comprehensive training programme for vets from Defra/APHA scientists to ensure they are giving advice based on sound epidemiological and biosecurity principles.