



Animal &
Plant Health
Agency

APHA Briefing Note 18/23

Testing regimes for bovine TB breakdown herds in England – reminder

Date issued: 07 June 2023 (Updated 26 September 2023)

Note – updates from the previous version are highlighted in yellow

Purpose

1. To remind Official Veterinarians (OVs) and Approved Tuberculin Testers (ATTs) working in England of the existing TB skin testing regimes required to restore Officially TB Free (OTF) status in herds of cattle, water buffalo and farmed bison affected by TB breakdowns in England.

Background

1. The Single Intradermal Comparative Cervical Tuberculin (SICCT) skin test is a highly specific test at the individual animal level, with an estimated probability of false positive results of one in every ~5,000-6,000 TB-free animals tested at the standard interpretation (or one in every ~1,200 using the severe interpretation).
2. Although the SICCT is highly specific, the probability of an animal with a positive result actually being infected (the Positive Predictive Value – PPV) is dependent on the level of infection in the population being sampled¹. As infection is gradually cleared from a breakdown herd, any subsequent reactors will have a lower PPV than those at the beginning of the incident.
3. The current testing regimes required to restore the OTF status in TB breakdown herds in England were introduced in 2016. Please refer to the Bovine TB Information Notes [02/16](#) and [06/16](#).
4. APHA has recently received queries from the OV community regarding interpretation of herd skin testing results in TB breakdown herds, due to a perception that the current policy had changed or it was not being applied consistently.

5. The information provided below represents the default, normal position. Variations of the general policy may occasionally be applied under local APHA veterinary discretion due to case specific reasons or circumstances.

Information

OTF Status Suspended in the Low Risk Area (LRA) of England

6. All TB breakdown herds in the LRA which have their OTF status suspended (OTFS)¹ due to identification of skin or private interferon-gamma (IFN- γ) test-positive animals will be assessed against **three** epidemiological criteria (risk factors) that significantly increase the likelihood of *M. bovis* infection in the herd:
 - a. has the affected herd had its OTF status withdrawn (OTFW)² (due to test reactors with visible lesions and/or Polymerase Chain Reaction (PCR) or culture positive animals) in the previous four years?
 - b. is the affected herd contiguous to another herd whose OTF status is currently withdrawn, or to a restricted holding containing non-bovine animals that have been diagnosed with confirmed *M. bovis* infection?
 - c. **is the affected herd located within the boundaries of a confirmed TB Hot Spot?**
7. In herds in the LRA that meet one or more criteria at paragraph 6 above **(please see Annex 1)**:
 - a. the results of the disclosing skin test will be re-evaluated using severe interpretation. If the disclosing test was an Inconclusive Reactor (IR) retest, this could result in the removal as reactors of IRs that have retested with negative results at the IR retest
 - b. herds will be required to initially complete two consecutive short interval skin tests (SITs) at severe interpretation
 - c. after the initial disclosing test, any further reactors will trigger one subsequent round of SI testing, and severe interpretation will only apply to the disclosing test and first two SITs

¹ OTF Suspended (OTFS) breakdown herds are those where all the skin reactors or private IFN- γ test positive animals are lesion and PCR/culture negative.

² OTF Withdrawn (OTFW) breakdown herds are those where lesions typical of TB are identified at the post-mortem of skin reactors or IFN- γ test positive animals or *M. bovis* is identified in tissue samples (by PCR or culture) from any animal in the herd.

- d. if the second of the two mandatory initial SITs is negative at severe interpretation, restrictions can be lifted
 - e. if the second of the two mandatory initial SITs at severe interpretation identifies only reactors with no visible lesions and (if requested) negative culture (or PCR) results, one more herd test with negative results at standard interpretation will be required to restore OTF status
 - f. the OTF status of the herd will be withdrawn (OTFW) whenever a reactor with visible lesion of TB is found, or any animal in the herd has a positive PCR or culture result for *M. bovis*. All the normal actions to be taken for an OTFW herd will then follow
 - g. if the SIT that potentially leads to the restoration of OTF herd status discloses IRs only, those animals only will be retested 60 days later at standard interpretation. Herd movement restrictions will remain in force until all the IRs have been re-tested with negative results.
8. This ensures that the official status and management of a herd that suffers an OTFS breakdown is still commensurate to the risk of that herd being infected with *M. bovis* (despite the absence of visible lesions of TB and the negative culture results) and that herd movement restrictions are not prematurely lifted.
9. For herds in the LRA where none of the three epidemiological criteria at paragraph 6 above apply (please see Annex 2):
- a. only one SIT with negative results at standard interpretation is required before movement restrictions can be lifted
 - b. if the SIT that potentially leads to the restoration of OTF herd status discloses IRs only, those animals only will be retested at standard interpretation. Herd movement restrictions must remain in force until all the IRs have been re-tested with negative results.
 - c. the OTF status of the herd will be withdrawn (OTFW) whenever a reactor with visible lesions of TB is found, or any animal in the herd has a positive PCR or culture result for *M. bovis*.

Officially TB Free Status Suspended in the High Risk (HRA) and Edge Areas of England

10. In all TB breakdown herds in the High Risk and Edge Areas which have their OTF status suspended due to identification of skin or private IFN- γ test positive animals (please see Annex 3):
- a. the results of the disclosing skin test will be re-evaluated using severe interpretation. If the disclosing test is an IR retest, this could result in the

removal as reactors of IRs that have retested with negative results at the IR retest

- b. herds will be required to initially complete two consecutive SITs at severe interpretation
- c. after the initial disclosing test, any further reactors will trigger one subsequent round of SI testing, and severe interpretation will only apply to the disclosing test and first two SITs
- d. if the second of the two mandatory initial SITs is negative at severe interpretation, restrictions can be lifted
- e. if the second of the two mandatory initial SITs at severe interpretation identifies only reactors with no visible lesions and (if requested) negative culture (or PCR) results, one more herd test with negative results at standard interpretation will be required to restore OTF status
- f. the OTF status of the herd will be withdrawn (OTFW) whenever a reactor with visible lesions of TB is found, or any animal in the herd has a positive PCR or culture result for *M. bovis*
- g. if the SIT that potentially leads to the restoration of OTF herd status discloses IRs only, those animals only will be retested 60 days later at standard interpretation. Herd movement restrictions will remain in force until all the IRs have been re-tested with negative results

Officially TB Free Status Withdrawn (all areas of England)

11. In any TB breakdown herds with OTF status withdrawn due to the identification of at least one skin or private IFN- γ test positive animal with visible lesions of TB and/or a PCR test (or culture)-positive slaughterhouse case:

- a. the results of the disclosing test will be re-evaluated using severe interpretation. If the disclosing test is an IR retest, this could result in the removal as reactors of IRs that have retested with negative results at the IR retest
- b. at least two SITs of the affected herd, at severe interpretation, will be required initially
- c. thereafter, the interpretation and number of additional herd tests will depend upon the post-mortem and any PCR testing and/or culture results of any reactors detected in the preceding SIT(s) and/or any slaughterhouse cases disclosed prior to any test:

- if either the first or the second SIT (or any subsequent SIT) discloses a VL reactor and/or PCR/culture positive animal, then two further SITs at severe interpretation will be necessary
 - the disclosure of only non-visibly lesioned (NVL) culture (or PCR) negative 'standard' reactors at subsequent tests, will require two further SITs to be carried out at standard interpretation
 - disclosure of only NVL culture negative 'severe' reactors will require one further SIT to be carried out at standard interpretation
12. To regain OTF status, an OTFW herd must meet all the following criteria (in an order of decreasing priority):
- a. undergo two SITs at severe interpretation following the disclosure of any VL and/or PCR or culture-positive animal
 - b. complete two SITs at standard interpretation following the disclosure of only NVL (culture negative, if available) standard reactors
 - c. complete one SIT at standard interpretation following the disclosure of only NVL (culture negative, if available) severe reactors

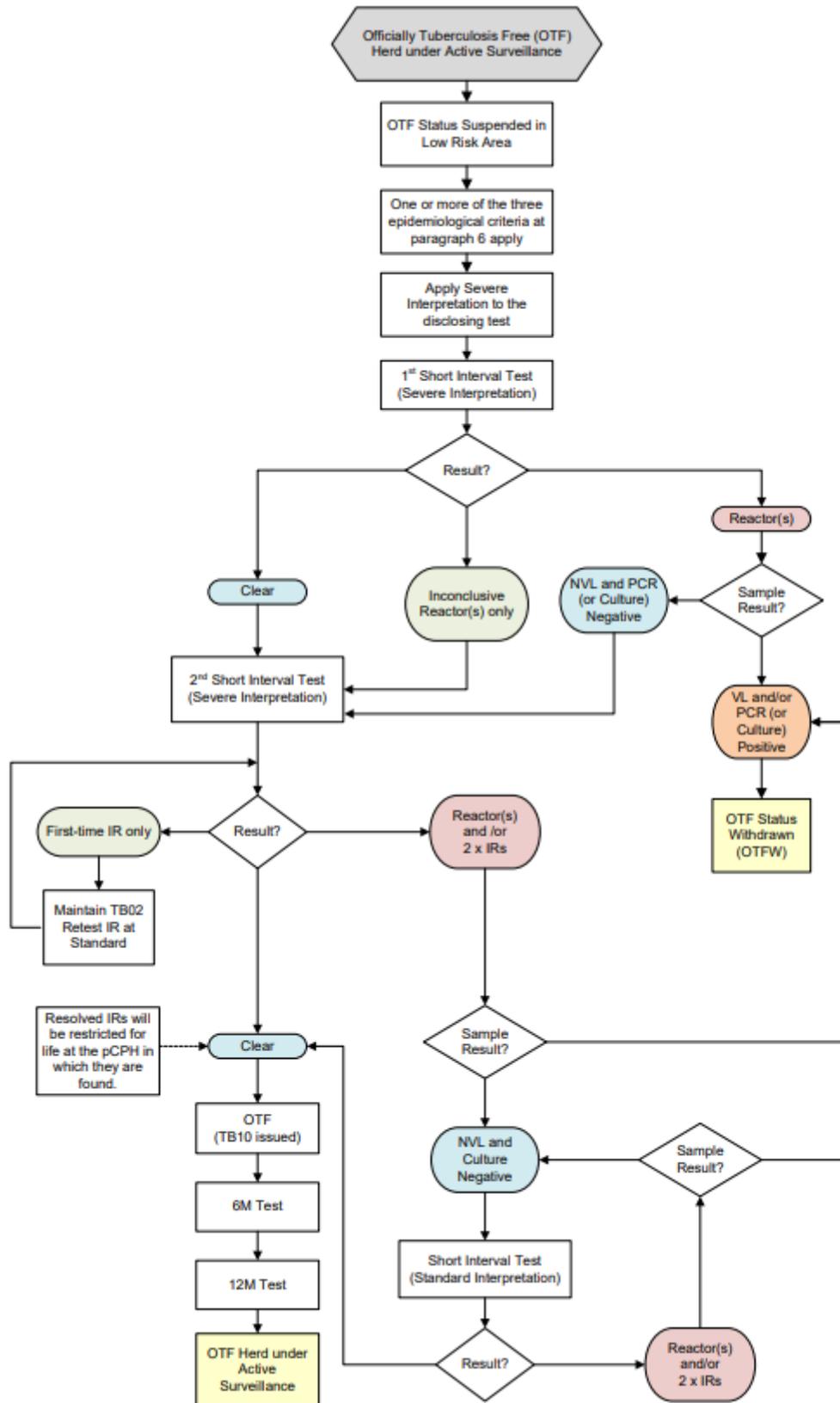
Action

13. This Briefing Note is only for the information of OVs, who should note its contents. APHA continues to be responsible for the management of TB breakdowns.
14. APHA will officially inform cattle keepers of their TB breakdown test results once these are received and processed, and the type, interpretation and/or likely number of follow up tests necessary to reinstate OTF herd status.
15. OVs should advise cattle keepers to always wait for APHA to confirm the results of the latest test conducted in a TB-restricted herd. Herd keepers should not assume, on the back of a TB test with negative results, that their herds have automatically regained OTF status – they should await receipt of a TB10 formally lifting their restrictions before moving cattle.

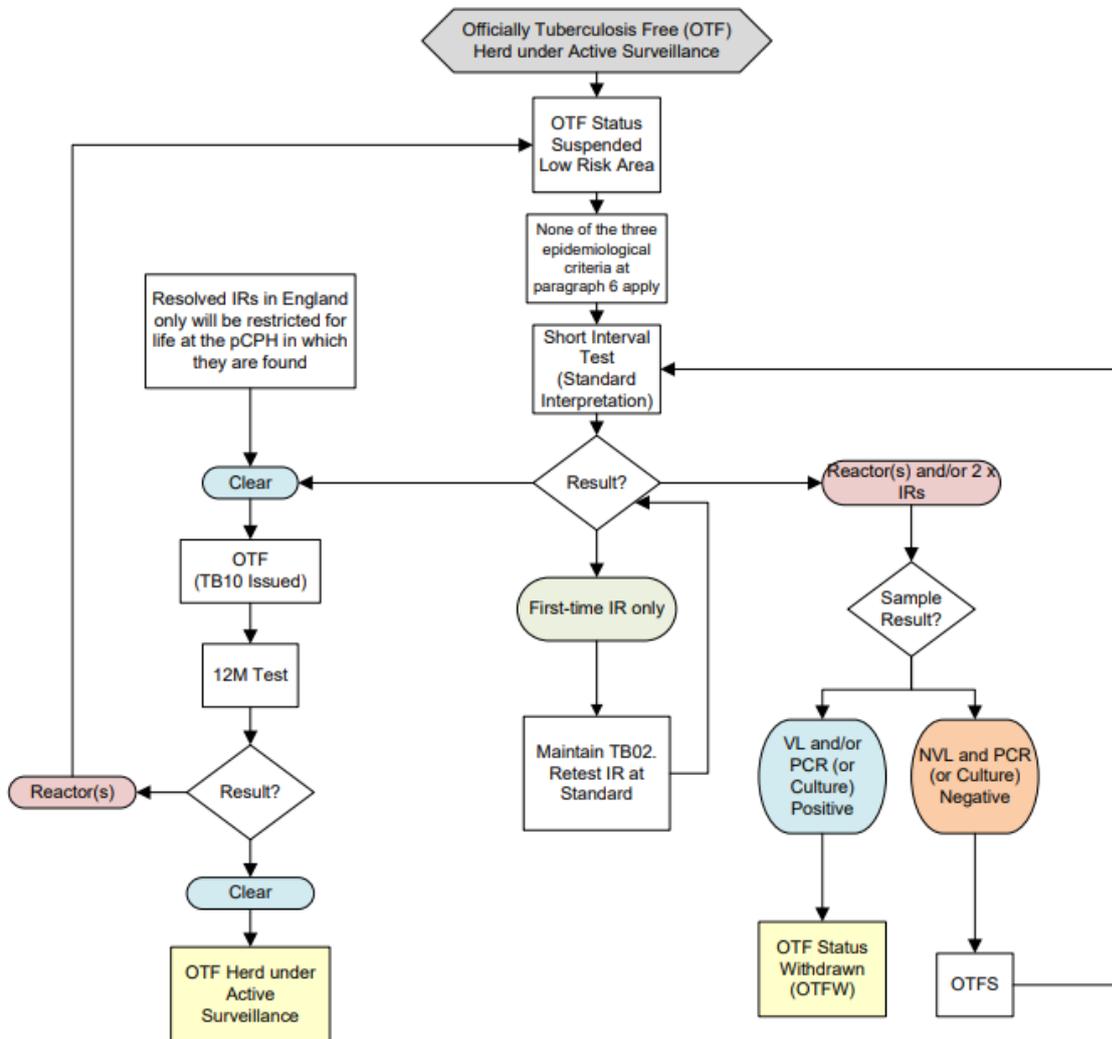
Further Information

16. Advice during a TB breakdown on the TB Hub <https://tbhub.co.uk/advice-during-a-tb-breakdown/>
17. Information on TB Areas in England <https://www.gov.uk/guidance/bovine-tb-testing-intervals>

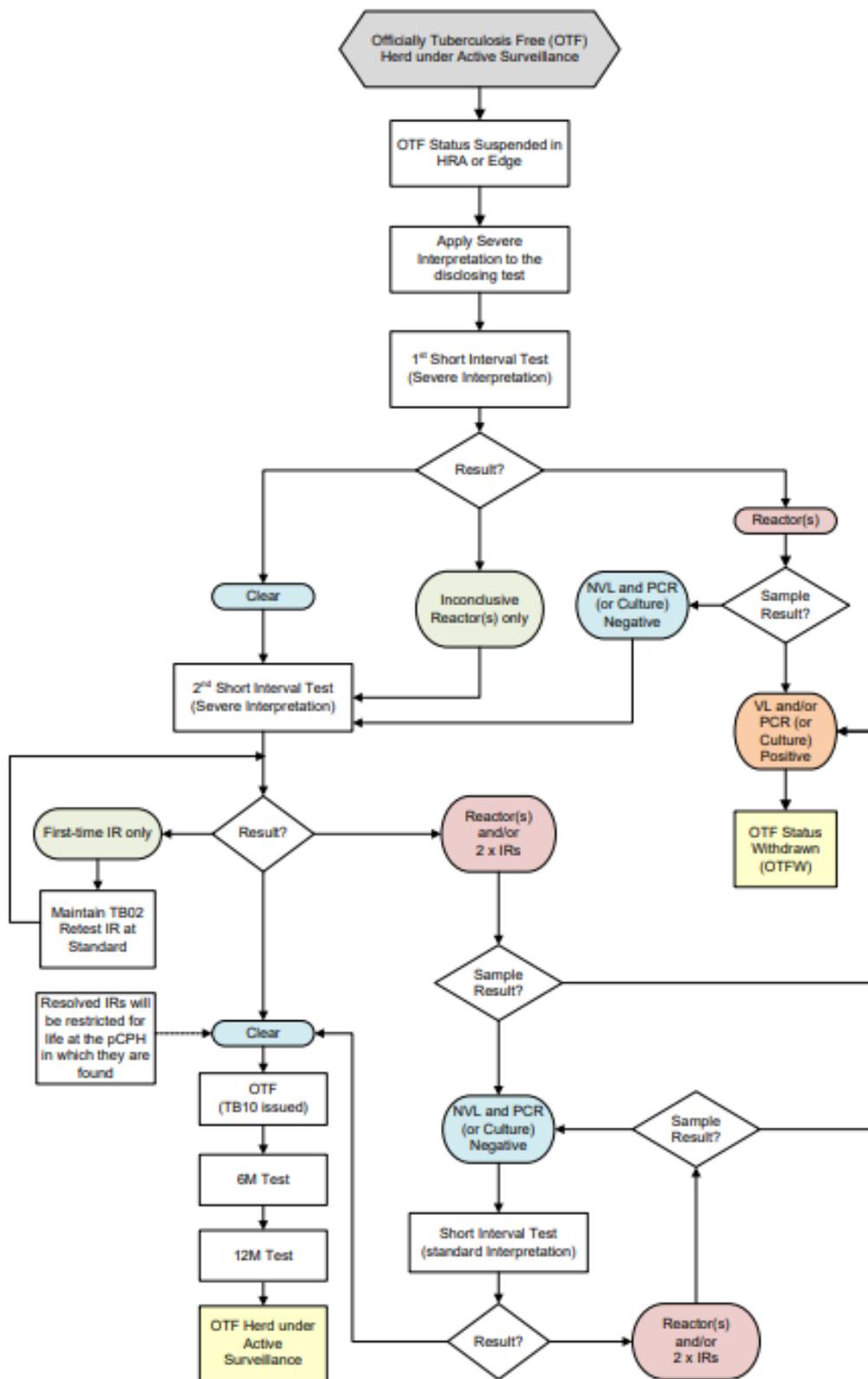
ANNEX 1 – OTFS Low Risk Area of England (Epidemiological Criteria Apply)



ANNEX 2 - OTFS Low Risk Area of England (Epidemiological Criteria Don't Apply)



ANNEX 3 OTFS High Risk and Edge Areas of England



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.