Questions and answers arising from last week's meeting

1. Isn't it policy that, after 18 months, trap and test is supposed to be done? And it isn't being done in CL7 and CL8 and not been offered to anyone as I'm aware.

   No, it is not policy that after 18 months trap and test is supposed to be done. Trap, test and vaccinate/cull operations can take place in persistent herd breakdowns subject to an Action Plan, provided all measures required in the Action Plan have been implemented. Originally, the measure was only open to farms with persistent herd breakdowns in the High TB Areas, but this could now also apply to such farms meeting the criteria in the ITBAN. Herds are selected on a priority basis, assessed by APHA case vets on risk criteria, such as whether a dead badger has been confirmed to have bovine TB of the same strain as the cattle, in the farm's locality.

   Protocol to inform Welsh Government whether the trapping and removal of badgers should be considered:

   - The affected cattle herd is classified as a chronic breakdown herd.
   - Other measures such as enhanced cattle controls, increased sensitivity of tests, improved biosecurity and other methods of separation may have already been applied but have not cleared the infection.
   - On undertaking the epidemiological investigation, the APHA case vet holds a strong view that there is transmission between cattle and badgers.
   - The herd owner/land owner agrees to allow the trapping, testing and humane killing of test positive badgers.
   - Badger activity has been identified on the farm by a specific survey (setts, latrines, well used runs or well-used forage areas).
   - There is a history of reactor cattle sharing the same habitat as badgers.

   This measure is not at this time being extended to farms with new breakdowns within 6 months of an earlier breakdown closing (recurrent).

2. How do you explain some of these herds in CL7 and CL8 have been closed for up to 20 years? These are most definitely not movements? (No cattle have been moved onto farm.)

   Case vets, when undergoing analysis of the breakdown for an Action Plan, identify undisclosed infection in the cattle population as a continuing feature of many of these longer-duration herd breakdowns. This means that there are infected cattle remaining in the herd not being identified as test positive animals by the testing. Use of additional tests, such as the flexible-extended gamma test and the IDEXX test are identifying some of these animals, which often have a history of positive reactions to bovine tuberculin in the skin test on one or more previous test occasions.

3. Relating to my previous question, why is there no trap and test in this area?

   Question answered at 1.

4. If over 50% of breakdowns are related to local infection, why are there no new measures to tackle this?

   This figure is related to local sources of infection, which can include nose-to-nose contact with neighbouring herds, straying of cattle, or wildlife. The Action Plans to be introduced in recurrent (to the 6 month test) and persistent herd breakdowns look at, and aim to, improve biosecurity measures in place, such as quality of boundary fencing with neighbouring herds and badger access to cattle feed stores, cattle buildings and feed and water troughs. We would encourage all farmers to improve biosecurity on their holding and, if contiguous to a TB breakdown, take up the offer of free Cymorth TB “Keep It Out” visits.

5. Out of all the positive tests, what percentage come back inconclusive?

   The proportion of animals in any individual herd test that are reactors and the proportion that are inconclusive reactors (IRs) at standard or severe interpretation can vary widely across the whole spectrum. They range from explosive breakdowns with 100+ reactors and few IRs at a disclosing test on standard interpretation to a disclosing test with a single reactor and half a dozen IRs at standard interpretation, which on severe interpretation of the test, becomes 6 reactors and 60+ IRs.

6. Are there links between Johne’s and Bovine TB? Does a Johne’s positive animal affect the Bovine TB result i.e. a false positive?

   Johne’s is more likely to generate false negatives. The organism responsible for Johne’s disease is a mycobacterium from the *Mycobacterium avium* (or *M.avium*) group (Avian TB).

   We believe that animal’s co-infected with this organism and *M.bovis*, the organism responsible for bovine TB, can have the response to the injection of avian tuberculin raised by *M. avium*, which means that the co-infected animals become IRs and not reactors. This can mask the presence of bovine TB in both the skin test and the normal parallel gamma test. The Flexible-extended gamma test can aid us in diagnosing such animals as TB infected.

7. How many TB strains are there in the CL7 area and which is the most prevalent?

   Of the 42 open TB incidents in the rural Wrexham area at the end of June 2020, 32 had disease confirmation; 25 of these had a genotype isolated, with **17:a** (21 herds) the most common, followed by **25:a** (3 herds), **25:b** (2 herds) and one herd each of **10:a** and **22:a**. In the future, further differentiation may result from whole genome sequencing which goes beyond simple genotyping and which has already shown in pilot studies that it can add granularity to molecular epidemiology.