Scenario	1. Camelid owners undertaking voluntary routine bTB surveillance as part of a scheme promoted by the industry and endorsed by Defra	2. Domestic movements (e.g. shows, purchases or matings)	3. Exports	4. Suspicion of bTB at post-mortem examination reported to APHA.
Action	Carry out one of the available blood tests, i.e. Enferplex (interpretation with statistical package), or combined CERVID-DPP - IDEXX (using **serial** interpretation)[1]. This will achieve a diagnostic specificity of close to 100%. Surveillance bTB blood test arranged and paid for by the camelid owners. This applies to scenarios 1, 2 and 3. Irrespective of the type of antibody test used, Defra and APHA recommend that any voluntary antibody test for TB in camelids be preceded by a skin test (single intradermal **comparative** cervical tuberculin – SICCT) 10-30 days before blood sampling. If the owner chooses not to perform a full skin test before blood sampling, then Defra and APHA recommend that the animals are at least injected intradermally with bovine tuberculin 10-30 days before the blood test. This process is often referred to as 'boosting' or 'priming' the antibody response'. Frequency: Annually across GB to start with and for at least two years, given the uncertainty around the bTB status and prevalence in most camelid herds in GB. Thereafter, herds situated in the low risk areas may	Owners strongly recommended to pre-movement test any camelids before they are moved out of herds that are not members of the voluntary bTB surveillance scheme. Use Enferplex (2-antigen with interpretation using statistical package), or serial Cervid-DPP/IDEXX antibody test combination, at the owners' expense. 'Boosting' the antibody response by	Owners should pre-export test camelids by supplementing the mandatory comparative skin test with Enferplex (2-antigen with interpretation using statistical package), or serial Cervid-DPP/IDEXX antibody blood test combination, a minimum of 10 days after the skin test at the owners' expense. *[Please note that blood testing for bTB for export is voluntary but is highly recommended].*	APHA imposes precautionary herd movement restrictions pending laboratory culture results. A skin test (single intradermal **comparative** cervical tuberculin – SICCT) may be conducted after the detection of typical lesions of TB and before identification of *M. bovis* by culture. In exceptional cases, where there is strong evidence of infection, a check blood test may also be carried out to avoid delay that may exacerbate the problem. Ideally, this should be carried out 10-30 days after the skin test. In such cases, the owner has a choice of which tests are used - 4-antigen Enferplex or a serial IDEXX and CERVID-DPP test. In cases, where there are subsequent positive culture results, the results of these tests may be re-

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	choose to revert to 4-yearly testing after two or more rounds of annual herd tests with negative results, unless animal movements from camelid herds outside the scheme occur. Eligible animals: the blood test should be performed on all camelids on the premises for herds containing up to 200 animals. In larger herds, a statistically significant and random sample of animals will be selected for testing. Additionally: Scheme members should undertake veterinary post-mortem (PM) examinations of all unexplained casualties in their herds and, as required by law, report any bTB suspect cases to APHA. The installation of sound biosecurity measures to reduce the risk of bTB is also strongly recommended.	intradermal injection of bovine tuberculin 10-30 days before blood sampling is recommended by DEFRA. A negative pre-movement test result will be considered to be valid for 90 days.		interpreted, and further animals removed, in order to better manage the risk of further spread within the herd. These 'check tests' will not be qualifying tests for the purposes of withdrawing the movement restrictions (as the skin test was performed <90 days after the death/removal of the index case on the premises). If *Mycobacterium bovis* is identified in laboratory culture, APHA contacts keeper to confirm the restrictions and arrange single bovine intradermal tuberculin skin tests of all the remaining camelids on the holding, followed 10-30 days later by antibody testing of skin test-negative animals with parallel[2] interpretation to enhance the sensitivity of TB testing. The owner has a choice of which two antibody tests are used, out of Enferplex (2 antigen), IDEXX and CERVID-DPP. For APHA to lift the movement restrictions, the whole herd must have completed (a) two consecutive rounds of single

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				bovine intradermal tuberculin skin tests with negative results at a minimum interval of 90 days after the removal (or effective isolation) of the last infected or test-positive animal in the herd and (b) one round of antibody parallel testing, also with negative results. Any **spread tracings** instigated by APHA from herds with confirmed *M. bovis* will also be subjected to TB testing at the Government's expense. This will comprise: (i) one single bovine intradermal tuberculin skin test; and (ii) if the tested camelids are negative, the owner's choice of two antibody blood tests, from blood taken 10-30 days after the skin test, using parallel interpretation The owner has a choice of which two of the three (Enferplex (2 antigen), IDEXX and CERVID-DPP) antibody tests are used. ONLY the traced camelids are subject to the skin and antibody tests and ONLY if a positive result to the skin or blood test is found will the rest of the destination herd be tested. All contact and movements must be declared by the owner of the

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						index premises at the time of the breakdown and APHA will endeavour to complete all tracings within 6 months of confirmation of *M. bovis* infection. There is the subsidiary scenario where a camelid herd contiguous to (i.e. shares a common land border with), co-located with or back-traced from any holding with *M. bovis* infection confirmed in farmed animal species is identified by APHA. Each camelid in such herds will require one **comparative** intradermal skin test (SICCT) with negative results, supplemented with an antibody blood test 10-30 days later at the Government's expense. The owner has a choice of which tests are used - 4-antigen Enferplex or a serial IDEXX and CERVID-DPP test.	
Test outcome	All tests negative	Any test inconclusive, in any tested herd	Any test positive, in any tested herd	Any test positive or inconclusive	Skin or antibody test positive or inconclusive	All tests negative	Any test positive

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What happens next	Schedule next test after 12 months – See above.	Any camelid(s) which are positive based on the 2-antigen Enferplex test, but negative based on the 4-antigen test, will be regarded as inconclusive, isolated and then privately retested with Enferplex within 30 days. The exception is where the proportion of **2 antigen** results exceeds the threshold set by the Surefarm statistical package, in which case Surefarm will inform APHA who will decide on appropriate actions on the test positive animals, based on the herd's location and TB testing history (see below). If the camelid(s) test positive again on the 2 antigen Enferplex retest, the laboratory or private vet	Any camelids which are positive on the 4-antigen Enferplex test will be notified to APHA without delay. APHA will restrict the herd, cull the test positive animals with compensation and arrange for PME and laboratory /culture at Defra expense. There are no 'inconclusive' or 'retest' results on the Cervid DPP/IDEXX test combination that is available at APHA for private antibody testing of unrestricted camelids. So, all animals that react to both tests (serial interpretation) will be considered positive and will be slaughtered.	See scenario 1 on the left.	Export certificate suspended. See scenario 1 on the left.	No further action	Isolate and remove from the holding, as soon as practicable, all skin or blood test positive camelid(s) for Post Mortem (PM) examination. Once *M. bovis* infection has been confirmed in a herd, APHA may not carry out PM examinations and bacteriological cultures of every test-positive animal, particularly where there are large numbers of positives and PM results are not essential to establish the next step in managing the TB incident. Single intradermal tuberculin skin testing to be repeated at 90-day intervals until two consecutive herd tests with negative results are obtained.

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		performing the test(s) will pass details to APHA. APHA will isolate and restrict the inconclusively tested animals involved (not the remainder of the herd) and subject them to one **comparative** intradermal skin test supplemented 10-30 days later by a 4-antigen Enferplex or a serial IDEXX and CERVID-DPP test. These tests would be at the Government's expense.					Further rounds of combined antibody blood tests using parallel interpretation may be conducted at APHA's discretion if further evidence of residual *M. bovis* infection in the herd is found after completion of the initial antibody herd test. This evidence could be in the form of lesion/culture-positive skin test reactors or animals removed between two skin tests as direct contacts (DCs) or as clinical cases. As per the initial TB blood test, the owner has a choice of which two antibody blood tests are used. Again, this additional round of antibody testing will be at the government's expense and will ideally take place 10-30 days after the single intradermal tuberculin skin test.

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APHA follow-up	No further action	Isolate and restrict the movements of individual test-positive animal(s). APHA arranges with the herd owner the slaughter of positive animal(s) from the retest for PM examination and laboratory culture at government's expense. APHA applies statutory movement restrictions on the affected holding, pending completion of PM examination and laboratory cultures of the test reactor animal(s). Two possible outcomes: 1. If typical visible lesions of TB and/or a positive *M. bovis* culture result, APHA takes over: treat as a confirmed TB breakdown, as per scenario 4. 2. If PM examination shows no visible lesions and culture results are negative for *M. bovis*, no further action, but follow-up antibody test is strongly recommended after 6 months to check for *M. bovis* infection in the herd.	Movement restrictions placed on individual test reactors. See scenario 1 on the left.	Movement restrictions placed on individual test reactors. See scenario 1 on the left.	It is strongly recommended that herd owners carry out another round of blood testing (where owners choose two antibody blood tests using parallel interpretation) 12 months after the conclusion of the incident (withdrawal of movement restrictions) to check for residual *M. bovis* infection in the herd. This is a recommended, but voluntary measure at the herd owners' expense. In this case a single intradermal tuberculin injection should be administered 10 - 30 days prior to the blood test to 'prime' the antibody response. It is for the owner to decide if the tuberculin injection site is to be read in this case.

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