



TB Advisory Service

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Executive Summary

1. The TB Advisory Service (TBAS) was a Rural Development Program for England (RDPE) funded project which ran from 2017-2021. The principal aim of the project was to deliver free TB biosecurity advice to cattle keepers in the High Risk and Edge Areas of England, in the form of 1950 telephone calls and 2400 free on farm visits. The advice centred on the industry developed Five Point Plan for improving biosecurity and reducing TB risk.
 - Restrict contact between badgers and cattle
 - Manage cattle feed and water
 - Stop infected cattle entering the herd
 - Reduce risk from neighbours
 - Minimise infection from cattle manure
2. The project funding was awarded to Westpoint Farm Vets part of the Origin Group, which during the project became part of VetPartners. Lindsay Heasman and later Holly Shearman were responsible for the day-to-day project management, with the support of a technical board headed by a technical director Phil Elkins and later Sarah Tomlinson, which included farming and veterinary industry experts in TB policy, badger ecology, trade, and epidemiology. Other significant members of the team were subcontracted from Kingshay and ADAS.
3. TBAS advice was delivered by a specifically trained team of 110 experienced private veterinary surgeons who delivered 58% of the visits, alongside 25 independent farm advisers. The advisers used an app-based questionnaire to gather information about the farm practices to enable four bespoke recommendations for that business to be selected for the farmer to complete within six months.
4. To engage farmers in TB biosecurity and drive uptake of the visits, TBAS was present at many national and local agricultural events. Opportunities in the farming press were used to promote the service and to champion TB biosecurity measures that farmers were doing. The main drivers to encourage visit sign up were the farmer meetings that TBAS ran. The meetings often included local APHA staff giving them a platform to share local TB epidemiology and national policy. TBAS representatives discussed TB as an infectious disease and importantly what farmers could do on their farm to reduce if not eliminate the risk of, or length of a TB breakdown.
5. Due to the Covid 19 pandemic the project was extended to June 2021 and contract changes made to allocate more funding to telephone advice and reduce the number of in person visits, to allow the service to still reach farmers and give advice despite Government Covid restrictions and guidelines. By the end of the project TBAS had delivered the amended targets of 2280 visits and 2400 telephone or face to face advice and had engaged with a total of 5261 farmers.

6. Of the 2280 farms visited 28.7% were not officially TB Free, 71.3% were officially TB free. 57.6% of the farms were situated in the High-Risk Area and 42.4% in the Edge Area. 57.6% were beef farmers, 35.9% dairy and 7.5% mixed.

7. The top five recommendations agreed with farmers were:
 - Install wildlife cameras
 - Use ibTB website prior to purchase to ascertain time of last breakdown
 - Add barriers to bottom of gates/ doors
 - Use Electric fencing to protect routes of entry
 - Feed in badger proof troughs

8. 43% of farmers completed three out of the four recommendations and 52.9% had completed two out of the four, at the time of the six month follow up call. The most common reason stated by farmers for non-completion of recommendations was lack of time.
The top five completed recommendations from the farmer feedback were:
 - Regular tidy feed spillages
 - Clean out water troughs more regularly
 - Isolate purchased animals on arrival
 - Close doors at night
 - Use cattle purchasing check list

9. 96% of the Farmers who had participated in TBAS when asked six months later said the TBAS service was Excellent or acceptable (90% Excellent) and 98% of farmers said the recommendations were useful (92% very useful).

10. Over the life of the project TBAS has change the mind set of not only the farmers who participated but also those vets and advisors who trained to deliver the service. Through better understanding of the TB bacteria, the tests, and the control policies we showed that TB is an infectious disease that can be controlled on farm and TB biosecurity risks can be reduced if not eliminated. Farmers found the recommendations useful as they were bespoke to their business and the advice came from trusted, enthusiastic, knowledgeable advisers.

1. TBAS Aims, Objectives & Delivery plan

1.a - Definition of key deliverables from the initial tender

The TB Advisory Service (TBAS) was a Rural Development Program for England (RDPE) funded project. In early 2017 Defra invited invitations to tender for a 'Bovine tuberculosis advisory service' with the aim to improve farm productivity in England.

The Contractor(s) will be required to provide on farm advice and telephone support across the High-Risk Area and Edge Area, an advice report written following an on-farm advice visit will also be supplied, although the Authority only requires statistical data for telephone advice.'

After a competitive application process, the TBAS contract was awarded to Origin (who owned Westpoint Farm vets & Kingshay at the time). The contract for TBAS set out our main activity; To support a total of 2400 businesses in the target market in the form of on farm advice as follows:

'Supporting businesses in the High-Risk Area to build resilience to TB by providing advice on how to improve their on-farm biosecurity and reduce the risks from cattle movements and trading and providing advice to businesses in the Edge Area on a "prevent and protect" basis to equip farmers with the right knowledge to ensure good control of the disease and to minimise its spread.'

The key messages were to give advice based on the 5-point TB biosecurity plan developed by industry covering the key areas below and with specific instruction to make farmers aware of trading option for higher risk cattle and those moving from TB restricted herds.

- Restricting badger to cattle contact
- Managing cattle feed and water
- Stop infected cattle entering the herd
- Reducing risk from neighbouring herds
- Minimising the risk from cattle manure.

In addition to the on-farm advice TBAS was to offer a telephone advice service and deliver 1950 advice calls to answer simple biosecurity questions that could not be redirected to APHA or the TB hub website.

The project was awarded in August 2017 and delivery started in October 2017 and was to run for 3 years.

1.b - Initial delivery plan

- Team structure – Management team

The initial steering group brought together for the writing of the tender were extremely passionate that this project would set out not just to deliver the key performance indicators (KPIs), but also to aim to engage vets and farmers that TB is something they can have some control over. Our approach to the whole project was to look at TB as "another infectious disease".

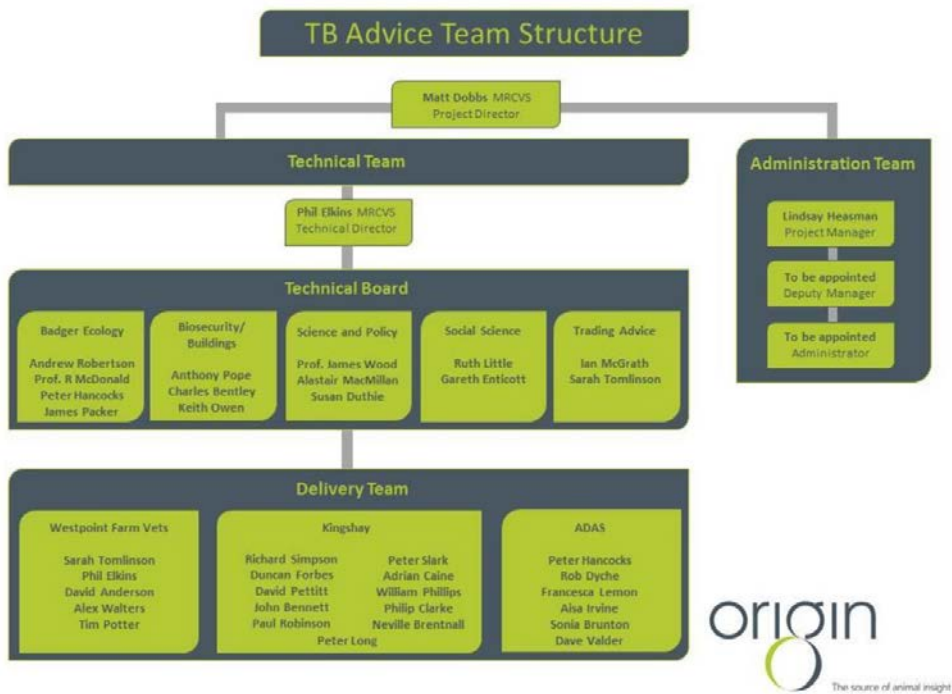


Figure 1: Organogram of original TBAS management structure

The delivery management team consisted of a project manager, a scientific researcher and farm vets all members of the senior leadership team within Origin and Westpoint Farm vets. All members had many years' experience of on farm health planning and dealing with TB breakdowns. The TBAS technical board (see appendix 1) was also bought together and consisted of social scientists, epidemiologists, badger ecologists, agricultural infrastructure specialists, farm vets and farmers. Members of the technical board also held roles within the TB Eradication and Advisory Group for England (TBEAG), veterinary organisations, and industry bodies. This ensured that all advice was in line with Government policy and in context and there would be benefits for delivery of TBAS and marketing of the service. The key roles for the technical board were to develop the TBAS training, keep our advisers up to date with relevant Defra and APHA information as it was publicised, as well as other technical and scientific advancements relevant to TB. The technical board met at six monthly intervals to discuss progress and plan any changes needed to improve delivery and any updates to policy we needed to communicate to advisers.

1.c - Data Collection & App development

Initial farmer details and information required by the contract were collected and stored on a secure database by the admin staff, this database was also used for the reporting of figures to the authority. Farmers were informed of our privacy policy.

The TB advice visits were carried out using a questionnaire developed on a purpose-built app that was compatible with smart phones and tablets. The aim of the questionnaire was to bring structure to the visit, allowing the advisor to identify where the farms biggest TB risks were and conclude with four recommendations agreed with the farmer. The specific questions were developed in collaboration with the TBAS technical board and were divided into key areas of TB risk covering key aspects of the Five Point Plan and utilising available information on the TBhub website. After seeking advice from the social science members of the technical board it was decided that recommendations would be specific and limited to four, so as not to overwhelm with a lengthy list of risks to address, and potentially dis-engaging the farmer altogether. The target being that after six months 75% (three out of the four) of recommendations would

have been implemented, which would be determined in a follow up phone call no sooner than six months after the advice visit.

1.d - Advisers

Initially 20 experienced farm advisers were trained to deliver the TBAS visits, to offer the service as TB consultants, to eligible farmers. These advisers had a variety of core skills such as badger ecology, slurry management, fencing and building expertise and vets with experience of dealing with infectious disease. The first batch of advisers were recruited from within the Origin companies and ADAS and consisted of vets and independent farm consultants based across the high risk and edge areas geographically. The training for all advisers was in person; It consisted of basic politics and policy, TB as an infectious disease, TB testing and the consequences of reactors, options for trading whilst under TB restrictions and the social science aspects of biosecurity including barriers to uptake for farmers and guidance for our advisors on how to target advice to improve compliance. The concept of behavioural insights was introduced, and the EAST framework was used, to ensure recommendations were Easy, Atttractive, Social and Timely. A key part of the training focused on badger ecology and ways to reduce direct and indirect badger and cattle interactions. The training was delivered by members of our technical board.

TBAS Adviser Training Day – Summary of Content

- Background & Overview of TBAS – Holly Shearman
- Structure of a visit – Sarah Tomlinson
- Farmers' Attitudes & Behaviours Towards Biosecurity & TB - Ruth Little and Gareth Enticott
- TB Science & Policy - Alistair MacMillan
- Cattle Movements and Trade - Sarah Tomlinson
- Badger Ecology, TB in badgers & identifying & reducing the risks - Andy Robertson
- Infrastructure, biosecurity, and slurry management - Charles Bentley
- Badger culling & Vaccination – Andy Robertson

2. Promotion of TBAS

2.a - Marketing

TBAS was officially launched at the Southwest Dairy event in September 2017 and an official press release was sent to various farming publications. The TBAS website was also created (www.tbas.org.uk) As a central contact point for the service, listing the TBAS phone number and contact details. Facebook and Twitter pages were set up, which were updated regularly throughout the project and were followed by some influential companies and personalities in the industry.

A page was also created on the TBhub website to promote TBAS and direct people to the TBAS website and phone number. The initial plan was that this combination of marketing with free advice would generate interest in the service and a steady stream of calls/farm visits. Farmers would call the TBAS phone number for advice, or to access the free visits, we would then triage the advice needs of the farmer and allocate the most appropriate adviser to visit.

In the first year of the project there was interest from the farming press and TBAS produced many articles for publication, for both print and online platforms. TBAS was given the opportunity to champion what else farmers could do to reduce the risk of TB in the BBC Countryfile program. Industry stakeholders such as AHDB and NFU were also hugely supportive and promoted the service to their members.

Engagement meetings were held at some regional APHA offices so field teams could understand what TBAS was and how we could compliment the work that they were doing.

2.b - Farmer meetings

Engagement with print and online media did generate some interest at the start of the project, however from discussions with farmers, APHA and members of the TBAS technical board, it was believed that in person meetings would be the most effective way to raise awareness of TBAS and encourage uptake. In the Spring of 2018, we started a series of farmer meetings alongside our TBAS "road show" which included dedicated stands promoting TBAS at country shows around the Edge/HRA. (See *Appendix 2. Meetings, shows and events attended by TBAS*)

Meetings were held on at least one occasion in 2018/19 in each county. The meetings were advertised publicly on social media and through local private veterinary practices, local NFU, FCN and other regional farmer groups, including local TB Eradication Groups (TBEGS) and these groups were encouraged to be involved in the meetings. TBAS used local stakeholder groups knowledge of locations, venues, and timings to get best attendance and encourage farmers to come and listen to total strangers about an emotive, controversial, and divisive subject. Regional APHA vets were invited to come and present local epidemiological updates, NFU and local wildlife groups were encouraged to come along to discuss wildlife control. TBAS wanted farmers to look at TB control holistically and acknowledge that improving TB biosecurity is just one of the tools available to them.

The key message at these meetings was the concept that simple cost-effective measures could reduce their risk of a TB breakdown, but more importantly would give them a sense of control back. That they could do something about TB, and it was not all up to the government.

The approach TBAS took to these meetings was to enable farmers to see TB as an infectious disease. The meetings were delivered by TBAS advisers who as farm vets or consultants could speak personally and with empathy about the impacts they have seen on farm due to TB, yet challenge farmers to look at what they could and should be doing on their own farms.

The meeting agenda included

- APHA local epidemiological update
- TB history and policy update
- Sensitivity and specificity of TB tests
- Cattle to cattle risks
- Badger to cattle risks
- TB biosecurity measures
- How TBAS can help

An important part of each meeting was an open discussion where farmers could raise issues or ask questions. We dispelled many myths around TB and answered many questions around TB policy. (See Appendix 3 for FAQs gathered at farmer TBAS meetings)

Resources such as the APHA epidemiological reports, the TB hub and ibTB websites were promoted. Farmers left feeling better informed and that they had been listened to. They knew what they could do to control TB risk on their farm and more importantly why they needed to do things, not just because government said they should.

These are just three quotes from farmers who attended the meetings -

“It was nice to be listened too about our concerns, and to know that there are things within our control that we can do ourselves practically on our farm to help our situation, even if we can’t change the policy.” Dairy Farmer, Devon

“Before attending the meeting, I was sure I was doing everything that I could to control the risk of TB entering my farm, now I am not so certain, and will defiantly be taking up a TBAS visit to make sure!” Beef Farmer, Oxfordshire

“I found it interesting to get an overview of the TB policy and an update on the TB situation both in my local area and nationally, I will defiantly be reassessing my buying in policy now. It was also nice to hear other people’s views and opinions.” Calf rearer, Leicestershire

Farmers attending the events were informed that they would be contacted to arrange a TBAS visit, but at the end of the meetings we gave farmers the chance to opt out if they wanted to; Most attendees went on to receive a TBAS visit.

3. Evolution of the Service

3.a - Delivery of Visits

Private Veterinary surgeons (PVS) were invited to attend and promote the TBAS meetings, mentioned in the previous section, that we held across the country; This led to many PVS asking how they could get involved. This instigated a move away from the TB consultant model to one where PVS would market and deliver the service to their own clients.

By the 3rd year we had trained over 150 advisors, a core 50 delivering most of the visits.



Figure 2: Graph of number of advisors trained over time.

During the project we held two annual refresher training sessions where advisers were able to develop their knowledge through discussions with each other as well as from our technical board members.

An adviser WhatsApp group was started which had 111 participants by the end of the project. This group provided support and information from like-minded people. Advisers were able to share TB related photographs and stories, ask TB related questions and get answers almost immediately either from their peers or a technical board member.

TBAS had to manage this move carefully to ensure that those delivering the visits were still championing the “mindset” shift. Alongside PVS, vet techs and approved TB testers, were becoming TBAS advisers. Many of the private vet practices have taken the TBAS visit and used it as the first step to manage TB on their clients' farms and developed TB health plans where TB is investigated and managed alongside other infectious diseases such as Johne's, mastitis, and lameness for example.

“I was sent to this training by my boss, I was dealing with TB on a daily basis and didn't think that there was anything else I could learn or wanted to learn about around the subject, but after attending the training day and listening to Sarah, I genuinely feel inspired to go and encourage, and to help my farmers do what they can to control TB on their farms, and that there are things that everyone can do to help control or reduce the risks, whether they are currently shut down or not.” - A quote from a vet who attended a TBAS training day in Somerset.

3.b - Contract Change Notices

The total 2400 advice visits were split in monthly targets over the project timeline on a Gantt chart— see appendix 4. The targets for the first six months started low to account for slow uptake, as the service was new

and not widely known. Not long into the project it was apparent that these monthly targets were not being reached by some margin and growth was much slower than expected. In these initial months, few farmers were voluntarily contacting TBAS to requests advice or free visits. The anecdotal feedback from industry highlighted a dis-engagement with TB; TB had never affected the business so TB advice was not needed, or TB was a part of everyday life and nothing an individual did would influence that. It also identified that despite publicity in the farming and industry press, that a considerable proportion of farmers and vets had still not heard about TBAS.

- Face to Face advice & Single Business Identifier to County Parish Holding number change

The technical board discussed potential solutions to the lack of farmer engagement with the telephone advice (TA) service, and with agreement from the Rural Payments Agency (RPA) the contract was changed to include face to face as well as telephone advice, under the TA banner. Another limiting factor was the necessity for TBAS to acquire a farm businesses SBI number. This resulted in many one-to-one advice sessions not being claimed for as very few farmers knew their SBI number. Unfortunately, it took two years after the start of the project before a contract change was issued to allow a farms CPH number to be used which most farmers easily know.

- Covid 19 – Extension

By the winter of 2019 TBAS marketing and PR activities were really starting to pay off and farmers were beginning to trust and want to use TBAS, as a result over 80 visits per month were being delivered. Unfortunately, in the Spring of 2020 the Covid-19 pandemic hit. Which obviously led to delivery of advice visits being paused due to Government lock down rules. As farm vets were classed as essential workers, if a vet was already going on farm, TBAS did support some visits to take place only if both the farmer and adviser were comfortable. TBAS signposted all our advisers to Covid guidance set out by the government, RCVS & BCVA. It was at this point that it was agreed that the project could be extended so it would now finish in June 2021 rather than November 2020.

- Remote Visits

During the Covid 19 pandemic the technical board looked at ways to try and offer farms as near as possible 'normal service'. The concept of the 'remote visits' was that it would still allow an adviser to go through the same risk factors as they would if they were visiting the farm in person. The app questions would be completed remotely over the phone or via a virtual platform such as zoom or WhatsApp video calling. A report would still be issued at the end of it containing four recommendations. The duration of lockdown was unknown and even with rules relaxed some farmers and advisers were reluctant to have unnecessary contact with others, so the remote visit gave another option to still give bespoke TB biosecurity advice. 'Remote visits' were approved via a Contract Change notification (CCN) in the Summer of 2020. It was initially planned for 50 remote visits to be allowed, with this allocation coming out of the total advice visit figures. However, it was soon realised that these were not popular. Farmers were opting to wait to have an in person visit when they were allowed, so this allocation was amended to five in total. The shortfall in visit numbers was made up by increasing the amount of telephone advice that we could claim.

- Target Figures amended

The delivery plan was amended through a CCN when it was clear that we were not going to hit our final target of 2400 visits, due to the large amount of time we were unable to deliver elevated levels of on farm visits, caused by the Covid 19 pandemic, which continued to have an effect until the end of the project. The new target figure was 2280 visits to be completed by February 2021, to allow the follow ups to be completed by June 2021 which was the new finish date of the project.

4. The Telephone Advice Service

- 4.a - Telephone Advice (TA)

In the original tender the target was to complete deliver 1950 telephone advice calls across the three years of the project, these were mapped out on the Gantt chart at the start of the project. (See Appendix 4.)

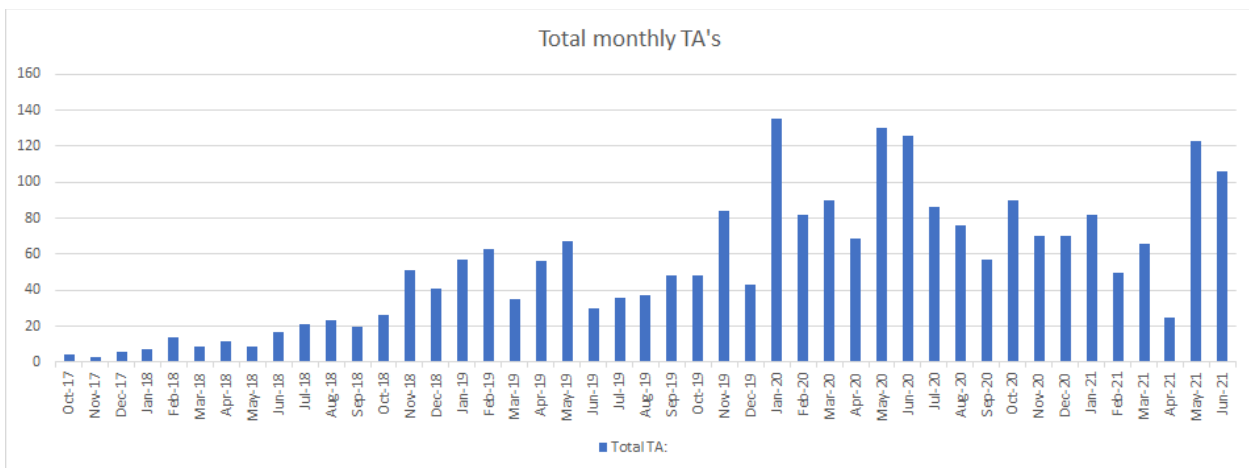


Figure 3: Total Monthly TA's

The telephone line was staffed 9am to 5pm Monday to Friday. Initial contact information was required by the contract, from the farmer to ensure they were eligible for TBAS advice.

As previously mentioned, due to Covid-19 the amount of TA's we were able to claim increased, so that over the contract period we spoke to 2400 individual eligible farmers either via our telephone advice phone number or face to face as one to one advice.

It was extremely hard to get full contact and farm details from some farmers over the telephone at the initial call or contact. Farmers were in most circumstances, upset, angry, frustrated, or short on time to share this information with strangers. Farmers wanted to talk about their problems, and gain advice there and then. Many farmers when they were called back did not answer. Those that did answer and received the information seem satisfied and many called back to get more information.

If a farmer's query was regarding general information about TB or the farmer was not eligible for the service (non- cattle keeper, situated in the LRA or another UK country other than England) they were signposted to the TB Hub website as per instructions in the initial tender agreement. If a query was regarding a specific TB biosecurity issue, and the farmer was eligible for the service the farmer was called back by an experienced TBAS adviser. Due to the small number of calls, we only had a few senior advisers who dealt with the calls throughout the project.

Several telephone enquiries were APHA queries, either the farmer had called us thinking we were APHA, or they had called out of frustration as they could not reach someone to speak to on the APHA number. These farmers were given advice on to how to access the APHA service such as times of the day they could call and to leave a number and time to be called back, so as not to miss the call or to email instead. Quite often we could sign post farmers to the appropriate licence applications on the gov.uk website. These calls were not claimed for as officially the farmer queries were ineligible for TBAS.

Unfortunately, a proportion of the calls were to report frustration and anger at TB policy and the process. Many farmers expressed concerns that TB control is forced upon them, and they have no control over their own farm businesses. TBAS training for advisers included politics and policy for TB control, advisers were able

to explain why certain policies were in place and were able to change the conversation around to what the farmer could do on their own farm, to control TB risk. These farmers were listened to and were encouraged to have a TBAS farm visit.

It was often only after engaging with the farmer on their problem, that we were able to ascertain whether the caller was eligible. In total around 5% of calls were not eligible as they were not in England the HRA or EA, some callers were farm consultants, or advisers involved in the cattle industry. TBAS spoke to them all as our policy was even just one more person understanding TB would be beneficial long term to the 25 years eradication strategy, often callers were given details of the TB Hub website and where on this site they could find the information they were looking for – 339 farmers in total were directed to this site. In some circumstances this communication led to being asked to speak at a meeting or run some training on bovine TB for the company they worked for. Again, introducing more people to the idea that TB is an infectious disease and more opportunity to dispel common TB myths; producing more people who farmers meet and trust passing on the same key messages. In total TBAS engaged with 5261 farmers across the lifespan of the project.

There was no requirement within the tender to record the information discussed during telephone advice, but each farmer received an email, or letter summarising the advice given and if appropriate links/ sign posting to further information, for example the web link to www.ibTB.co.uk to help with knowledge-based trading or TB hub fact sheets on topics such as survival of TB in feed and water to encourage raising of troughs.

4.b - Face to Face advice

The evolution of the service to allow in person face to face advice to be included under 'phone advice' came about after agreement from the RPA following the gateway review at the end of Oct 2018. This allowed TBAS to pro-actively engage with farmers on TB biosecurity, rather than relying on farmers voluntarily accessing the service. Before this time, we were recording on average 14 enquiries a month. After this change we carried on receiving a similar volume of pro-active calls through the telephone service but the number of 'phone' advice that we were recording rose to an average of 48 per month over the following year, due to now being able to include the 'face-to face' advice. This trend increased to an average of 80 a month for the rest of the project.

Face to face, in person advice was given at agricultural shows and events such as UK Dairy Day, Dairy Tech and Beef Expo. TBAS advisers visited markets and held farmer engagement meetings. A summary of the advice was recorded and follow up correspondence sent to the farmer. TBAS teamed up with other organisations such as Farm Community Network (FCN) and the National Farmers Union (NFU) at meetings and markets to run "TB clinics," reaching some harder to reach farmer audiences. The representatives from these organisations were local and known to the farmers, which allowed the TBAS team to be accepted and our advice to be trusted. Advisers had the opportunity to show farmers the advice was practical and bespoke, gaining more requests for advice visits. Local APHA vets were encouraged to join the sessions and the feedback we received from APHA, and the farmers was that this was a positive and beneficial experience.

Questions varied but were on the whole split into those around purchasing risks and badger culling, Advisers were able to explain the moderate sensitivity of the skin test and demonstrate how they could use ibTB to understand risk from purchased cattle and also share the science and evidence around wildlife control measures (our TBAS training covered this) and encourage farmers that no matter what they were able to do or not in respects to formal government licencing of wildlife control, they were able to put in place simple risk-based measures to reduce direct and in-direct badger and cattle contact. It was very noticeable the variation in farmer attitudes to TBAS as the project went on. Initial attendance at events like Dairy Tech, UK Dairy Day and NFU conference went from those representing TBAS spending time explaining who we were and encouraging farmers onto the stand to listen to us; to having farmers coming to find us and waiting to speak to advisers. We had become the go to place for sound, science based, yet empathetic, TB advice.

5. The Advice Visit and Report

5.a. - Delivery of Visits

There were several ways that farmers could arrange a TBAS advice visit:

- Visits could be arranged via the farmers own vet practice (the practice suggested the idea of a TBAS visit and then arranged this for the farmer).
- Farmers could be made aware of the farm visit service via direct contact with TBAS (email, telephone or during the one-to-one service) who would then arrange a visit.
- Farmers could be signed up for visits via direct in person marketing at farmer meetings or shows/events.
- Referral via farming consultants, APHA field teams or a private vet, with the farmer's consent

Visits were based around a short question and answer discussion to gain basic knowledge of the farm, the business and TB history. A farm tour formed most of the visit where advisors walked the cattle buildings, feed stores and the paddocks, assessing where badger and cattle direct and indirect contact could occur. There was not enough time nor funding to include a whole farm badger sett survey but where farmers were unsure if badgers were present the adviser would go and look for runs, latrines and setts and then share knowledge of field signs to look for, upskilling the farmer and encouraging them to get to know their badgers across the farm and through the seasons. Advisers were encouraged to use the TB knowledge exchange website fact sheets to illustrate some of the discussion and these could be left on farm.

Each visit lasted anywhere from between one and three hours depending on the size of the farm and depending on whether it was the farmers own vet who knew the farm well, or it was conducted by an independent adviser who needed more time to build the trust and confidence of the farmer and to understand the farm layout and business.

All advisers delivered the visits in a variety of ways, this became apparent at the adviser refresher training sessions. As long as four relevant recommendations were advised, and farmers were engaged to want to complete them, then this was acceptable.

5.b. Take up of Visits

TBAS was initially tasked with delivering 2400 free on farm visits across the three years of the project, mapped out by monthly delivery projections on the Gantt chart at the start of the project (*see appendix 4.*).

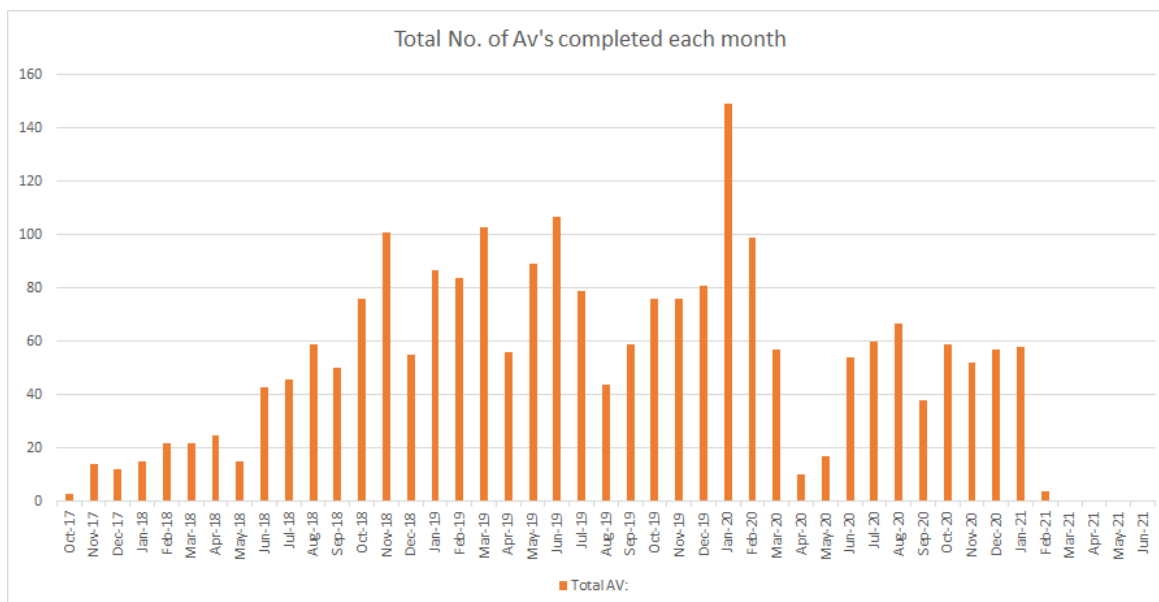


Figure 4: Monthly AV figures

The first few months resulted in only a few visits as there was not a vast number of farmers wanting to take up the service. To drive up interest the TBAS team started to proactively sign-up farmers through meetings, industry events and private vets as discussed earlier. This was slightly unexpected as the TBAS management team had been led to believe by Defra and industry stakeholders, at the outset, that there was a ready demand for TB advice. In hindsight the TBAS team should have been prepared for this, as the teams experience in the veterinary industry has shown that unfortunately TB is either a disease a farm has suffered from, and therefore, feel that there is little more they can do to reduce their risk, or they have never suffered from a TB breakdown and therefore do not think that they need TBAS advice.

In the spring/ early summer of 2018 TBAS started hosting and attending farmer meetings and by November 2018 we were above target delivering over 100 visits per month. The average number of visits per month increased at the end of 2018 through to early 2020 to 82 a month, from an average of only 27 a month for the first year of the project.

As expected, there was a dip in visits due to Christmas and the start of lambing and calving times each year, with visits picking up again in early summer. This pattern was seen in our data, with less than a fifth (17%) of the visits being carried out in the spring, and almost a third (32%) over the winter period.

The spikes in delivery can in some respect be attributed to promotional activities in the preceding months. For example, in October 2018 TBAS attended UK Dairy Day and the South West Dairy Event. In January and February 2019 TBAS attended Total Dairy and Dairy Tech. The January 2020 spike was due to one group of veterinary advisers marketing the service to their own farmers. From March 2020 onwards the Covid-19 pandemic prevented most on farm visits from taking place. Some veterinary advisers were still able to deliver visits whilst on farm carrying out other necessary procedures.

5.c. - TBAS App & report

TBAS used an app called I-auditor to record all the data from the visits. The technical team produced a series of questions to guide the adviser through the risk factors. The questions were designed to encourage the farmer to share information so together the adviser and the farmer could identify areas of TB risk for the farm. The app allowed each visit to follow the same structure and ensure no risk was overlooked yet allowing a bespoke report for each farm to be produced – See Appendix. 5. For an example report.

The app covered five risk areas

- Undisclosed infection in the herd
- Risks from incoming cattle
- Risks from neighbours
- Wildlife risks either whilst at grazing or housed
- Indirect contact via feed, water, or equipment

The science and evidence around each risk area was discussed as the visit progressed; the app was designed to lead the advisers through a conversation. For example, when discussing farm stock purchases, farms of origin could be looked up on ibTB website and alongside a conversation on the moderate sensitivity of the skin test, farmers would begin to understand the risk some of these cattle may pose, by identifying a risk often led to the farmer asking, “what can I do about it?”

The app also encouraged farmer and advisers to look at business resilience to a TB breakdown. To “plan for the worst and hope for the best,” what parts of the business would be most affected by reactors and movement restrictions. Then what could the farm do to mitigate the impacts before they happen. For example, if calves would normally leave the farm under 42 days of age, would there be resources and facilities on the farm to keep them? Is there a local orange market where they could be sold, what day of the week are they held, what sort of calves are the buyers wanting, and most importantly what price do they pay? For many farms, this part of the visit was most beneficial, with farmers telling our advisers that having a plan, significantly reduced the stress and anxiety around TB testing.

5.d - Recommendations

The recommendations evolved as the visit went on and discussions were generated around the identified risks. In the final report produced from the visit there was a biosecurity risk summary where all the areas highlighted as risky were documented. The difficult part was picking which four recommendations to focus on. To not overwhelm the farmer, recommendations were limited to four, to make completion of these achievable. The advice from the technical board social scientists was to make the advice bespoke to the farm unit and use behavioural insights to make them Easy, Attractive, Social and Timely (EAST). For example, if a new shed was being built, it could be made badger proof; If a farm was expanding and purchasing cattle, TB risk could be reduced using information from the ibTB website, or managed by adding in extra pre or post movement testing; If a farmer was already a member of the CHECS schemes for other infectious diseases, then it would be easy to join for TB, and attractive for them from a reputation point of view. TBAS made sure advisers were aware of any farm grant schemes that were available, to buy badger proofing equipment for example, potentially making some recommendations more attractive to farmers.

Within the app there was a list of TB recommendations which varied from specific advice such as to shut feed store doors at night or raise water troughs to one meter height; to more light touch/general recommendations such as use a pre-purchasing check list. Some recommendations were more challenging such as to become an approved finishing unit or to only buy from CHECS TB accredited herds. The fixed list of recommendations allowed TBAS to analyse the information gathered yet each recommendation could be personalised in the report, such as specific water troughs to be raised, locations as to where wildlife cameras should be located etc. allowing the advice to be bespoke.

After discussion with the farmer each recommendation was given a level of priority, high, medium, or low; The cost of implementing the recommendation was estimated and a time scale for completion was added (maximum of six months).

i. Number of recommendations made

There was a total of 9227 individual recommendations made during the 2264 farm visits analysed (Some farms received more than the advised four recommendations).

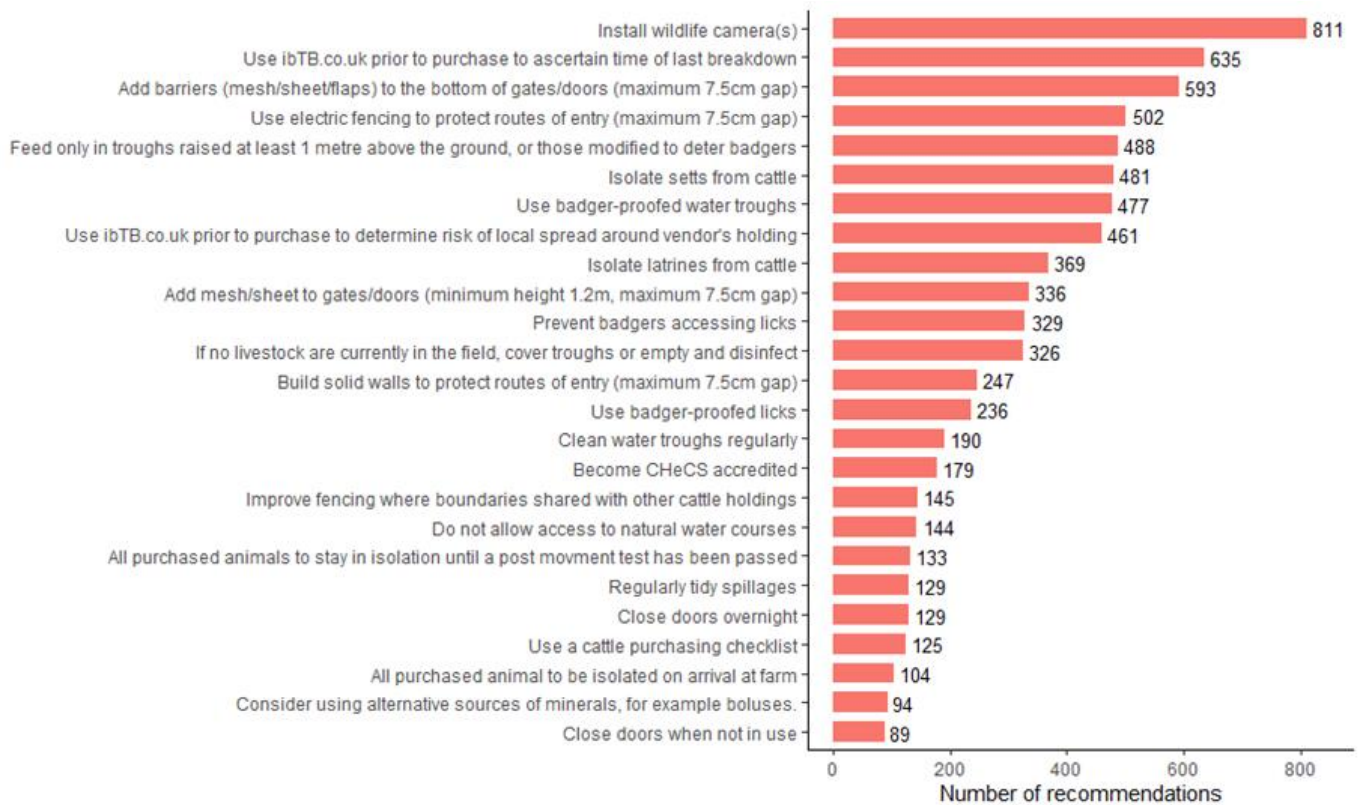


Figure 5: The top 25 recommendations made as part of TBAS visits

The 25 recommendations shown in the above graph (Fig.5) account for 84% of all the recommendations made. There were 70 different recommendations to reduce TB risk which could be grouped together into the distinct categories of the five-point plan.

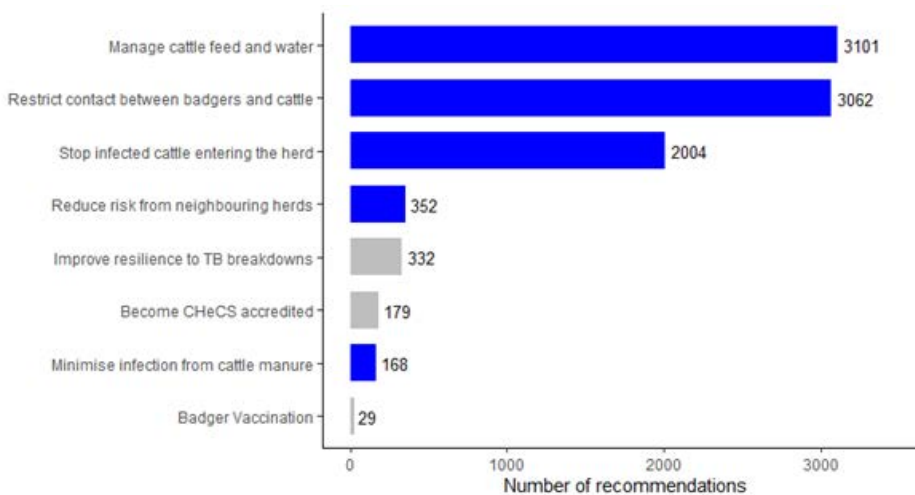


Figure 6: Number of recommendations in relation to the industry developed five-point plan. The three grey categories contain recommendations not contained within the five-point plan.

Most of the recommendations agreed involved reducing the risk from badgers (67%); 22% of recommendations agreed referred to reducing risk from purchased cattle.

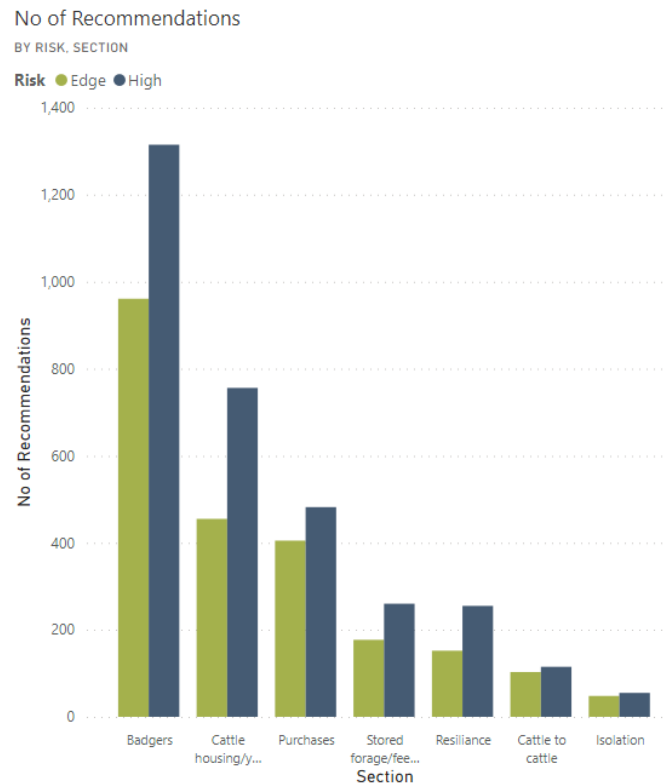


Figure 7: Number of recommendations in relation to the industry developed five-point plan including two extra categories not in the five-point plan. Split by TB Risk area.

More visits occurred in the HRA than in the EA, however in both areas the most common recommendations were the same - regarding reducing badger and cattle contact; and the third most common for both areas was to reduce risk from purchases. The pattern for recommendations was the same irrespective of risk area.

		Was the Advisor a Vet or Not?		Total
		No	Yes	
Badgers	Count	1642	1869	3511
	% within Vetnot	47.4%	40.1%	
Cattle Housing / Yards	Count	816	992	1808
	% within Vetnot	23.6%	21.3%	
Cattle to Cattle	Count	153	278	431
	% within Vetnot	4.4%	6.0%	
Isolation	Count	106	147	253
	% within Vetnot	3.1%	3.2%	
Purchases	Count	559	979	1538
	% within Vetnot	16.1%	21.0%	
Resilience	Count	149	291	440
	% within Vetnot	4.3%	6.2%	
Stored Forage / Feed	Count	37	107	144
	% within Vetnot	1.1%	2.3%	
	Count	3462	4663	8125

Figure 8: Recommendations whether they were given by a vet or a non-veterinary adviser.

Interestingly this table (Fig. 8) shows that non-veterinary advisers, were more likely to make recommendations about badgers (47.4% of badger recommendations were made by non- veterinary advisers compared to 40.1% by vets) and that veterinary advisers, were more likely to give recommendations regarding purchases (21.0% compared to 16.1%) and cattle to cattle risk (6.0% compared to 4.4%). This could reflect the fact that vets are comfortable discussing TB as an infectious disease of cattle and advise farmers regularly on purchasing risk for other infectious diseases and are less comfortable with their knowledge of badger ecology and the opposite for non-veterinary advisers, some of whom were recruited for their badger ecology knowledge.

ii - Estimated Costs of agreed Recommendations

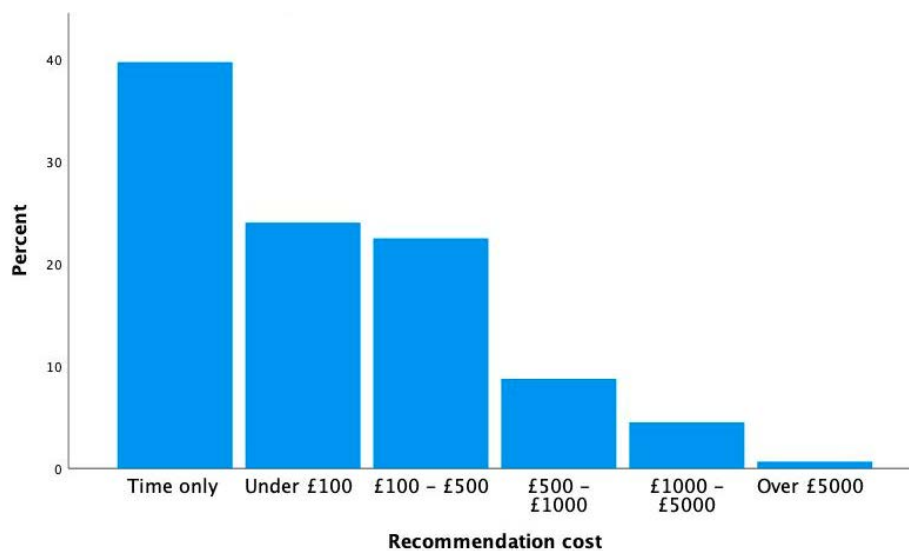


Figure 9: The percentage of recommendations in each estimated cost category

Figure 9. shows that most recommendations agreed, were estimated to cost the farm time only, and over 80% of the recommendations were estimated to cost less than £500.

5.e Other Support signposted

As the reports were designed to be sent to the farmers electronically, each recommendation had electronic web links to further information associated with it. This allowed farmers to know not just what we were recommending but why and how to complete them. For example, a recommendation to use badger proof water troughs linked to a fact sheet on survival of TB bacteria in water and how to reduce that risk by raising troughs to one meter or cleaning out more frequently. The recommendation to use ibTB had the link to the website for farmers to follow. This also ensured that our advice was in line with that from APHA and Defra and made farmers (and vets) aware of the resources already in the public domain such as the TBhub website and ibTB.

Included in the app was a section “who can help?” where advisers were given options such as FCN, RABI, NFU, and their own private vet if there were issues on farm that the adviser did not have the skills or follow up opportunity to help with. We also recognised the mental health and financial issue TB can have on a farm team and the farm business, so being able to signpost farmers to more support was invaluable. Once a farmer had had a TBAS visit it often triggered the need for more information about TB and a number of our

independent advisers formed good relationship with the farmers they visited and there were many telephone exchanges regarding further TB advice. The PVS also saw a bigger demand from their clients to do something more about TB, which had the benefit not just for the farmer but for the vet's well-being and feeling they were doing something positive for the farmer regarding TB.

5.f Sign off of the report

There was provision within the app for both the farmer and adviser to sign the report, agreeing to the recommendations, that the information in the report was accurate, and that the anonymised data could be used for research purposes.

The I-Auditor app then generated a report usually around eight pages long. Every report was manually quality checked and then sent to the farmer. The report contained all the information gathered throughout the on-farm visit and concluded with the four recommendations.

All the reports were sent electronically (unless a special request was made to send a report by post) reducing paper use where possible and limiting the environmental impacts.

6. Quality Assurance

The first report completed by every adviser was read through thoroughly by a member of the TBAS team to ensure recommendations were appropriate for the farm description. Any queries were escalated to the project manager and the technical director.

Every report was read through before being sent to the farmer, and if any issues were identified the report was referred back to the adviser to correct. Throughout the project a random number of reports 5% overall were quality assessed by members of the technical board.

There were no technical issues found with any of the farm reports. This was not unexpected due to the high quality of the initial TBAS training and the enthusiasm from the core TBAS advisers. All the recommendations linked to further information on the TB hub website or the ibTB website ensuring that the information provided to farmers was in line with Government policies and recognised science and evidence.

7. Follow up Information

7.a - How we contacted farmers

To comply with the contract, one month then six months after the initial visit the farmers were contacted by a member of the TBAS team to get feedback. This information was also key for the technical board. The feedback from the farmers would be essential to monitor the service and make changes where needed.

The one-month contact was to gain feedback on the service and the standard of advice given, the six-month call was to check to see what progress had been made on the recommendations and if they were not completed why not.

Any issues farmers raised in a follow up session, were followed up by the project manager and the technical director, there were very few of these. All issues relating to poor reviews of the service when investigated were not because of poor advice, but because farmers had personal issues with TB on farm or TB policy in general and were born out of frustration and anger. After a conversation with someone from the senior team, most were satisfied TBAS had a role and that it was a valuable tool in the toolbox alongside other policies.

It was soon realised that farmers were very hard to get hold of via telephone especially if the only contact number supplied was a landline. RPA agreed TBAS could carry out one follow up call combining both surveys at once, six months after the initial visit, to try and get as much information as possible. Farmers quite rightly, especially those in badger control areas were suspicious of a stranger calling to ask them about TB and finances. Where we failed to contact a farmer via the telephone, we sent the questionnaire via email if possible. When that failed, we asked the TBAS adviser to approach the farmer for the follow up information.

We managed to contact 95% of the farmers who had had a visit, to complete their follow up survey, however of these farmers very few were comfortable to give us the financial information required to be able to analysis the actual costs to farmers of the recommendations.

7.b - Satisfaction Data

In total we were able to gain follow up information on 95% of our visits. 2180 follow up surveys were completed. 98% of farmers said the recommendations were useful (92% very useful our top category) and 96% of farmers said the TBAS service was Excellent (Fully satisfied) or acceptable (Satisfied) (90% Excellent).

		Satisfaction with TBAS				
		Unacceptable Row N %	Poor Row N %	Acceptable Row N %	Excellent Row N %	Total Row N %
Herd Type	Dairy	0.7%	1.4%	5.5%	92.5%	100.0%
	Beef	0.6%	0.7%	5.7%	93.0%	100.0%
	Mixed	2.0%	2.0%	10.5%	85.6%	100.0%
Tb Restrictions	TB Not Restricted	0.6%	0.8%	5.7%	93.0%	100.0%
	Tb Restricted	1.2%	1.8%	6.5%	90.5%	100.0%
	Total	0.7%	1.0%	6.0%	92.3%	100.0%
Farmer Age	Under 40	0.4%	0.4%	8.2%	90.9%	100.0%
	40 and over	0.6%	1.4%	5.5%	92.5%	100.0%
	3	1.0%	0.7%	6.0%	92.3%	100.0%
Farmer Gender	Male	0.7%	0.8%	6.3%	92.2%	100.0%
	Female	0.9%	2.6%	3.9%	92.7%	100.0%
Was the Advisor a Vet or Not?	No	0.9%	1.6%	8.3%	89.1%	100.0%
	Yes	0.6%	0.6%	4.3%	94.5%	100.0%
TB Risk Area	High Risk Area	0.7%	1.0%	5.3%	93.0%	100.0%
	Edge Area	0.8%	1.0%	6.9%	91.3%	100.0%

Figure 10: Table showing the follow up satisfaction data by different herd, farmer, and adviser characteristics.

There was only slight numerical difference in the overall satisfaction data across the different categories in the table above. Mixed farms were less likely to score TBAS as excellent. Farms under TB restrictions were more likely to score TBAS lower than those officially TB free. Veterinary advisers were very slightly more likely to get a higher satisfaction score compared to non- veterinary advisers.

7.c Recommendations completed on Follow up

Of the 9227 recommendations made to farmers, 4882 (53%) were implemented after 6 months.

The rate of implementation varied between the different recommendations and between the different farms receiving TBAS visits. A total of 348 (16.7%) farms had implemented no recommendations after six months, while 369 (17.7%) implemented all (100%) of recommendations.

A total of 909 farms (43.6%) had implemented at least 75% of the recommendations agreed with them at the visit. Although this has not reached the contract target of 75% of recommendations completed by 6 months on all farms, this is a massive achievement. This was the first-time farmers had been offered this advice from specially trained advisers, irrespective of their TB status. Any previous advice had only been offered to farmers via APHA vets and field staff, normally after a TB breakdown, which is reactive not pro-active advice and given by the very institution farms often blame for TB in the first place. TBAS had to first earn the trust and respect of farmers to even be invited onto farm.

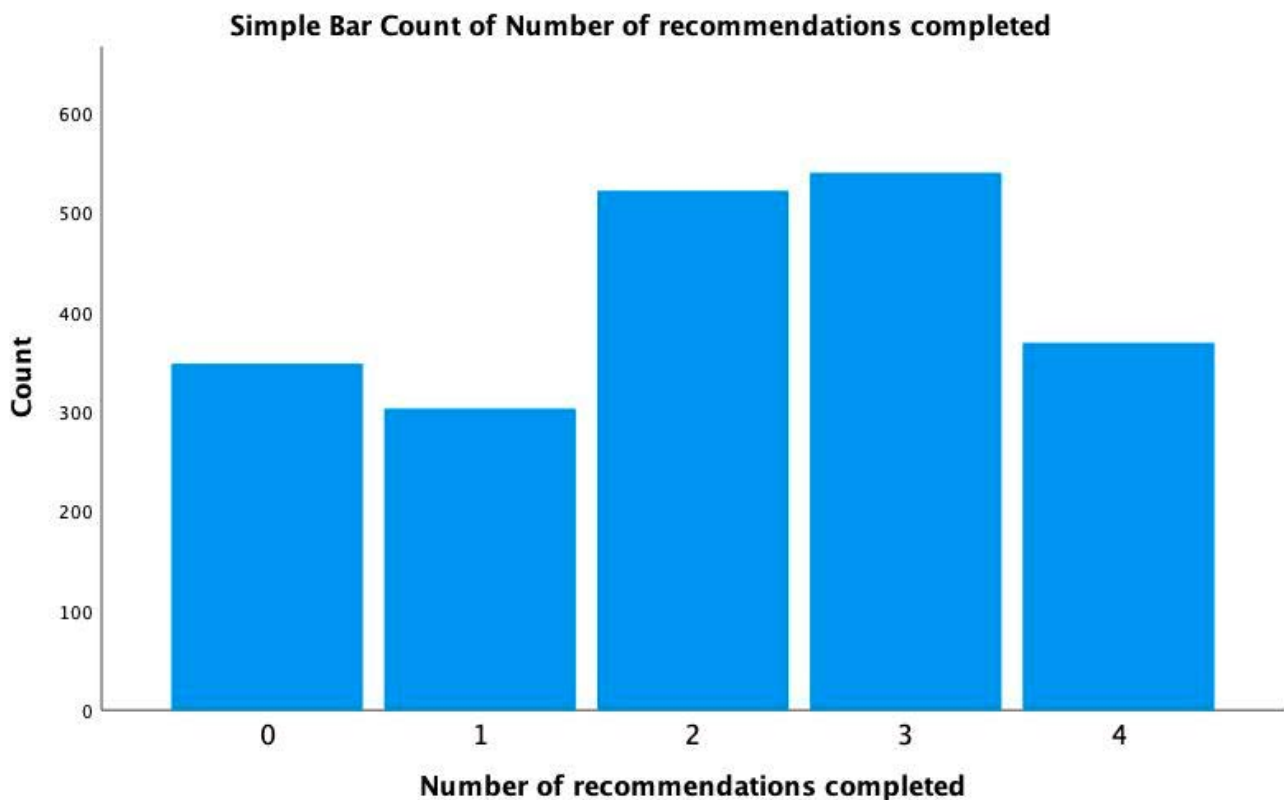


Figure 11: Total number of recommendations completed by farms on follow up call.

		Number of recommendations completed				
		0	1	2	3	4
		Row N %	Row N %	Row N %	Row N %	Row N %
Herd Type	Dairy	16.6%	16.0%	27.5%	24.0%	16.0%
	Beef	17.0%	12.9%	24.0%	27.7%	18.4%
	Mixed	14.9%	20.8%	21.4%	22.1%	20.8%
Tb Restrictions	TB Not Restricted	17.7%	14.5%	24.8%	25.2%	17.9%
	Tb Restricted	14.6%	14.3%	25.8%	27.1%	18.2%
	Total	16.8%	14.4%	25.0%	25.7%	18.0%
Farmer Age	Under 40	15.7%	16.9%	24.6%	25.0%	17.8%
	40 and over	18.9%	14.8%	24.5%	24.3%	17.4%
Farmer Gender	Male	16.7%	15.0%	24.9%	25.9%	17.5%
	Female	16.7%	11.1%	26.9%	25.6%	19.7%
Was the Advisor a Vet or Not?	No	22.8%	15.1%	25.3%	20.6%	16.1%
	Yes	12.3%	14.1%	24.9%	29.8%	18.9%
TB Risk Area	High Risk Area	16.3%	13.6%	25.8%	27.1%	17.2%
	Edge Area	17.2%	15.9%	24.1%	24.4%	18.4%

Figure 12: Number of recommendations implemented

There was very little difference as to who completed the recommendations, slightly more recommendations were completed if the adviser was a vet, possibly attributed to the advice being more in context with the farm health advice in general, the vet knowing the farm well and more trust in the adviser and the advice. It could be that our non- veterinary advisers were allocated to farms to visit who were signed up at shows and meetings and were given the opt out rather than a voluntary opt in, so were less engaged from the start.

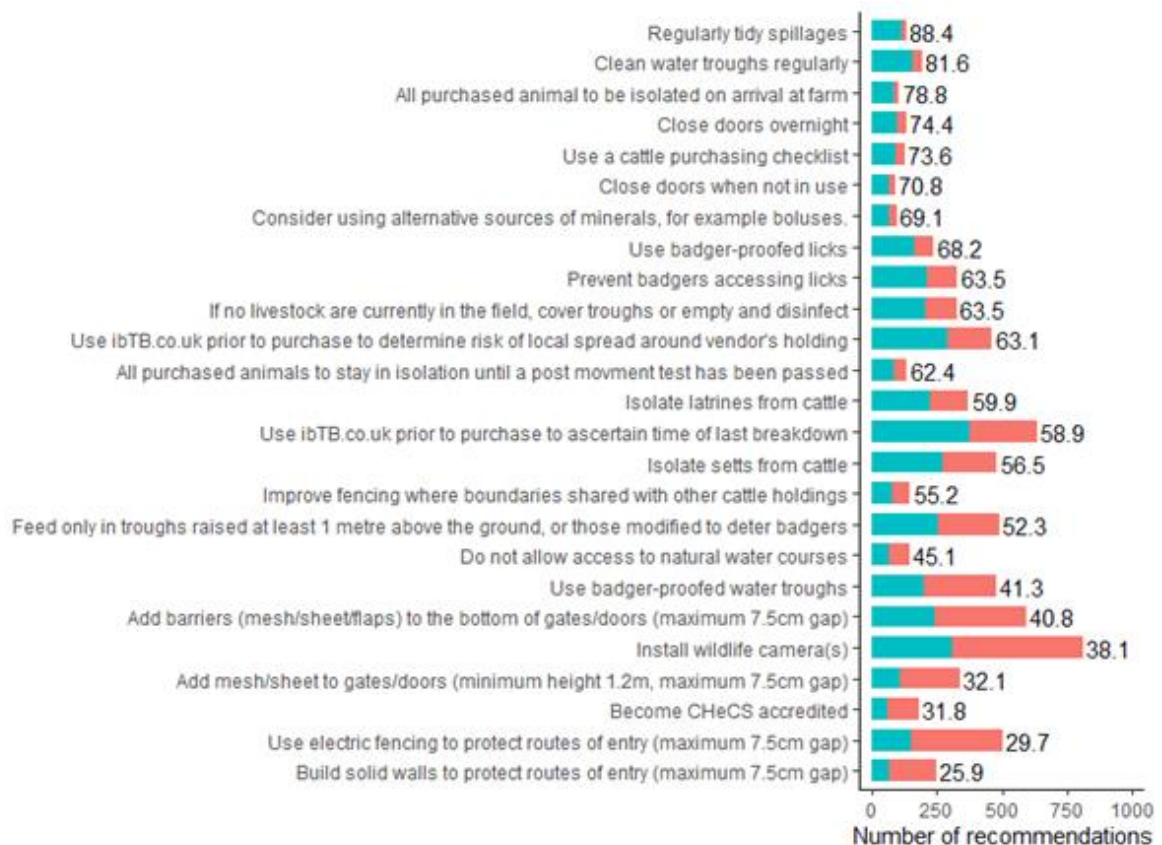


Figure 13: The top 25 recommendations made to farmers, coloured according to whether they were implemented (blue) or not (red) the number is the percentage in that category which were implemented.

Interestingly the top five recommendations agreed at the TBAS visit, were not the most implemented. The top 5 recommendations implemented were not TB specific recommendations but covered more general biosecurity advice. Perhaps, as they would have wider benefits for animal health and welfare and ultimately the farm business, they were implemented more commonly.

Tidying spills, cleaning water troughs more regularly and closing doors at night, all have wider vermin and bird control benefits, reduce the risk of not only TB spread from badgers, but other diseases such as salmonella from birds. All these recommendations can help with compliance for farm assurance and improve feed and water quality, and the production benefits this will have.

Isolating cattle on arrival and using a pre-purchase check list, will improve infectious disease control on farms and should be part of a farm assurance health plan already being implemented. Adding TB to these procedures can only increase awareness of TB as an infectious disease of cattle and reduce the risk of introducing TB through purchases, alongside diseases like BVD and Johnes.

Conversely our most frequently agreed recommendation, install wildlife cameras, was only implemented on 38.1% of the farms. Was this too time consuming and costly? Farmers needed to research and source an appropriate camera, place them correctly and analyse the information from them. More analysis of the reasons why this recommendation wasn't implemented, showed the commonest reason was 'not had time' (the top reason for all recommendations) followed by other, we can speculate the reasons within the other category being "didn't know which camera to buy, not sure where to put them, put off by the technology..." Some vet practices have talked about offering wildlife camera loan, placement and to produce a report on the findings, as a service. Would this make farmers more likely to implement the recommendations if it was made easier? Was this recommendation just too onerous despite the report linking to a factsheet on how to use a wildlife camera.

Top 5 Recommendations



Recommendation	No Of Recommendations
Badgers - Install wildlife camera(s)	1058
Purchases - Use ibTB.co.uk prior to purchase to ascertain time of last breakdown	886
Badgers - Isolate setts from cattle	646
Badgers - Feed only in troughs raised at least 1 metre above the ground, or those modified to deter badgers	610
Cattle housing/yards - Use electric fencing to protect routes of entry (maximum 7.5cm gap)	378
Stored forage/feeds - Use electric fencing to protect routes of entry (maximum 7.5cm gap)	255

Top 5 Reasons Not Implemented

Reason	No Of Recommendations Not Implemented
Not had time: Due to time of year	81
Other	68
Too expensive	37
Don't see the point in doing it	32
Not had time: Other	31

Figure 14: Top recommendation agreed and the top five reasons that it was not implemented.

Bottom 5 Implemented Recommendations by Recommendation and Reason

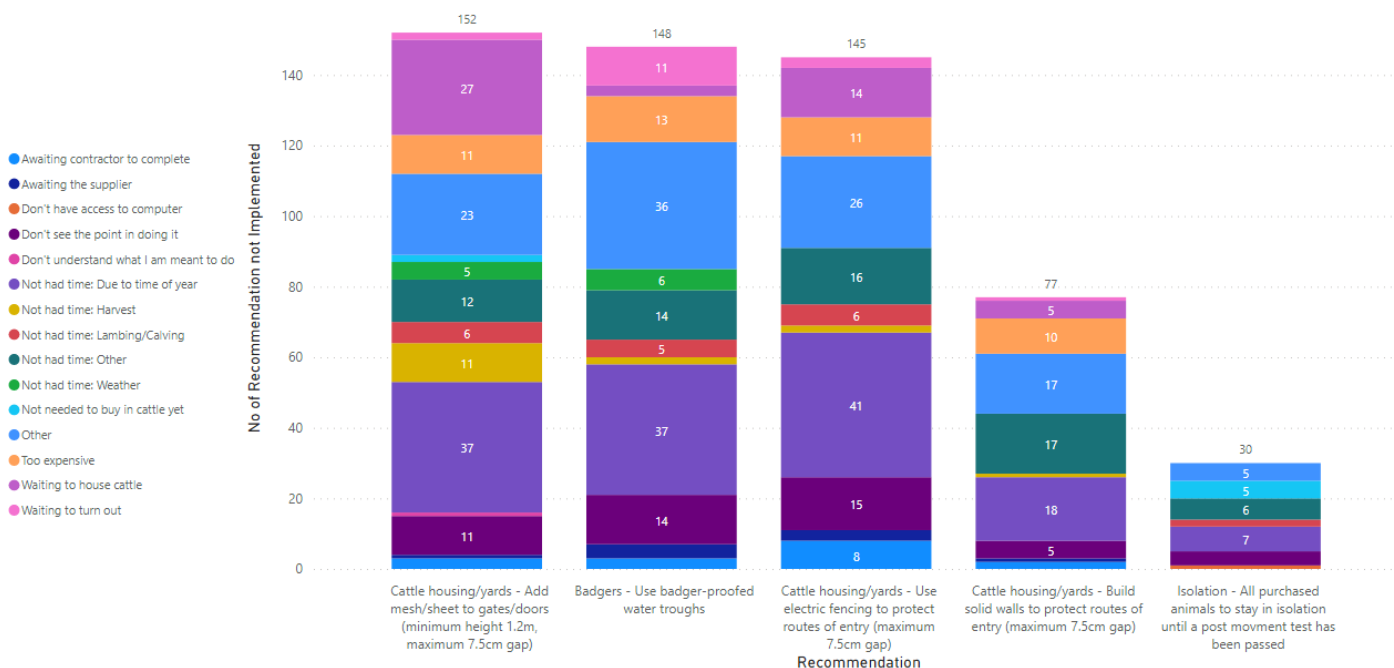


Figure 15: Five least implemented recommendations and reasons why they were not completed.

57.49% of recommendations were not completed due to lack of time. Five of our categories for a reason a recommendation was not implemented were time related, either time of year due to other farm work taking priority, for example lambing, or the weather. Some recommendations were reliant on purchasing cattle, such as using ibTB to ascertain TB history of the seller’s herd, if no cattle had been purchased in the six months, this would have been recorded as not implemented.

This is not surprising; farmers time is limited and necessary day to day tasks and emergencies must take priority. This reiterates the theory that more general biosecurity measures with wider benefits, than just reducing TB risk are more likely to be implemented.

Only 9.99% of farmers didn’t see the point in completing the recommendations and 7.62% thought the recommendation was too expensive.

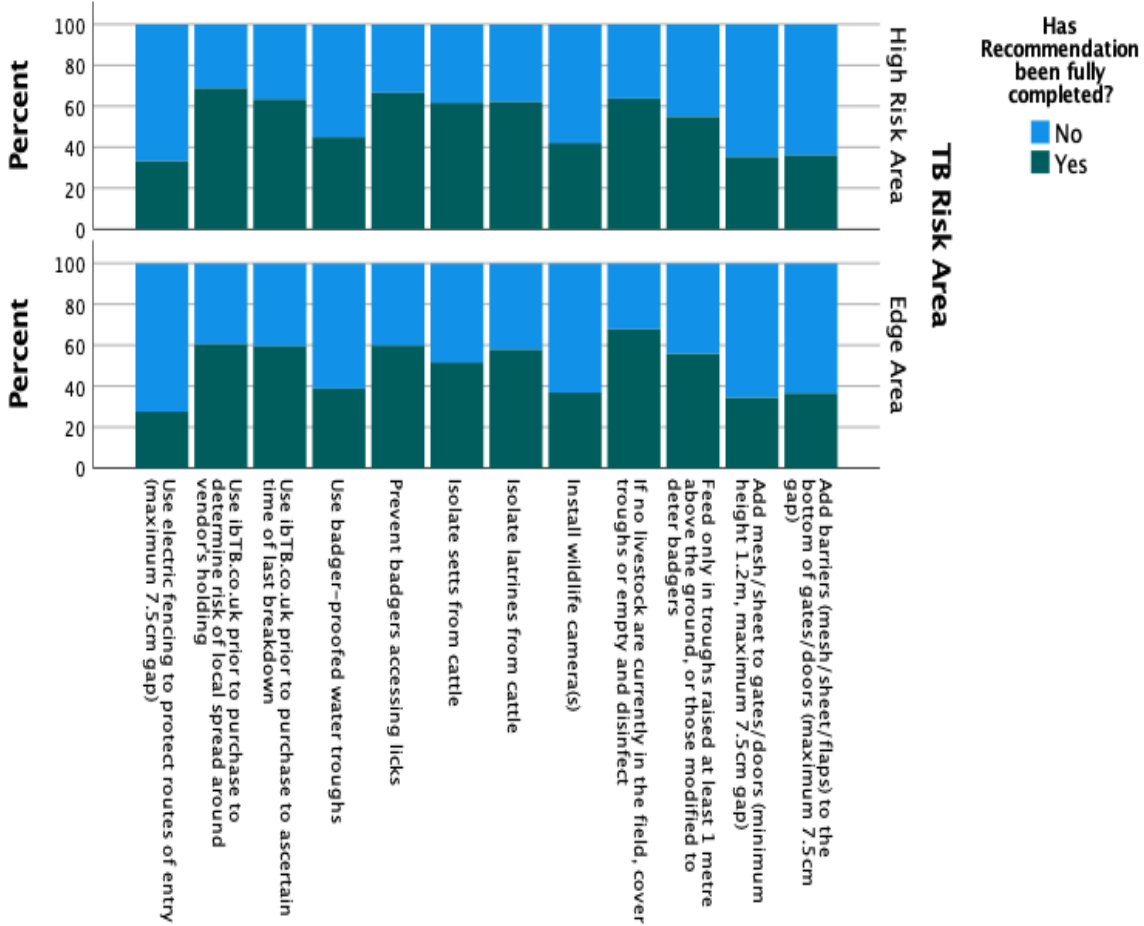


Figure 16: Analysis of Implementation of recommendations by TB risk area

Figure 16. shows that the risk area that a farm was situated in made little difference to the recommendations being implemented or not.

8. Data Demographics

- 8.a - Herd Characteristics

The following graphs show the herd characteristics of the farms in the dataset.

- i. TB Status

Most herds (71%) were not currently under TB restrictions at the time of the visit, although this varied with herd type, with only 20% of beef herds under TB restrictions, compared to 41% of dairy herds.

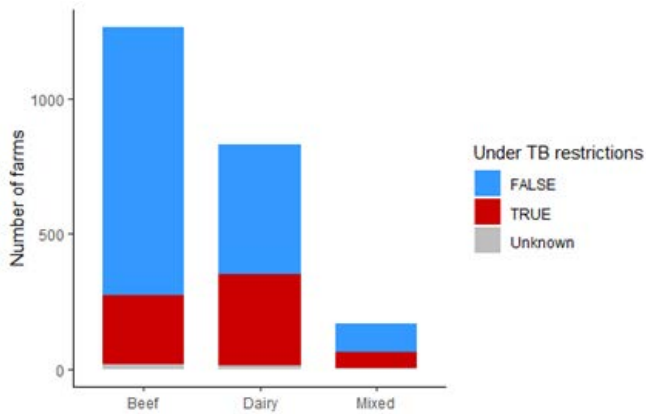


Figure 17: Type of herd & TB status

- ii. Herd Type

Of the herds that participated, 56% were beef, compared to 38% dairy and 7% mixed.

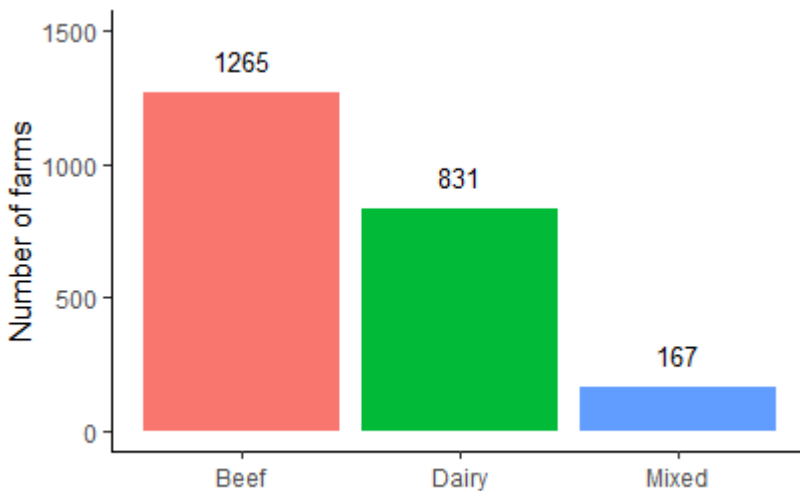


Figure 18: Number of herds according to herd type

- iii. Herd Size

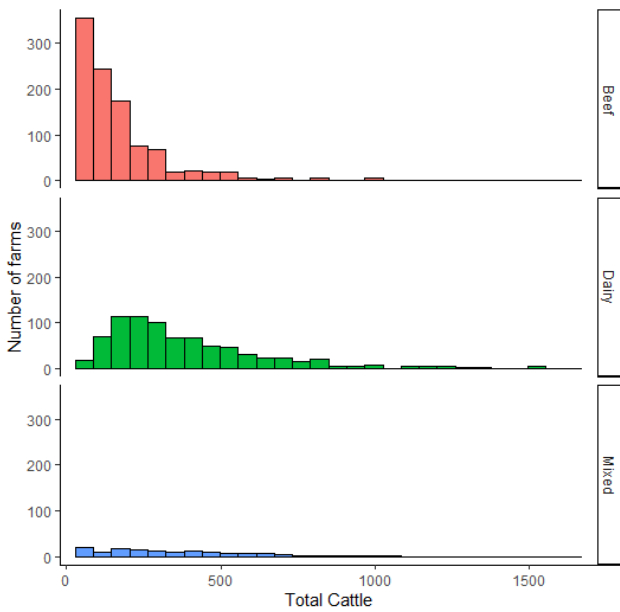


Figure 19: Herd sizes and types that participated

Overall mean herd size was 267 cattle (median=180), although herd sizes varied according to herd type the mean beef herd size was 148, dairy 419, and mixed 365 (median, Beef 100, Dairy 320, Mixed 300).

The predominance of beef farmers could be linked to the geographically areas where TBAS was more “popular” and the type of farming in those areas. The average herd size visited showed TBAS was getting onto commercial units with significant numbers of cattle, it could be that these were run by farmers more likely to attend our engagement events such as dairy tech, or these are the farmers that already have engagement with a professional farm adviser or their private vet.

Just over two thirds of the visits were carried out to OTF herds, which most likely reflects the more proactive nature of TBAS in preventing a TB breakdown or mitigating the impacts of a breakdown, on the business, is more appealing than feeling like you are firefighting a breakdown.

- **8.b - Visit Distribution**

57.6% of herds that participated were in the HRA and 42.4% in the EA.

o i. Visit Distribution by county

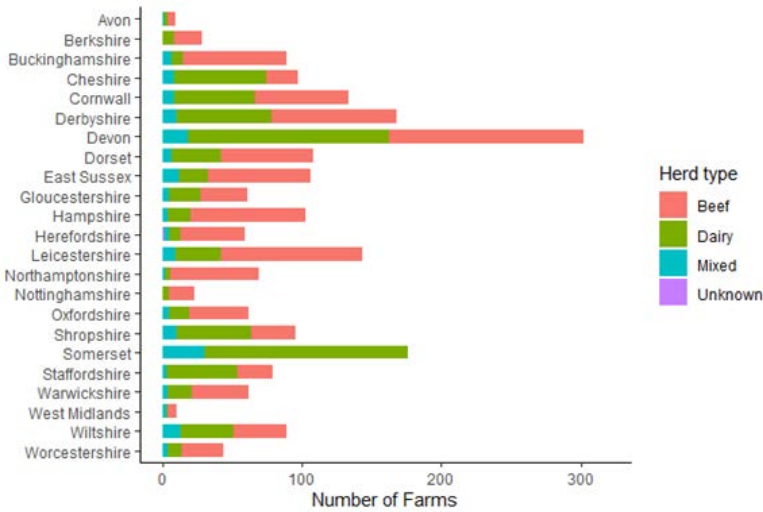


Figure 20: TBAS visits by county and herd type

15.2% more visits were carried out in the HRA which may reflect the geographical location of the promotional activities by local advisers, industry and TB having a bigger impact on farms in the HRA compared to the EA.

The map below (Fig. 21) shows the number and location of visits. The visits are very much centred around “engaged” advisers who actively sought out visits, and around locally engaged industry stakeholders, such as NFU County Advisers, who pro-actively engaged farmers and helped promoted the service. A larger proportion of the visits were carried out by private vets (58.3%) as they had their own client lists to proactively sign up, but also TBAS gave the vets an opportunity to offer pro-active TB biosecurity advise rather than just deliver the TB testing.

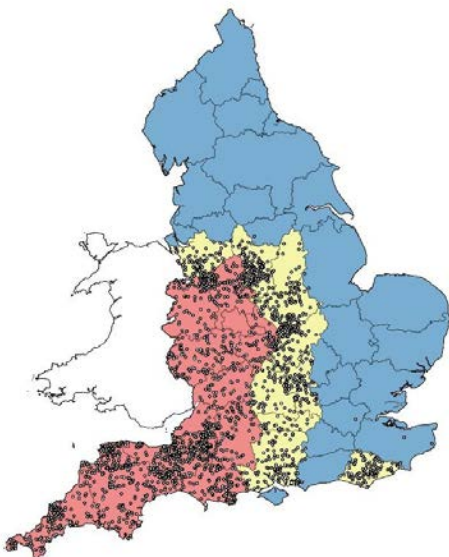


Figure 21: TBAS visit distribution map

9. TBAS legacy and achievements

As well as performing contractual obligations, the management team, the technical board, and the individual advisers have all gained from the TBAS project and provided a TB legacy to the farming industry and Government. TBAS speakers are in demand for many TB related events, training for industry, conferences, and social media promotions. A presentation was accepted for the international M.Bovis conference in June 2022 to share what TBAS has achieved. TBAS is regularly asked to write TB related articles for agricultural publications. A TBAS technical board member won the 2020 Dairy Industry award for Vet of the year for their work for the industry regarding TB.

TBAS has become a trusted brand, the go to place for good, honest, evidence-based information on bovine TB as well as TB biosecurity.

- **Upskilling**

TBAS has upskilled a cohort of farm advisers, veterinary surgeons, and farm teams to see TB as an infectious disease and to really believe that alongside the government they are able to have influence on TB control. TBAS has changed the mindset of farm vets and professional advisers that TB control is something the farming industry can influence, and they have a crucial role in the 25-year TB eradication plan. Through social media and communication networks, we have brought together a community of TB advisers, who are empathetic, yet focused and well informed on all aspects of TB control from politics to a badger ecology. They not only can offer advice to farmers, but to each other, importantly offering support when advisers have to deal with emotionally draining situations, which unfortunately is all too often. Despite the project finishing, the social media groups have continued and are still active.

These advisers have used this knowledge to go on farm and change farmer attitudes to TB control and empower farmers to have the knowledge and understanding about TB and where biosecurity risks are on their farm and influence that risk to reduce if not eliminate it. By explaining the science regarding the testing, TB as an infectious disease, why we have the government policies we have, and confirming the role badger and other wildlife can have in TB spread. TBAS is trusted and respected by the farming industry and the veterinary profession.

- **TBAS Conference**

In 2018 the TBAS conference was held at the Royal Agricultural University- *See appendix 7.* for further information. This was the first ever conference on TB for all stakeholders, farmers, vets, industry, wildlife groups, academics, and policy makers. Our opening speaker was Professor Godfray, whose review of the first five years of the 25-year TB eradication strategy had just been published. 150 individuals attended, all hearing the same messages around TB. All too often those dealing with TB eradication speak in isolation to themselves, vets, farmers, scientists, wildlife experts. The TBAS conference facilitated the stakeholder groups to hear everyone's point of view, most important of all the farmers. The TBAS conference championed the role biosecurity must play in TB eradication but discussed it in context of wider TB control. There was a lot of positive feedback from all parties, and it achieved great coverage in the national farming press.

- **Involvement in other TB related projects**

TBAS has been asked to run training sessions for charity workers, to enable them to understand TB better, the impacts TB has on a business and farmer mental health and enable them to communicate what farmers can do to limit the impacts TB can have.

TBAS was invited to be part of a Defra run TB biosecurity workshop.

TBAS attended workshops run regarding ibTB website and has offered regular feedback from farmers and vets to the designers. TBAS has been a big promotor of the online TB mapping tool.

A TB special edition of the Farmers Weekly was edited by TBAS. The opportunity was used to champion what farmers are doing to manage TB on their own farms. Defra was given the opportunity to discuss future TB policy. TBAS has also contributed articles to Holstein UK, Over the Counter, Cow Management, Farmers Guardian, and many other regional agricultural press.

TBAS has helped to facilitate Defra funded research projects; a social science based one on cattle purchasing behaviour with Cardiff University and the badger edge vaccination trial in East Sussex.

TBAS technical board members participate in the TB hub working group, contributing to content.

TBAS advisers have joined local TB Eradication Groups

TBAS advisers were involved in the development of the CHECS TB entry level scheme and the BCVA accredited TB veterinary adviser training.

- **Low Risk Area**

In 2019 TBAS was invited by local farmers into an area in the LRA to train PVS to be part of a holistic package of TB control measures, they recognised that the RDPE funded work of TBAS advisers was something they wanted to access in the LRA.

TBAS spoke at and supported many TB farmer meetings in the LRA, in conjunction with Defra and NFU.

- **Mental Health**

Throughout the project TBAS has been acutely aware of the mental health impacts TB has on not just farmers but the veterinary profession too. TBAS has joined in ventures to promote mental health services to farmers and vets. In the farmer's TBAS report links to relevant support were included. TBAS also made sure the advisers were aware of services such as FCN and RABI, for themselves as well as farmers. TBAS social media has highlighted the human element of TB and the issues around mental health in the farming and veterinary community. TBAS supported and advisers took part in the run1000 event and the ag mental health week campaign. The TBAS adviser WhatsApp group has provided an unofficial support group for advisers to share their experiences in dealing with TB on farm with like-minded peers.

- **Policy input**

TBAS was asked to help communicate the Arla "every calf matters" policy. TBAS was promoted at face-to-face events and in their publications as a tool to help farms manage their new non-euthanasia of calves' policy. Red Tractor now have a recommendation to have a TB reactor plan and suggested TBAS as a tool to do that. In 2021 CHECS launched a TB membership scheme to promote "no- regrets" TB biosecurity. TBAS technical board members were involved in its development and promotion to Governments, vets, and farmers.

- **Mind Set Change & Myth busting**

We have got in front of well over 5000 farmers in face-to-face settings and explained government TB policy in quite controversial and challenging times, with increasing TB cattle measures and changing wildlife control policies. TBAS is helping industry to understand why policies are in place and why things aren't straight forward and can't just be influenced by science and evidence, this allowed our TBAS advice to be seen in context of the wider government 25-year TB eradication plan. TBAS is able to communicate and promote government policies as we are seen as an independent brand, we are not government, Defra or APHA.

We have dispelled many myths and un-truths that a large proportion of farmers have ingrained in their understanding of TB, we have explained the routine tests used on farm and crucially that no visible lesions does not mean no TB infection.

- **TBAS Awards**

In the final few months of the project, TBAS was keen to champion what farmers had achieved. The TBAS Awards were launched in September 2019 and the winners were announced in Spring 2020. Throughout the TBAS project farmers had been at the heart of it. The awards highlighted the hard work and dedication farmers and advisers had put into TB biosecurity. See *Appendix.6.* for more information on the awards.

10. Key Message

TBAS has delivered 2280 on farm visits and given TB advice to over 5000 farmers across the country, though on farm visits, over the phone advice and in person at meetings, shows or industry events.

TBAS has given farm vets and advisers a tool to go on farm and do something positive regarding TB, it has engaged them into the mindset that TB control is not a lottery.

More importantly, TBAS has empowered farmers with the knowledge around TB risk, using science and evidence, better understanding of TB policy, and how they can use all this information to make better decisions on a day-to-day basis for their business; to reduce, if not eliminate the risk of, or length of a TB breakdown.

TBAS has given some TB control back to farmers, and a willingness to be part of the 25-year TB eradication strategy.

Glossary of terms

- APHA Animal and Plant Health Agency
- CCN Contract Change Notification
- EA Edge Area
- FCN Farm Community Network
- HRA High Risk Area
- LRA Low Risk Area
- NFU National Farmers Union
- PVS Private Veterinary Surgeon
- RABI Royal Agricultural benevolent institution
- RDPE Rural development program for England
- RPA Rural Payments Agency
- TB Tuberculosis (bovine)
- TBAS TB Advisory Service
- TBEAG TB Eradication and Advisory Group for England
- TBEG TB Eradication Group

APPENDIX

- **Appendix.1.** Technical Board Members
- **Appendix.2.** List of Meetings & Events
- **Appendix.3.** Frequently Asked Questions by farmers at Meetings
- **Appendix.4.** Gantt Chart of projected TBAS delivery
- **Appendix.5.** Example of a TBAS report
- **Appendix.6.** TBAS Awards
- **Appendix.7.** TBAS Conference information (As published on Eventbrite)

Appendix.1. – Technical Board Members

Technical Board Structure & Experience (As Correct at the start of the Project Oct 2017)

Project Director - Matthew Dobbs MRCVS until 2019 – Lindsay Heasman took over this role

Matt is a veterinary surgeon and Managing Director of the Origin Group, a veterinary health business with 45 practices, four laboratories, four training centres and research focussed dairy farm. Matt was a founding partner in Westpoint Veterinary Group, the original platform for the Origin Group. Origin now employs over 130 vets and 50 other animal health professionals, including animal health researchers, laboratory staff and farm consultants.

Technical Director - Philip Elkins MRCVS until 2019 – Sarah Tomlinson took over this role

Phil is a veterinary surgeon, SW Regional Director of the Origin Group, and the Group's lead on animal health policy. Phil was a lead consultant on the Animal and Plant Health Agency (APHA) contract to deliver TB advisory services to farmers in the cull zones. Phil has significant project management experience, leading several animal health projects. Phil also sits on the BCVA Board and both the Dairy Board and Dairy Technical Advisory Committee of the Red Tractor Assurance Scheme.

1. Badger Ecology

Andrew Robertson - from the University of Exeter, supported by Professor **Robbie McDonald (UoE)** along with **Peter Hancocks** and **James Packer** lead the Badger Ecology Group at ADAS. Andrew is the NERC Knowledge Exchange Fellow at the University of Exeter, Environment and Sustainability Institute. This Knowledge Exchange Fellowship is focused on the subject of bovine TB (bTB) and providing support to the regional TB eradication groups (TBEGS) in Southwest England.

2. Buildings and Biosecurity

Anthony Pope - experienced Agriculturalist/Agronomist and Project Manager, with a very wide knowledge of practical bTB control. Anthony was the lead advisor and Project Manager in the Southwest TB Farm Advisory Service from 2010-2013.

Charles Bentley and **Keith Owen** are farm building specialists with ADAS.

3. Science and Policy

Professor James Wood - veterinary epidemiologist with 25 years' experience who leads the Disease Dynamics Unit (DDU) in the University of Cambridge, as well as the Department of Veterinary Medicine. James conducts multidisciplinary research on infectious diseases with a particular focus on bTB. He chairs the University's Strategic Research Initiative in Infectious Diseases and a Col on the Wellcome Trust Centre for Global Health Research. He is a member of Defra's Science Advisory Council and a member of Defra's TB Eradication Advisory Group.

Dr Alastair MacMillan - veterinary surgeon with forty years practical experience of controlling major infectious diseases including brucellosis and bTB. Previous roles include the Head of the FAO/OIE/WHO International Reference Centre for Brucellosis, as consultant to international organisations on the control of bacterial zoonoses and the Chief Veterinary Officer for the RSPCA. He is a currently consultant to the FAO giving advice on disease control to foreign governments, with expertise in practical aspects of diagnosis, surveillance and disease control including controlling animal movements, trade and in biosecurity. Alastair also led the team tasked with commissioning Defra-funded research on bTB, which included the need to practically interpret the research outputs and provide advice to Ministers and policymakers.

Susan Duthie - lead veterinarian for Biobest Laboratories' CHECS accredited HiHealth Herdcare scheme and has been instrumental in developing and integrating the new bTB accreditation requirements.

4. Social Science

Dr Ruth Little - Research Fellow in the Department of Geography at the University of Sheffield focusing on sustainable agricultural systems. Ruth divides her time between the University of Sheffield and the Animal and Plant Health Evidence and Analysis (APHEA) team within Defra.

Dr Gareth Enticott - Reader in Human Geography in the School of Geography and Planning. He is the Treasurer of the Royal Geographical Society – Institute of British Geographers Rural Geography Research Group and Fellow of the Royal Geographical Society. His research focuses on biosecurity, practices of environmental regulation and governance, and scientific controversies in animal health.

5. Trading Advice

Ian McGrath – 2017 – Sept 2019 Cheshire dairy farmer with a herd of 200 pedigree Holstein cattle. At a national level he is an active member of TBEAG, the APHA Animal Health Surveillance Governance Board, but importantly works closely with farmers across his native Northeast delivering TB advice as a member of Cheshire TB Eradication Board, Derbyshire TB Eradication Board, Cumbria and Lancashire TB Eradication Board, National Farmers Union, Northwest Dairy Board and the Tenant Farmers Association West Midlands Committee.

James Russell BVetMed MRCVS - from 2019 – Practising farm vet - ran client knowledge transfer workshops on bTB, taking this as a 'roadshow' around the Midlands. As well as presenting on TB control for Improve International James sits on the BCVA board as the TB representative. TBEAG member.

Sarah Tomlinson MRCVS - practising farm vet based with Westpoint Farm Vets in Derbyshire. She is a member of TBEAG, the Derbyshire TB Eradication Board and the local county NFU. As a farmer herself, Sarah understands the need to deliver practical solutions to help farmers control bTB and can provide a bridge between scientific evidence and practical on farm application.

Admin Team –

Project Manager - Dr Lindsay Heasman until 2020 then Holly Shearman took on this role

– An experienced animal health researcher and highly competent project manager having worked with and on several national and international animal health research and veterinary pharmaceutical projects. Currently works in the Origin Group Project Team and the Westpoint R&D teams, delivering animal health research and projects which impact all food producing species.

Lindsay has successfully managed a number of Defra, APHA and NFU funded projects. These projects have included the Southeast Veterinary Health Planning project (delivered in response to the disproportionate regional effect of FMD in 2007), Livestock Health Southeast (a regional farmer training initiative) and Livestock Assurance Southeast Region (LASER - a regional cattle health assurance scheme that first introduced a recognised approach for additional voluntary control measures for bTB).

Deputy Project Manager – Holly Shearman - Experienced in managing projects and teams across a range of animal welfare subjects, BSc Hons Degree in Animal Science, behaviour & Welfare, and an RSQP. From a mixed farming background.

Administrator – Joanna Cooper - Experienced farm administrator with Westpoint Farm Vets.

Appendix.2. – List of Meetings & Events Attended or hosted by TBAS

Name	Type	Start Date	County	TBAS rep.	Notes
SW dairy Event	Industry Event	04/10/2017	Somerset	Sarah	Stand - Launch Event
Countryfile filming	promo	03/11/2017	Staffordshire	Sarah	promo
NFU - Derbys	Meeting	13/11/2017	Derbyshire	Sarah	promo meeting
NFU - Head office	Meeting	16/11/2017	Warwickshire	Sarah	promo meeting
APHA vet meeting	Meeting	21/11/2017	London	Sarah	promo meeting
NFU county meeting	Meeting	06/12/2017	Shropshire	Sarah	promo meeting
NFU - TB strategic meeting	Meeting	04/01/2018	Derbyshire	Sarah	promo meeting
ADHA Conference	Industry Event	17/01/2018	West mids	Holly	own stand
NFU - TB strategic meeting	Meeting	18/01/2018	Derbyshire	Sarah	promo meeting
Bakewell Market	Meeting	22/01/2018	Derbyshire	Sarah	speaking
TBEG meeting - Derbyshire	Meeting	24/01/2018	Derbyshire	Sarah	speaking
NFU SW dairy conference	Meeting	30/01/2018	Somerset	Richard	Kingshay stand
TB meeting - Winchester WPFV	Meeting	01/02/2018	Hants	Holly	own stand & speaking
Dairy tech	Industry Event	07/02/2018	Warwickshire	Holly	own stand & WPFV
NFU Conference	Industry Event	21/02/2018	West mids	Holly	Own Stand
National Trust & NFU- Derbyshire	Meeting	22/02/2018	Derbyshire	Sarah	speaking
National Trust Talk - North Derbys	Meeting	15/03/2018	Derbyshire	Sarah	speaking
WPFV - Vet Day	Meeting	16/03/2018	Glostershire	Sarah	speaking
IFA - dairy - reducing AB's talk	Meeting	19/03/2018	East Sussex	Holly	own stand
Nottingham Uni	Meeting	21/03/2018	Notts	Sarah	speaking
Northern TB hub - Staffs & Derbys	Meeting	22/03/2018	Derbys	Sarah	speaking
Countrywide farmers - TBAS discussion	Meeting	23/03/2018	Derbys	Sarah	speaking
Hailsham - Cuckoo Fair	Industry Event	09/04/2018	East Sussex	Holly	own stand
TB Vet meeting - Derbyshire	Meeting	10/04/2018	Derbys	Sarah	speaking
Hailsham - Spring Sale	Industry Event	23/04/2018	East Sussex	Holly	own stand
Future of Farming Conference	Industry Event	27/04/2018	Glocester	Holly	own stand
FCN meeting -Derbys	Meeting	28/04/2018	Derbys	Sarah	speaking
AHDB - Dairy meeting South East	Meeting	02/05/2018	East Sussex	Holly	speaking
AHDB Farm walk - TBAS discussion	Meeting	03/05/2018	Derbys	Sarah	speaking
Northants TB group	Meeting	05/05/2018	Northants	Sarah	speaking
North Somerset	Ag Show	07/05/2018	Somerset	Dave	attend
Grassland UK	Industry Event	10/05/2018	Somerset	Holly	Kingshay stand & speaking
Devon County	Ag Show	17/05/2018	Devon	Anthony O'Loughlin	attend
AHDB Farm walk	Meeting	24/05/2018	North Hants	Alex Rowley	speaking & signing up farmers
NBA - Beef Expo	Industry Event	25/05/2018	Shropshire	Holly & Lindsay	Own stand
Heathfield	Ag Show	26/05/2018	Sussex	Holly	WPFV stand
Surrey County	Ag Show	28/05/2018	Surrey	Holly	no stand - handing out flyers
IFA - Beef - disease prevention	Meeting	29/05/2018	East Sussex	Holly	speaking
Royal Bath & West	Ag Show	30/05/2018	Somerset	Holly	NFU stand - 1 day
South of England	Ag Show	07/06/2018	Sussex	Holly	Flyers
Royal Cornwall	Ag Show	07/06/2018	Cornwall	Phil	WPFV & NFU stand
NFU TB meeting - Oxfordshire	Meeting	18/06/2018	Oxfordshire	Sarah	speaking
Cheshire County	Ag Show	19/06/2018	Cheshire	Sarah	attend
Derbyshire	Ag Show	24/06/2018	Derbs	sarah	attend

TB meeting - Cedar Farm vets	Meeting	03/07/2018	Hampshire	Holly	speaking
Total Dairy	Industry Event	04/07/2018	Warwickshire	Holly /Tim	TBAS stand
TBAS meeting - Ellesmere	Meeting	05/07/2018	Shropshire	Linds / Sarah/ Holly	hosting meeting
Small Holders show - Ardingly	Industry Event	07/07/2018	Sussex	Holly / Lindsay	TBAS stand
AHDB / WID - Hants	Meeting	08/07/2018	Hampshire	Holly	Speaking
AHDB Dairy meeting - SDF launch	Meeting	11/07/2018	Oxfordshire	Holly	speaking /stand
Liskeard	Ag Show	14/07/2018	Cornwall	Phil	attend
AHDB dairy meeting - cow signals	Meeting	17/07/2018	Hampshire	Holly	speaking
NFU TB meeting - Warwickshire	Meeting	18/07/2018	Warwickshire	Sarah	speaking
New Forest & Hampshire	Ag Show	24/07/2018	Hants	Holly	Cedar Farm vets/ TBAS stand
AHDB beef & lamb / Dairy meeting	Meeting	25/07/2018	Oxfordshire	Holly	speaking
Nantwich & south Cheshire	Ag Show	26/07/2018	Cheshire	Sarah	Nantwich Farm vets stand
AHDB beef & lamb / Dairy meeting	Meeting	26/07/2018	Somerset	Holly	speaking
Mid Devon	Ag Show	28/07/2018	Devon	Dick Sibley	West Ridge Vets stand
Blakesley Show	Ag Show	04/08/2018	Northants	Alex Rowley	NFU Stand
Ashover	Ag Show	08/08/2018	Derbs	Sarah	WPFV stand
Ellingham & Ringwood Show	Ag Show	11/08/2018	Hants	Dave Coombes	Cedar / TBAS stand
AHDB Dairy	Meeting	13/08/2018	Wiltshire	Holly	speaking
AHDB Dairy	Meeting	17/08/2018	Gloucestershire	Holly	speaking
Ashbourne	Ag Show	18/08/2018	Derbs	Sarah	attend
Edenbridge & Oxted	Ag Show	26/08/2018	Surrey	Holly	WPFV stand
Bucks County Show	Ag Show	30/08/2018	Bucks	Holly	WPFV / NFU Stand
TBAS TB meeting	Meeting	05/09/2018	East Sussex	Holly / Linds/ Sarah	hosting meeting
NFU TB meeting	Meeting	06/09/2018	Sussex	holly	speaking
Romsey Show	Ag Show	08/09/2018	Hants	Dave Coombes	Cedar Farm Vets stand
Frome Show	Ag Show	08/09/2018	Somerset	Dave Jackson	own stand
TBEG meeting - Cornwall	Meeting	09/09/2018	Cornwall	Phil	
TBAS Meeting	Meeting	11/09/2018	Shropshire	Sarah	hosting meeting
UK Dairy Day	Ag Show	12/09/2018	Shropshire	Holly	WPFV Stand
Royal Berkshire	Ag Show	15/09/2018	Berks	Holly	Cedar / WPFV / TBAS stand
Women in Dairy Conference	Industry Event	19/09/2018	Warwickshire	Sarah	stand
OV conference	Industry Event	19/09/2018	Warwickshire	Alex Rowley	stand
Dairy Opening	Industry Event	02/10/2018	Somerset	Holly	own stand
The Dairy Show (SW dairy event)	Ag Show	03/10/2018	Somerset	Holly	WPFV Stand
Winter Housing Event - StowAG	Meeting	05/10/2018	Warwickshire	Holly	speaking & stand
BCVA Congress	Industry Event	18/10/2018	Shropshire	Phil	own stand
WPFV BVD & TBAS meeting -	Meeting	24/10/2018	Sussex	Holly	promo meeting
TBAS TB meeting	TBAS meeting	24/10/2018	Oxfordshire	Linds / Sarah/ Holly	TBAS meeting
TBAS meeting - Ellesmere	TBAS meeting	25/10/2018	Shropshire	Sarah	TBAS meeting
ibTB workshop -	Meeting	06/11/2018	Ashbourne	Sarah	attend
ibTB workshop - warnham	Meeting	07/11/2018	Sussex	Holly	attend
British Mastitis Conference	Industry Event	07/11/2018	Worcester	Phil	own stand
Agrifest SouthWest	Industry Event	07/11/2018	Devon	Holly	own stand
Holiday Inn Gloucester	TBAS meeting	12/11/2018	Gloucs.	Sarah / holly	TBAS meeting
RABDF business conference	Industry Event	14/11/2018	london	Holly	own stand
Elcot manor	TBAS meeting	29/11/2018	Berks	Sarah / holly	TBAS meeting

The Long Barn	TBAS meeting	30/11/2018	sussex	Sarah / holly	TBAS meeting
NFU Salisbury - cull meeting	Meeting	22/01/2019	Wiltshire	Holly	Attend
Pear Tree Farm	TBAS meeting	29/01/2019	Worcestershire	Sarah / holly	TBAS meeting
Dairy Tech	Industry Event	06/02/2019	Warwickshire	Sarah /Lindsay / Holly	Stand
Nailcote Hall	TBAS meeting	06/02/2019	Warwickshire	Sarah / holly	TBAS meeting
AHDB - beef meeting	Meeting	12/02/2019	Somerset	Holly	Attend
NFU Conference	Industry Event	19/02/2019	Warwickshire	Sarah /Lindsay / Holly	Stand
Bakewell Market	TBAS meeting	21/02/2019	Derbyshire	Sarah / holly	TBAS meeting
Reaseheath College	TBAS meeting	22/02/2019	Cheshire	Sarah / holly	TBAS meeting
AHDB - beef meeting	Meeting	27/02/2019	Worcestershire	Holly	Attend
Newark market	TBAS meeting	06/03/2019	Nottinghamshire	Sarah / holly	TBAS meeting
Future of Farming Conference	Industry Event	07/03/2019	Warwickshire	TBC	Stand
Oakley Grange Farm	TBAS meeting	07/03/2019	Leicestershire	Sarah / holly	TBAS meeting
Westwood Golf Club	TBAS meeting	12/03/2019	Staffordshire	Sarah / holly	TBAS meeting
WPFV - Vet Day	Meeting	22/03/2019	Warwickshire	Sarah /Lindsay / Holly	Stand
AHDB - Dairy meeting - roadshow	Meeting	25/03/2019	Worcestershire	Holly	Stand
AHDB - Dairy meeting - roadshow	Meeting	26/03/2019	Devon	Holly	Stand
AHDB - Dairy meeting - roadshow	Meeting	27/03/2019	Somerset	Holly	Stand
Ridgeway	TBAS meeting	27/03/2019	Devon	Sarah / holly	TBAS meeting
The Kings Arms	TBAS meeting	27/03/2019	Wiltshire	Sarah / holly	TBAS meeting
AHDB - Dairy meeting - roadshow	Meeting	28/03/2019	Berkshire	Holly	Stand
The Canal Side	TBAS meeting	28/03/2019	Somerset	Sarah / holly	TBAS meeting
AHDB - Dairy meeting - roadshow	Meeting	29/03/2019	West Sussex	Holly	Stand
The Two Brewers	TBAS meeting	11/04/2019	Buckinghamshire	Sarah / holly	TBAS meeting
SW dairy Centre	TBAS meeting	15/04/2019	Somerset	Sarah / holly	TBAS meeting
Frome Market	TBAS meeting	15/04/2019	Somerset	Sarah / holly	TBAS meeting
Salisbury	TBAS meeting	16/04/2019	Wiltshire	Sarah / holly	TBAS meeting
Hereford Rowing Club	TBAS meeting	17/04/2019	Herefordshire	Sarah / holly	TBAS meeting
Red Oak Farm	TBAS meeting	01/05/2019	Northants	Sarah / holly	TBAS meeting
Melton Livestock Market	TBAS meeting	01/05/2019	Leicestershire	Sarah / holly	TBAS meeting
North Somerset	Ag Show	06/05/2019	Somerset	Holly	Attend
The George	TBAS meeting	07/05/2019	Devon	Sarah / holly	TBAS meeting
The Dartmoor Halfway inn	TBAS meeting	08/05/2019	Devon	Sarah / holly	TBAS meeting
The Quintrell Inn	TBAS meeting	08/05/2019	Cornwall	Sarah / holly	TBAS meeting
The Smugglers Inn	TBAS meeting	09/05/2019	Cornwall	Sarah / holly	TBAS meeting
Nottinghamshire	Ag Show	11/05/2019	Nottinghamshire	Holly	Attend
BBO TBEG meeting	Meeting	16/05/2019	Oxford	Holly	Attend
Devon County	Ag Show	16/05/2019	Devon	Holly	Attend
Orange Elephant Ice cream parlour	TBAS meeting	22/05/2019	Devon	Sarah / holly	TBAS meeting
The New Inn	TBAS meeting	23/05/2019	Dorset	Sarah / holly	TBAS meeting
Heathfield	Ag Show	25/05/2019	East Sussex	Holly	Attend
NBA - Beef Expo	Industry Event	25/05/2019	Cumbria	Holly	Own Stand
Surrey County	Ag Show	27/05/2019	Surrey	Holly	Attend
Royal Bath & West	Ag Show	29/05/2019	Somerset	Holly	Attend
Staffordshire	Ag Show	29/05/2019	Staffordshire	Lindsay	Attend
TB meeting - NFU	Meeting	30/05/2019	Sussex	Holly / Lindsay	Speaking

Rutland	Ag Show	02/06/2019	Rutland	Lindsay	Attend
Gloucs TBEG meeting	Meeting	04/06/2019	Gloucestershire	Holly	Attend
New Advisor training day	training	05/06/2019	Staffordshire	Holly / Sarah	Run
Royal Cornwall	Ag Show	06/06/2019	Cornwall	Holly	Attend
South of England	Ag Show	06/06/2019	West Sussex	Lindsay / Holly	Attend
Kenilworth	Ag Show	08/06/2019	Warwickshire	Holly	Attend
Hailsham TBAS meeting	TBAS meeting	10/06/2019	East Sussex	Holly / Lindsay	TBAS meeting
AHDB meeting - Chippenham	Meeting	11/06/2019	Wiltshire	Holly	Speak / Stand
Three Counties	Ag Show	14/06/2019	Worcestershire	Holly	Attend
Cheshire County	Ag Show	18/06/2019	Cheshire	Lindsay	Attend
Louth - Lincolnshire	Ag Show	19/06/2019	Lincolnshire	TBC	Attend
Total Dairy	Industry Event	19/06/2019	Warwickshire	Holly	Stand
Derbyshire	Ag Show	23/06/2019	Derbyshire	Sarah / Lindsay	Attend
RAU- TBAS Conference	TBAS conference	26/06/2019	Gloucs.	Sarah / Lindsay / Holly	TBAS conference
DEFRA biosecurity workshop	Meeting	27/06/2019	Gloucs.	Sarah / Lindsay / Holly	Attend
BBO TBEG meeting	Meeting	03/07/2019	Oxford	Holly	Attend
VP Vet day	Meeting	05/07/2019	Warwickshire	Sarah / Lindsay / holly	Speak
TB Hub meeting	Meeting	11/07/2019	Stoneleigh	Sarah	Attend
Nantwich & south Cheshire	Ag Show	25/07/2019	Cheshire	Sarah / Lindsay	Attend
Mid Devon	Ag Show	27/07/2019	Devon	Holly	Attend
New Forest & Hampshire	Ag Show	30/07/2019	Hampshire	Holly	Attend
Honiton	Ag Show	01/08/2019	Devon	Holly	Attend
Blakesley Show	Ag Show	03/08/2019	Northamptonshire	Sarah / Lindsay	Attend
North Devon	Ag Show	07/08/2019	Devon	Holly	Attend
New Advisor training day	training	07/08/2019	Gloucs.	Sarah / Holly	Run
Ellingham & Ringwood Show	Ag Show	10/08/2019	Hampshire	Holly	Attend
Ashbourne	Ag Show	17/08/2019	Derbyshire	Sarah / Lindsay	Attend
Mid Somerset	Ag Show	18/08/2019	Somerset	Holly	Attend
AHDB meeting - Bristol	Meeting	22/08/2019	Bristol	Holly	Speak / attend
Edenbridge & Oxted	Ag Show	25/08/2019	Surrey	Holly	Attend
Bucks County Show	Ag Show	29/08/2019	Buckinghamshire	Holly	Attend
AHDB - Talking Beef event	Industry Event	04/09/2019	Leicestershire	Niamh	Stand
UK Dairy Day	Industry Event	11/09/2019	Shropshire	Holly / Lindsay / Sarah	Stand
AHDB Talking Beef event	Industry Event	18/09/2019	Cirencester	Holly	Stand
Women in Dairy Conference	Industry Event	18/09/2019	Worcestershire	Sarah	Stand
NFU - Farm meeting	Meeting	25/09/2019	East Sussex	Holly	Attend
OV conference	Industry Event	25/09/2019	Wiltshire	Sarah	Stand
StowAg Show	Industry Event	27/09/2019	Gloucestershire	Holly	Speak / Stand
TB meeting - Rutland	Meeting	01/10/2019	Rutland	Sarah	Speak
The Dairy Show (SW dairy event)	Industry Event	02/10/2019	Somerset	Sarah / Holly / Lindsay	Stand
Badger Vaccination Meeting	Meeting	08/10/2019	London	Holly / Lindsay	Attend
AHDB - calf health Meeting	Meeting	09/10/2019	Wiltshire	Holly	Stand
LIC Pasture to Profit Conference	Industry Event	16/10/2019	Warwickshire	Holly / John Benett	Speak / Stand
BCVA Congress	Industry Event	17/10/2019	Lancashire	Sarah / Lindsay	Stand
Wiltshire TBEG meeting	Meeting	21/10/2019	Wiltshire	Holly	Attend

TBAS Meeting - Deddington	TBAS meeting	23/10/2019	Oxfordshire	Holly / Simon Smith	TBAS Meeting
NFU Dairy Meeting	Meeting	30/10/2019	Wiltshire	Holly	Attend
RABDF business conference	Industry Event	05/11/2019	London	Holly / Sarah	Stand
British Mastitis Conference	Industry Event	06/11/2019	Worcestershire	Sarah	Stand
Plumpton College Talk	Meeting	07/11/2019	East Sussex	Holly	Speak
TBHub Working Group Meeting	Meeting	08/11/2019	Warwickshire	Sarah	Attend
AHDB Conference - Dorset	Industry Event	28/11/2019	Dorset	Holly	Stand
WPFV Winc. - Calf meeting	Meeting	03/12/2019	Hampshire	Holly	Stand
Trading Standards meeting	Meeting	04/12/2019	London	Holly	Speak
BBO TBEG meeting	Meeting	05/12/2019	Oxfordshire	Holly	Attend
SW TB Meeting	Meeting	12/12/2019	Somerset	Holly / Sarah	Speak / Stand
LLM Whitchurch	TBAS meeting	07/01/2020	Shropshire	Sarah	TBAS meeting
TBAS advisor training	training	08/01/2020	Exeter	Sarah / holly	training
TBAS training	training	15/01/2020	Cumbria	Sarah	training
TB workshop - Bakewell Market	Meeting	20/01/2020	Derbyshire	Sarah	own stand
Dairy Tech Stoneleigh 2 x workshops	Industry Event	05/02/2020	Warwickshire	Sarah / holly	speaking
TBAS Advisor Training WPFV Ashbourne	training	13/02/2020	Derbyshire	Sarah	training
TB Meeting - Lincolnshire – Louth	Meeting	18/02/2020	Lincolnshire	Sarah	speaking
NFU Conference- ICC	Industry Event	25/02/2020	Warwickshire	Sarah / Holly	own stand
NFU Conference- ICC	Industry Event	26/02/2020	Warwickshire	Sarah / Holly	own stand
Cornwall Arla Meeting- Cornwall Show Ground	Meeting	05/03/2020	Cornwall	Sarah	speaking
Devon Arla Meeting- Tiverton	Meeting	05/03/2020	devon	Sarah	speaking
Cornwall TBEG - Virtual	Meeting	18/06/2020	NA	Sarah	online - speaking
NFU Northumberland- Virtual	Meeting	23/06/2020	NA	Sarah	online - speaking
Arla Workshop x 2	Meeting	01/10/2020	NA	Sarah	online - speaking
Ag mental health	Meeting	13/10/2020	NA	Sarah	online - speaking
Saputo dairy advisor training	Meeting	22/10/2020	NA	Sarah	online - speaking
Veterinary workshop	Meeting	05/11/2020	NA	Sarah	online - speaking
NFU Lincolnshire	Meeting	18/11/2020	NA	Sarah	online - speaking
Derbyshire Agricultural Chaplaincy	Meeting	25/11/2020	NA	Sarah	online - speaking
FCN session	Meeting	09/12/2020	NA	Sarah	online - speaking
NFU Northeast TB meeting-	Meeting	13/01/2021	NA	Sarah	online - speaking
Dairy Tech –	Industry Event	05/02/2021	NA	Sarah	online - speaking
Rural Business Network	Meeting	11/03/2021	NA	Sarah	online - speaking
Welsh Government re TBAS	Meeting	19/05/2021	NA	Sarah	online - speaking
TB Workshop Bakwell Market	Meeting	27/05/2021	Derbyshire	Sarah	speaking
Damory Vets – TB meeting	Meeting	13/06/2021	NA	Sarah	online - speaking

Appendix.3. – Frequently Asked Questions by farmers at Meetings

FAQs from Farmers -

- What should I do with my IR?
- Why do we have IRs?
- Why can't I just cull my IRs
- I had a reactor, but it didn't have TB at slaughter, why don't we have a better test?
- Why isn't the whole country on annual testing?
- The gamma test will take too many of my cows and they won't have TB, why do we use the gamma test?
- When do I have to gamma test?
- Why is Enferplex not more widely used?
- What are the risks from alpacas and llamas?
- Why do my neighbouring alpacas not get TB tested?
- Can sheep give my cows TB?
- Why don't we vaccinate cattle?
- Why can't we just remove badger from the protected list?
- Does badger vaccination work?
- Do badger really spread TB?
- Is badger culling working?
- I have to graze my cattle where the badgers are, what can I do?
- I have an in-calf cow reactor can I keep it to calve?
- My steer is worth more than the government compensation is there anything I can do to complain?
- I have heifers on another holding if I get shut down with TB can I still move them on?
- What is happening with 6 monthly testing?
- What are the earned recognition criteria?
- Why can't we have access to an APHA vet directly, a single case vet, rather than whoever is in the office at the time?
- Why do we have to call the APHA on the same number as everyone else?
- Why can't my vet have more of a say in what happens in relation to TB on my farm?
- Why don't TB test charts automatically go to the farmer?
- What inspections do AFUs get?

Appendix.4. – Initial Gantt Chart of projected TBAS delivery



**Origin Project Delivery Plan
TB Advisory Service**

Financial Year	FY 2017/2018												FY 2018/2019												FY 2019/2020												FY 2020/2021															
Project Year	Year 1						Year 2						Year 3						Year 4																																	
Calendar Year	2017												2018												2019												2020															
Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42										
Month	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D									
Deliverables (Number of each type of activity)																																																				
1. Advice Visits		40	50	100	100	100	60	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90						
2. 6m Follow up							40	50	100	100	100	60	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90					
3. Telephone		33	41	83	83	81	49	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73					
Milestones (see below for description)																																																				
Deliverable 1																																																				
Deliverable 2																																																				
Deliverable 3																																																				
Claims																																																				
Claim No																																																				
Claim Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42										
Reports (Including Milestone Reports)																																																				
Quarterly																																																				
Annual																																																				
Final																																																				
Meetings																																																				
Authority	IN	T	T	Q	T	T	Q					GR			Q					Q					Q				Q																							
Technical Board																																																				
Launch																																																				
Training																																																				

Description of Milestones

1.1	25% of Advice Visits completed	2.1	25% of 6 Month Reviews completed	3.1	25% of Telephone Advice Calls completed	M1	Inception Meeting held	R1	1 st Annual Report
1.2	50% of Advice Visits completed	2.2	50% of 6 Month Reviews completed	3.2	50% of Telephone Advice Calls completed	M2	Gateway Review completed	R2	2 nd Annual Report
1.3	75% of Advice Visits completed	2.3	75% of 6 Month Reviews completed	3.3	75% of Telephone Advice Calls completed			R3	3 rd Annual Report
1.4	100% of Advice Visits completed	2.4	100% of 6 Month Reviews completed	3.4	100% of Telephone Advice Calls completed			R4	Final Report

Key

IN – Inception Meeting (Milestone M1), GR – Gateway Review (Milestone M2), Q – Quarterly Meeting, T – Teleconference, W – Wrap Up Meeting
 PL – Project Launch, IT – Initial Training, AT – Annual Training

Appendix.5. - Example of a TBAS report



Advice Visit Report

Test Farmer - Anon

Complete

Score	0%	Failed items	0	Actions	0
Document No.	000001				
Audit Title	Test Farmer - Anon				
CIN	1234				
Date of visit	1st Jan, 2020 3:55 PM GMT				
Prepared by					
Others present					

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1/13

Farm Details

Visit Details

Farmer Name	Anon, Anon Farm - Test
Role	Owner
Farm Name and Address	Anon, Anon Farm
TB Risk Area	Edge

Contact Details

Add Contact	
Add Contact 1	
Contact Type	Mobile

Contact Details	07812 123456
-----------------	--------------

SBI	100000000000
-----	--------------

Herd Number (Excluding UK)	123456
----------------------------	--------

CPH Number	33/001/0001/23
------------	----------------

Your Vet

Vet Practice	WPFV
--------------	------

Address	12344
---------	-------

Any other comments/photos? (click the paperclip on the right to add images and/or notes)	No
---	----

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2/13

Farm Summary

Farm Summary

Size of business	Medium
------------------	--------

Definition of business sizes
http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Type of Cattle	Beef
----------------	------

Total Number of Cattle	150
------------------------	-----

Total Breeding Females	75
------------------------	----

A brief description of the farm in terms of its location, relevant stock numbers and type, farming and business practices
 Beef Suckler selling stores

A brief description of current biosecurity measures	good
---	------

What is the nature of your primary concern?	Local TB
---	----------

Any other comments/photos? (click the paperclip on the right to add images and/or notes)	
---	--

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3/13

TB History

TB History

What is your farm type?	Suckler
-------------------------	---------

How many head of stock do you have on average?	150
--	-----

Current TB Status?	Never had a breakdown
--------------------	-----------------------

What is the local geographical situation with regards to TB (http://tb.co.uk)?	No contiguous issues
--	----------------------

Add TB map if required	
------------------------	--



Are you in a badger cull zone?	No
--------------------------------	----

Has the farmer received a report from APHA? If so, please ask them to provide it at the audit.	No
---	----

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4/13

Trading Risks

Trading Risks

Are you a closed herd?
This means NO cattle brought onto the farm in the last 10 years (including stock bulls)

Yes

TB Testing/Breakdown Planning

How would you rate your animal handling facilities for TB testing?

Adequate

What was the most recent TB test undertaken on your farm?

WHT - Whole Herd Test

How many animals did this test involve?
150

How many hours labour does it take to prepare for and undergo this TB test on your farm? Please include the time taken on both days, and multiply by the number of people involved.

15

Other than labour costs, does TB surveillance testing add any other costs to you and your business?

No

Are surplus stock sold prior to TB testing?

No

How would you deal with surplus stock if a breakdown were to occur?

I have no plan

If rearing heifers, would you have facilities to milk should a breakdown occur?

N/A

Do you have a farm budget which could be modified in case of breakdowns?

No

Have you got a plan in place with your advisors (bank, consultant, vet) in case of breakdowns?

No

Do you have contractual obligations which may be threatened by a TB outbreak?

Beef for finishing contract

Have you thought about how to fulfil those contracts in case of an outbreak?

No

Any other comments/photos?
(click the paperclip on the right to add images and/or notes)

No

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5/13

Environment Risks

Environment Risks

Badgers in Fields

Is there evidence of badgers in the field environment?

Yes

Roughly how many badger setts are on the land?

5

How close to your yard/buildings is the nearest sett (to nearest 100m)?
200m

Are active badger setts/latrines accessible by cattle?

Yes

At pasture, are cattle fed on the ground?

Yes

At pasture, are cattle fed in low troughs accessible by badgers?

Yes

At pasture, are licks accessible to badgers?

Licks not raised

Are water troughs in fields accessible by badgers?

Yes

Do your cattle drink from natural water course?

Yes

Wild deer on the farm

Are there wild deer on your farm?

Yes

Are there Fallow or Red deer on the farm?

Yes

Local Cattle to Cattle Spread

Do you share any field boundaries with other cattle holdings?

Yes

Where there are boundaries with other farms, what methods of separation are used?

Double stock fencing (minimum 3m gap) plus solid boundary

How often do your neighbours' stock escape onto your land?

Never

How often do your stock escape your holding?

Never

Do you share handling facilities with any neighbours?

Yes

Do you share equipment with any other farmers?

Yes

Do you spread slurry or manure from other farms on your holding?

No

Do you spread slurry or manure from your farm on your land?

Yes - on arable land

Do you use low rate irrigation of fields with dirty water?

No

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6/13

Any other comments/photos?
(click the paperclip on the right to add images and/or notes)

No

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7/13

Infrastructure Risks

Infrastructure Risks

Have you done anything to separate cattle from badgers in your buildings?

No

Have you undertaken any monitoring of badger access to buildings?

No

Can badgers access your cattle housing/yards?

Yes

Can badgers access cattle water troughs in buildings?

Yes

Are cattle fed in low troughs/on the floor accessible by badgers?

Yes

Can badgers access stored forage?

Yes

Can badgers access stored other feeds?

Yes

Any other comments/photos?
(click the paperclip on the right to add images and/or notes)

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8/13

Risk Factor Summary

Risk Factor Summary

Please enter below a summary of the main factors contributing to a risk of spread of bovine TB involving this herd.

badgers

Detailed Assessment of Current Situation and Possible Improvements.

Please add a commentary based on the current level of bio-security, badger activity, business practices etc.

Implications of not undertaking recommendations. Please add a commentary about the impacts on the farm business, productivity and on animal welfare if the recommendations are not carried out.

get TB

What and Who can help?

What and Who can help? 1

What and Who can help?

Your Private Veterinary Surgeon

What and Who can help? 2

What and Who can help?

The TB Hub website (www.tbhub.co.uk)

What and Who can help? 3

What and Who can help?

The iTB website (www.itb.co.uk)

What and Who can help? 4

What and Who can help?

Cattle Health Schemes
(www.checs.co.uk)

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9/13

Full Recommendations

Full Recommendations

Add Recommendation

Add Recommendation 1

Category	Environment
Environment	Badgers
Badgers	Use badger-proofed water troughs

Reason: Restrict contact between cattle and wildlife/their excretions

Resource:

<http://www.tbhub.co.uk/biosecurity/biosecurity-factsheets/>

Comments

Priority	High
Estimated Costs	£100 - £500

Target date for completion (Max 6 months)

Add Recommendation 2

Category	Trading
Trading	Purchases
Purchases	Use iTB.co.uk prior to purchase to determine risk of focal spread around vendor's holding

Reason: Stop infected cattle entering your herd

Resource:

<http://www.itb.co.uk>

Comments

Priority	High
Estimated Costs	Time only

Target date for completion (Max 6 months)

Add Recommendation 3

Category	Infrastructure
----------	----------------

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10/13

Infrastructure

Cattle housing/yards

Cattle housing/yards
Add mesh/sheet to gates/doors
(minimum height 1.2m, maximum 7.5cm gap)

Reason: Restrict contact between cattle and wildlife/their excretions

Resource:

<http://www.tbhub.co.uk/biosecurity/biosecurity-factsheets/>

Comments

Priority	High
Estimated Costs	£500 - £1,000

Target date for completion (Max 6 months)

Add Recommendation 4

Category	Trading
Trading	Resilience
Resilience	Become CHaCS accredited

Reason: Protect your business from the impact of TB and add value to your stock

Resource:

<http://www.checs.co.uk>

Comments

Priority	Medium
Estimated Costs	£0 - £100

Target date for completion (Max 6 months)

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11/13

Sign off

Sign off

Would you be happy to be contacted with further information relating to bovine TB?	Yes
Would you be happy for your anonymised data to be used for research purposes?	Yes
What is your preferred method for receiving this report?	Email

Please sign below to confirm that this report accurately represents the Advice Visit and recommendations

Anon Farmer

5th Mar, 2021 9:57 AM GMT

Advisor signature

Anon advisor

5th Mar, 2021 9:57 AM GMT

You may find it useful to share this report with your Private Veterinary Surgeon and/or APHA

Time

Start time of visit

End time of visit

Additional time spent (in hours)

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12/13

Appendix



Photo 1

Appendix.6. – TBAS Awards

TB Advisory Service Awards 2021 – Winners Announced

The aim of the TBAS Awards was to champion the hard work and effort many farmers are doing to reduce the risk of a TB breakdown and the impact TB can have on farm businesses.

Over the last 3 years we have held meetings, attended shows, spoken at farming events for us to engage with farmers and vets in the concept of #ControlTheControllable.

TB is all too often seen as a government issue, a disease which farmers and vets can have little influence over, here at TBAS our aim has been to change that mind set, to share the science and evidence around TB in order to encourage farmers to take some ownership and control back.

We are delighted to share with you our TBAS Award Winners and what they have done on farm to #ControlTheControllable.

TB Advisor winner: Kate Parrish MRCVS Fairfield House Vets (sponsor VetPartners)



Kate was nominated by her client Elizabeth Buchanan.

Elizabeth farms in East Sussex and was shocked and devastated when last spring they had their first TB breakdown. She talks about her world ending, especially for her grandmother who had started the herd of organic pedigree Sussex from scratch nearly a century ago. The practical aspects of having to test whilst cattle were out at summer grazing was also a huge pressure.

Elizabeth had a visit from TBAS and says the service and advisor could not have been more helpful, and she has implemented not only the four recommendations we suggested but other biosecurity measures discussed at the visit.



Elizabeth said "Kate could see how anxious we were and talked us through all that needed to be done. She was kind, patient and so empathetic".

The judges were impressed with Kate's understanding of the impact TB had on her client and although not doing the breakdown testing within the practice, she still gave the information and advice a farmer's private vet should be doing, just like vets do for all other infectious diseases.

BCVA President Nikki Hopkins said "the Private vet's role as the 'trusted advisor' is so underestimated, knowing the farm, the farm business, the geography it is situated in and more importantly knowing the farmer themselves is key to TB eradication on an individual farm. Private vets need to look at what their role is on farm, which isn't just about the TB test itself."

Advisor Award Special Mention:

Simon Smith and Graeme Smith are both independent TBAS advisors and were nominated by the admin team within TBAS. The admin staff who take all the farmer enquiries and feedback for the service said "of all the TBAS advisors these two are by far the most prolific, we always have excellent feedback and comments about them. Their knowledge of the subject and the ability to give practical on farm advice is invaluable and farmers recognise that". Sarah Tomlinson TBAS Technical Director said these two advisors epitomise the TBAS ethos and have been fundamental to the success of the TB Advisory Service.

Innovator winner: David Hellier (sponsor NFU)



David was nominated by his business partner and wife Alice Hellier.

David and Alice are dairy farmers on the Somerset/ Wiltshire border. They have been in and out of TB restrictions for over 12 years, losing around 10 animals a year. In 2018 they lost 35 six month old calves. They thought about what could have caused so many young animals to get infected with TB and realised that some of the paddocks used for the calves were surrounded by woodland with high numbers of badgers. The Hellier's were feeding the calves in low troughs in the ground and soon realised that they had also been supplementing the local badger population during the very dry summer that year.

TBAS carried out a visit and we identified areas where TB could be entering the farm and gave practical advice as to what could be done to reduce the risks and changing the ways the calves were fed was a notable one.

Alice describes David "taking the bull by the horns to control the controllable". He tried to find suitable troughs to fit their farm, environment and practices but could find nothing that would work instead, he designed his own, simple, easy to move by staff and most importantly badger proof.



The Hellier's have badger proofed the calf sheds where ad lib cake is fed and also started to use more sexed semen so if the worst should happen again there would be fewer calves to move off whilst under TB restrictions.

Judge James Wood said, "I hope that when farmers see what David has done, it helps them see what they could do themselves on farm for their own business, he saw a problem without an obvious solution and designed his own".

Innovator Special Mention:

Alan Hughes is a farmer who has designed the 'TB Buster'. With a history of TB on his farm in Shropshire the advice from vets was that badgers sharing mineral licks, feed and water troughs were a major risk factor. Not finding anything suitable on the market he designed and developed his own lick holder which the Royal Agricultural University has tested; "Badgers were unable to access the mineral licks held in the TB Buster and it can withhold substantial interaction from cattle". He has now developed a badger proof universal creep feeder.



Dairy winner: Jamie and Ally Cook (Sponsor Arla)



The Cook's were nominated by Andy Robertson of the National Trust (who as one of the judges obviously sat out of judging this category)

Jamie and Ally farm an organic dairy herd in Devon, they have been under TB restrictions for over three years. As with many large dairy farms, TB restrictions has caused problems rearing all the calves.

Being National Trust tenants meant that they were not permitted to join in any local badger control licence applications, which has added to the Cook's stressful situation.

Despite not being able to control the wildlife risk as other farmers they did not just give up. They have remained positive and have been proactive in trying to do all they can to reduce their TB risks.

In 2019 Jamie and Ally had a TBAS visit and since then have put in place significant badger proofing measures to their farmyard and buildings. Most have been installed by themselves at minimal cost, including the mesh panels over the calf feed.



They have received external detailed farm business advice quantifying the impact TB has on the business and as a result have made some informed management decisions such as reduction of numbers ~~so as to~~ reduce the amount of rented land needed away from home.

As National Trust tenants they have actively engaged in the badger vaccination program run by the Trust.

They have just celebrated their second consecutive clear test and are now officially TB free.

Judge Stuart Roberts said "All too often farmers feel the only option to reduce TB in their cattle herds is to cull badgers. The Cook's, through no decision of their own, could not. It would have been so easy for them to have felt demoralised and defeated, instead they engaged in what they could to reduce badger and cattle contact and disease spread between local cattle. They controlled the controllable".

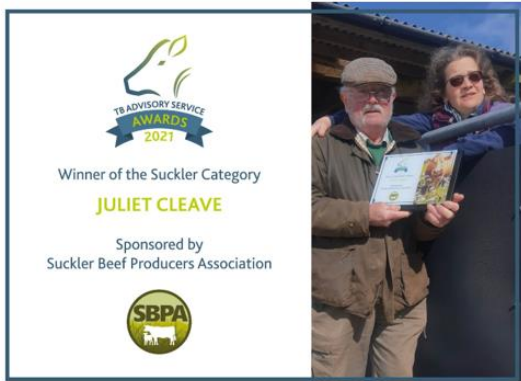
Dairy Award Special Mention: Marcus Holt.

Marcus farms in North Devon and suffered his first TB breakdown for 20 years in 2018. He worked with his vets and identified the TB problem to be in a specific group of animals. He requested selective gamma testing of the affected group to reduce the risk of bringing TB back into the herd. He took biosecurity measures at pasture which included cattle fencing off a stream that was used by badgers and cattle and installed raised water troughs in the problem paddocks.

Through a combination of addressing the cattle to cattle spread and the badger risks he has successfully become TB free again and has also become [CHeCS](#) accredited for TB.

Marcus was nominated by his vet Adam Reid, from Torch Farm Vets. Adam has supported TBAS as one of our advisors and in his nomination highlights the work TBAS has done to encourage private vets to work as part of the farm team to help eradicate TB from a herd or reduce the risk of a breakdown.

Sucker winner: Juliet Cleave (sponsor Suckler Beef Producers Association)



Juliet farms pedigree Devon cattle in Cornwall. She told us that she had been TB free for 8 years but living in the [South West](#) she was always in fear of a breakdown.

She proactively does many things to reduce the risk of introducing TB into the herd, no mineral licks are used, instead the cows are [bolused](#), no cattle are fed on the ground, all troughs are high legged, including those for weaned calves. All water troughs are cleaned out before cattle use, no equipment is shared including muck spreaders. All hard feed is stored in sealed containers, badger activity is monitored all year. All visitors are expected to arrive clean.



Being a pedigree herd Juliet is engaged in proactive infectious disease management as a member of the Cattle Health Certification Standards ([CHeCS](#)) and does not see TB control any differently. The

main control for all infectious diseases in the standards is controlling the risk from incoming stock. [CHeCS](#) require a period of isolation and post movement testing.

Juliet took full advantage of a free TBAS visit which was carried out by one of our trained advisors who also happened to be her own vet [which](#) she saw as a massive plus.

She has also completed an online TB course run by Land Based Learning which reiterated the TBAS messaging of identifying risk and reducing or eliminating what you can.

One of the important messaging is around the sensitivity of the test and asking the TB history of the farm of origin and using [www.tbtc.co.uk](#) to check a seller's herd TB status in England and Wales.

Judge Andy Robertson said "This was an impressive entry as they have dealt with TB as they would any other infectious disease and made choices to eliminate and reduce the risk of a TB breakdown. Many farmers only think about TB after the worst has happened and see suffering a breakdown an inevitable consequence".

Suckler Award Special Mention:

Paul Brereton was nominated by one of our very experienced TBAS advisors and his private vet Rose Palmer. Having suffered a TB breakdown as a relatively new herd, Paul vowed to do everything in his power never to have to go through the same experience again.

Working out what the TB breakdown cost him in man hours, let alone in lost stock, pushed him to invest in badger proofing his farm, understanding it to be cost effective. He invested in badger proof stock fencing, badger proof water and feed troughs and raised all his mineral licks. He has also joined the [CHeCS](#) TB accreditation scheme seeing it as a tool to stay TB free, but also reassures any buyers that despite being in a high-risk area, they are a low-risk herd. Shropshire was one of the first HRA counties to move on to 6 monthly testing, as a [CHeCS](#) TB accredited herd Paul can remain on annual testing as APHA also see his herd as lower risk.

Rearer/ Finisher Winner: Doug Dear (Sponsor [SellMyLivestock](#))



Doug farms just outside Selby in North Yorkshire, where he finishes cattle for farmers on a bed and breakfast system. All cattle feed intake is monitored and weight gain, they also offer a marketing service to match the right specification cattle to the right end buyer. Doug said on his entry form "As we are in a TB 4 area it was the responsible path to take to become an LFU (Licenced Finishing Unit), to protect the clean status of the surrounding area, wildlife, and our neighbour's cattle". B

Being an LFU has advantages for the business too; there is no statutory TB testing such as post movement or tracer testing and importantly for neighbours no radial testing if there is a slaughterhouse case of TB.

It was this responsible attitude; Doug's mention of a "mindset" change and the amount of work and expense Doug has put into ensuring the unit functions well not only as a beef unit but also to ensure the unit does not put surrounding businesses at risk. Doug has also been very open with farmers about his business and regularly speaks at meetings to discuss the process of becoming an AFU.

Judge Stuart Roberts said, "I am delighted to see Doug win this award. The fact that Doug not only has invested in his own finishing unit but has also done so in a way that recognises the importance of protecting the clean status of neighbouring units and the wildlife is a real credit to him. I really hope in years to come we see more people following this example".



TBAS technical Director Sarah Tomlinson comments:

All these winners have embraced the principles we at TBAS promote "control the controllable" if you can't eliminate every risk, you can at least reduce them. All the eligible winners had taken advantage of free TBAS advice and found the information invaluable. Their private vet has also been a key advisor in many of the entry's situations something TBAS has always encouraged. All our advisors have empathy for the stress and anxiety around TB, they deal with the individual situations on farm in a bespoke manner whilst offering practical advice and recommendations based on science and evidence.

Control the controllable, just because you cannot control all the risks in the most obvious way, does not mean you should not control what you can.

Congratulations to all our winners and to every farmer who has voluntarily taken TBAS advice on board and proactively changed the way they address TB risk management and eradication.

Appendix 7 – TBAS Conference Information (As published on Eventbrite)

TACKLING BOVINE TB

A collaborative approach to disease control

TB is a devastating disease for the UK cattle industry, affecting livelihoods, animal health and welfare, herd genetics and farmer wellbeing. The 'Bovine TB Strategy Review', led by Prof. Sir Charles Godfray, highlighted the need for industry stakeholders to take greater ownership of disease control. Come along to the inaugural TBAS conference to learn more about what can be done to reduce the risk and impact of TB on your farm.

Wednesday 26th June 2019 at 9am
Royal Agricultural University, Cirencester, GL7 6JS.

JUN 26

Tackling Bovine TB
by TB Advisory Service
[Follow](#)

£120

♥ Sales Ended [Details](#)

Description

TB is a devastating disease for the UK cattle industry, affecting livelihoods, animal health and welfare, herd genetics and farmer wellbeing. The 'Bovine TB Strategy Review', led by Prof. Sir Charles Godfray, highlighted the need for industry stakeholders to take greater ownership of disease control.

Come along to the inaugural TBAS conference to learn more about what can be done to reduce the risk and impact of TB on your farm.

On - Wednesday 26th June 2019 at 9am

At - Royal Agricultural University, Cirencester, GL7 6JS.

Agenda

09.00 Registration and trade stands

10.00 Opening address Prof. Sir Charles Godfray, University of Oxford

10.20 TB in England - Where are we going? Prof. James Wood, University of Cambridge

10.50 Disease control in practice - What can we do? James Russell, British Cattle Veterinary Assoc.

11.30 Coffee break and trade stands

12.00 The role of wildlife in TB transmission Andy Robertson, University of Exeter

12.30 Building resilience into your business Sarah Tomlinson, Technical Director, TBAS

1.00 Lunch, trade stands and workshops

2.30 TB – a farmer’s perspective Mark Jelley, Beef Farmer, Northants

3.00 Panel discussion

3.30 Closing remarks Prof. Sir Charles Godfray, University of Oxford

3.45 Tea and trade stands

4.30 Event closes

Tickets - Are priced at **£100 + VAT**.

However, farmers can attend for the discounted price of just **£25 + VAT**.

To book your place, please visit <http://bit.ly/TBAS2019>

Date and time

Wed, 26 June 2019
09:00 - 16:30 BST

Location

Royal Agricultural University
Stroud Road
Cirencester
GL7 6JS
[View map](#)

Refund policy

No Refunds