

Bovine TB Risk Based Trading Group

# Bovine TB Risk-Based Trading: Empowering Farmers to Manage TB Trading Risks

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## Foreword

The Bovine TB Risk-Based Trading Group was set up in July 2012 and asked by Ministers to develop some voluntary measures for risk-based trading to help reduce the risk of spread of bovine TB. Risk-based trading aims to provide farmers with a more accurate assessment of the TB risk level of cattle they are buying as well as the background risk level of their own herd. Risk-based trading should encourage farmers to consider the relative disease risk of animals that they are buying, empower them to make better informed cattle trading decisions, and take greater responsibility for managing the TB risk of their herd as part of wider efforts to stop the spread of TB.

Throughout our discussions we have been made aware of the financial constraints that Government and industry are working under and have worked hard to ensure that our recommendations are deliverable in the current climate, or that there is a strong case for commissioning work into scoping and costing some elements of the scheme. In such a short timescale it has not been possible for us to deliver a fully scoped and costed plan for the future of risk-based trading, but we have gathered evidence and applied our own expertise to develop what we believe to be practical, workable recommendations for the introduction and development of risk-based trading to support TB controls.

Our work has benefitted greatly from the diverse expertise on the group, which comprises of people from a wide range of interested parties involved in cattle trading. Dairy and beef farmers and vets from different areas of the country as well as auctioneers and industry body representatives are all full members of the group. The delivery bodies RPA (Rural Payments Agency) and AHVLA (Animal Health and Veterinary Laboratories Agency) are represented, as is local Council Trading Standards (a full list of our members is set out at annex B). We have also received evidence from other industry experts and organisations, many that already have real experience in risk-based trading for other diseases (full list set out at annex C). In order to further inform our discussions we commissioned a research project to advise on what type of scheme would have a good chance of success in improving the information farmers get about TB risk of cattle they buy<sup>1</sup>. We have also contributed to AHVLA risk-based trading research projects that are under development.

The group has considered schemes operating in other countries, such as New Zealand's herd scoring scheme, and the passport sticker system in Wales. We have

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<sup>1</sup> Farmers' attitudes to a risk based trading scheme for cattle in England. ADAS

also looked at regional and national trading and health initiatives and accreditation schemes. The group has considered the different approaches that have been taken to risk-based trading and drawn on the best practice and lessons learned of each, combined with the expertise within the group.

The Group's main recommendation is the introduction of a comprehensive, accessible database as the ideal solution to support a successful risk-based trading scheme, which would be used by farmers, vets and auctioneers to inform purchasing decisions and post-purchase behaviour. The database should facilitate access to a range of TB risk factors such as movement history, testing history, background endemicity and also include an overall risk rating at the herd level. The database should be designed in a way that would allow other endemic diseases to eventually be included so that the benefits could be realised for broader endemic disease control.

We are aware that the database may take some time to scope and develop so we have also recommended a phased approach to risk-based trading. It should start with less technical, lower cost measures such as provision of TB history at the point of sale (including ring-side display at markets) and the further development of the AHVLA research project to generate a risk rating for every herd in the country.

We also believe there should be an overarching accreditation or certification scheme, ideally overseen by an industry body such as CheCs, to bolster confidence in the information that is shared as part of a risk-based trading scheme and provide guidance to farmers on how to reduce their TB risk.

We have considered the practicalities of the delivery of our recommendations; in particular whether they are workable at markets and provide simple, useful information that is easily communicated in a busy market environment. We visited a market in a high TB incidence area to experience the pace of selling and the back-office realities of sharing information quickly and accurately. We also took the opportunity to discuss with auctioneers at the market what information they believed farmers would find useful in deciding which cattle to buy, and what TB risk information they would practically be able to provide to buyers for animals being sold.

While we were briefed with considering voluntary measures for the introduction of risk-based trading, we have concerns about the reliability of information provided under a self-declaration or voluntary scheme. We therefore see a clear need for validation and accreditation of any information provided. We are also aware that any voluntary scheme will only succeed if a critical mass of farmers engages with it. We therefore believe that a comprehensive communication and information plan

promoting the wider benefits will need to accompany the introduction of risk-based trading.

We believe that risk-based trading can be a useful tool in enabling farmers to take informed decisions to reduce the risk of spread of bovine TB. We urge Defra to take forward our recommendations and hope that the Bovine TB Eradication Advisory Group (TBEAG) and the Animal Health and Welfare Board (AHWBE) will closely scrutinise this process.

**Professor Bill Reilly**

**Chair, TB Risk-Based Trading Group**

# 1. Executive Summary

- 1.1 The Group's main recommendation is the **introduction of a comprehensive, accessible database as the ideal solution to support risk-based trading**. This database should facilitate access to a range of TB risk factors such as movement history, testing history, background endemicity, and an overall risk rating. It should be used by farmers, vets and auctioneers to inform purchasing decisions and post-purchase behaviour. The database should be designed in a way that would allow other endemic diseases to eventually be included so that the benefits could be realised for broader endemic disease control.
- 1.2 We are aware that the database may take some time to scope and develop so we have also recommended a **phased approach to risk-based trading**. It **should start with less technical, lower cost measures** such as provision of TB history at the point of sale (including ring-side display at markets) and further development of the AHVLA research project to generate a risk rating for every herd in the country. We also believe that the introduction of an overarching accreditation or certification scheme, ideally overseen by an industry body such as CheCs, should be explored.
- 1.3 Communication with farmers, auctioneers and vets will be crucial to the successful introduction of risk-based trading scheme and we recommend that a **comprehensive awareness-raising campaign accompany the introduction of the measures that we have recommended**. Delivery should be in partnership between Government and industry and should be supported by **the development of buyer and seller best practice guidance**.
- 1.4 Current pre movement TB testing requirements play a key part in reducing the risk that animals pose when moving to a new herd. However, the communication plan should ensure that farmers are aware of the important benefits derived from post-movement testing. **We recommend that farmers are encouraged to post-movement test when appropriate**.
- 1.5 Delivery of our recommendations was outside the scope of the group, but we have made some suggestions as to how the recommendations could be implemented and have set out a timescale for Defra to report on progress.
- 1.6 The introduction of risk-based trading is particularly timely given the TB surveillance changes introduced in January 2013. Risk-based trading can make a real contribution to the aim of reducing TB and help all farmers take more control over the TB risk that the purchasing of animals poses to their

herds and can be of potential value to vendors from within the now expanded annual testing areas of the country.

## 2. Background

- 2.1 Bovine TB (TB) is arguably the greatest disease threat facing cattle farmers in England today. The Government is committed to helping farmers to develop the tools that they need in order to avoid introducing this disease into their herds and to tackle it effectively if it is found. The Government's TB strategy focuses on protecting low incidence areas and on pushing back the front of the disease spread at the edge of risk areas. TB surveillance changes introduced on 1 January 2013 have replaced parish testing areas with annual and four-yearly testing counties. Additional surveillance testing, in the form of the extended annual testing area, has been introduced at the edge of the high risk area to create a protective "buffer" against disease spread into the low risk areas.
- 2.2 In the *Bovine TB Eradication Programme for England*, published in July 2011, Defra made the commitment to '*look at the feasibility of options for a TB risk-based trading system for cattle*'. The Department also accepted the Farming Regulation Task Force's recommendation that '*TBEG, in the near future, should consider options for a system of communicating the test history and status of cattle with the aim of developing a joint industry/government solution*'. There is a commitment from the European Commission, the Government and the industry to make every effort to utilise every tool available to tackle TB. Defra decided that this issue needed more focused attention than TBEG (now TBEAG) would be able to provide, and in mid-2012 set up an industry-led advisory group to look specifically at the contribution that risk-based trading could make to the control of TB.
- 2.3 TB is spread between cattle and wildlife (mainly badgers) and between cattle. In areas of the country where TB is not endemic in wildlife, it is introduced to herds mainly through the movement of undetected infected cattle and then spread within and between neighbouring herds, and can be transmitted into the local wildlife. Much focus (especially in the south west), is on infection from wildlife (and badgers in particular), but even in areas where TB is endemic there is disease spread from cattle movements. Based on the analysis of the Random Badger Culling Trial data<sup>2</sup> it is estimated that 50% of infection pressure in endemic TB areas could be from the environmental element (most likely badgers as the main reservoir of disease

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<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=16197&FromSearch=Y&Publisher=1&SearchText=se3242&SortString=ProjectCode&SortOrder=Asc&Page=10#Description>

in these areas). Whilst it is difficult to estimate the remaining source of infection, cattle movements and contiguous contact with cattle are likely to be the primary drivers for this.

- 2.4 There are a number of tools for identification and removal of infected animals from herds, and there are preventative measures such as pre-movement testing. **However, there are acknowledged limitations to the existing skin testing regime;** The Cambridge University herd based model suggests that the repeat skin herd testing regimen that takes place after disclosure of a new bTB breakdown does not always lead to the removal of every infected animal from such herds by the end of the breakdown. Under the worst-case modelling scenario, up to 50% of all recurrent bTB breakdowns in GB could be attributed to residual infection in the herd<sup>3</sup>. This residual infection **may** contribute to both reoccurrence and spread of infection by cattle movements. Pre-movement testing reduces, but does not totally eliminate that risk. Risk-based trading is therefore relevant in all areas even in those areas living with the threat of introduction of TB from wildlife. Additional tools are needed to reduce the risk of an unidentified infected animal translocating TB. One such way is by providing farmers with accurate information and improved understanding of the TB risk levels of their own herd and of animals they might introduce to their herds via purchase at markets and sales. It can also help inform both pre- and post-purchase practices.
- 2.5 TB risk is not uniform across the country; there are pockets of infection in low risk areas and herds with a long history of clear TB tests within higher risk areas. This is illustrated in Figure 1 below. However, in spite of this, many farmers do not routinely receive or ask for information about the TB risk status of herds they buy cattle from. Currently, if farmers know the location of the selling herd, they could make an estimation of the risk level of the animals they are buying - but such a crude method would fail to identify those lower risk herds from the south west, or higher risk herds from the east. Such a lack of information means that farmers do not know the level of risk they are taking when introducing a new animal into their herd and do not adapt their behaviour or trading patterns accordingly.

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<sup>3</sup> Conlan et al. - PLoS Computational Biology; 10/2012; 8(10):e1002730.  
DOI:10.1371/journal.pcbi.1002730



### 3. Scope and Objectives of Project

- 3.1 The group was tasked with making recommendations to Defra Ministers on measures that could be introduced to support the development of **voluntary**, risk-based trading measures in England. The full terms of reference for the Risk-Based Trading Group are set out at annex D. We have considered both short and longer term measures, which require differing levels of resources. The group has also considered how to make voluntary measures effective and has focused on communicating the benefits of risk-based trading. We are keen to ensure take-up and maintenance of interest in trading schemes by farmers and their agents, vets and market auctioneers. We have also considered how other administrations have implemented effective measures.
- 3.2 The key objective of a TB risk-based trading system is to help cattle farmers to determine and manage the risk that TB poses to their herd. The system would aim to ensure that farmers have the information that they need to be able to take informed decisions on the level of TB risk they are taking when introducing new animals into their herds. We have not proposed measures that will threaten the trade in cattle or create a two-tier market. Risk-based trading is about helping to empower farmers to understand and manage the TB disease risk within their herds. This may be, for example, through changing purchasing patterns or through better management of animals after purchase as is routinely carried out with other disease risks.
- 3.3 All farmers can benefit from taking a risk-based approach to purchasing, by reducing the risk of introduction of further infection from purchased animals and therefore protecting their TB status.
- 3.4 The TB Risk-Based Trading Group is an industry-led advisory group working in partnership with Defra. Our recommendations to Ministers are on ways that the Government can work in partnership with industry in tackling TB risk.

## 4. Current Situation

- 4.1 The skin test has, and continues, to work effectively at clearing infection in the absence of a wildlife reservoir (in Scotland for example which has achieved Officially TB Free status). In addition to routine herd surveillance, any cattle being sold from an annual testing area must have been pre-movement tested, but the provision of any historical information beyond that is not obligatory. Since the start of 2013, the new TB surveillance changes have brought many more herds into the annual testing area which will increase the number of animals requiring pre-movement testing. We believe that pre-movement testing has been an effective policy that has helped to prevent further breakdowns from occurring. In Defra's review of Pre-movement testing policy, published in September 2010<sup>5</sup>, modelling showed that *pre-movement testing may have reduced the number of potential TB herd breakdowns in low-incidence areas....by almost 50% up to the end of 2008. In addition projections to 2015 indicate that pre-movement testing will continue to have a significant impact, in all areas, on reducing the number of TB breakdowns. For example, the model predicts that between 2010 and 2015 pre-movement testing would have prevented 1,500 confirmed new incidents (CNIs) in high TB incidence areas.*
- 4.2 However, no diagnostic test is perfect and the sensitivity of the skin test does vary in different circumstances. For example, test sensitivity (the ability to correctly identify all infected cattle) when applied at the herd level is higher than when applied to small numbers, (as is often the case when pre-movement testing small groups of cattle for sale). When used as a herd test there is less chance that infection in the herd as a whole will go undetected, although this also depends on the level of infection present, and individual infected animals may still be missed. At the individual animal level, test sensitivity is lower than at the herd level.
- 4.3 The delayed immune response following exposure means that the skin test will fail to identify some cattle that have acquired infection shortly before the application of the skin test.
- 4.4 These acknowledged limitations of TB diagnostic tests means that even with pre-movement testing some infected animals may not be detected prior to movement. Farmers should be encouraged to look at the broader risk picture

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<sup>5</sup> <http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/tb/documents/pre-movement-testing-review.pdf>

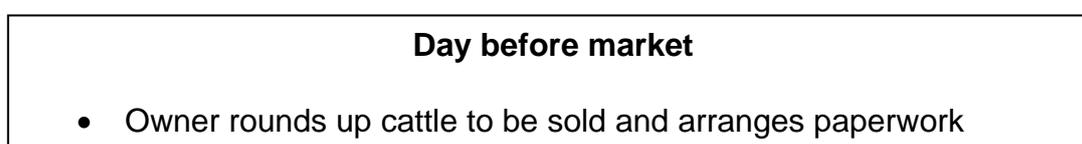
when purchasing an animal, as well as considering additional safeguards to protect their herds from undetected infected animals – such as separation and post-movement testing.

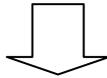
- 4.5 We recommend that TBEAG look into options for increasing the sensitivity of the pre-movement test to enable farmers to place more emphasis on the value of a negative test when purchasing an animal.
- 4.6 With all sales, buyers rarely receive the cattle passports until after a sale, so the onus is on the purchaser to ask informed questions prior to a sale.
- 4.7 The way to stimulate this demand and sharing of TB information is to ensure that all parties are aware of the benefits of risk-based trading and how to use the information that they are given to make an informed purchasing decision. But, so as not to appear to encourage the development of a 'two-tier' market-place, Particular consideration will need to be given to encourage those with a poorer TB history to realise the wider benefits of risk-based trading.

## Market sales

- 4.8 A significant percentage of all cattle sales take place at a market. Although many operational practices are common to the majority of markets, there are some variations which could be targeted for standardisation across the industry. Of particular interest to the Risk-Based Trading group is the fact that most cattle markets do not share TB information on cattle exposed for sale as farmers do not routinely request it. We recommend that TB information on cattle should be provided as a matter of course at all cattle sales (except for animals going straight to slaughter or to a licensed exempt unit). We recognise that cattle movements other than to sales (such as movements to heifer rearing units) could also carry a risk and the provision of TB information for such movements would enable that risk to be better assessed by the receiving unit. This should be clearly identified in the guidance that we recommend be developed. We have been focusing on how this can be delivered; such information would need to be backed up by a reliable system and be easily accessible to both market staff and to farmers.
- 4.9 There are a number of stages to the market sales process (outlined below) and we have considered where would be most appropriate for the collating and sharing of TB data.

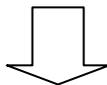
### Figure 2: Typical process at market





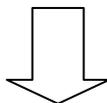
### **Day of market**

- Cattle delivered to market (may be no need for advance notice of animals for sale)
- Market booking-in forms completed with basic TB information
- Passports presented to market authorities



### **During market**

- Passports scanned in back office prior to sale
- Information displayed ringside (may include TB information)
- Cattle bought
- Purchaser takes ownership of cattle and passports



### **After market**

- Purchaser has up to 3 days to notify CTS of cattle movement (may be part of market service)
- Purchaser can track animal movement history on CTS

- 4.10 Timing is important; TB information on cattle is currently unavailable at some markets until after the sale. Such information needs to be available before purchase, but throughput and turnaround of cattle at markets is very swift. The Staff in the offices therefore need a practical system that is cost effective, easily accessed, timely, and robust in order to ensure the information can be accessed and shared quickly (for example, current individual animal information is gathered from electronic scanning of the barcode on the passport). This would give both the buyer and seller greater confidence that the information provided is accurate. Some information can be printed in sale catalogues, but farming practices mean that markets often do not know which animals will be brought to each market and therefore cannot print all information in advance. We recommend that TB information be supplied in advance of the sale for markets to be able to share it with purchasers.
- 4.11 We considered the introduction of a TB declaration form, which creates an individual animal score. However, we have some concerns about the provision of additional paperwork, both for the farmer who would have to accurately complete such pages, and for the markets, which may not be able to easily handle and process additional pages. Our preference, therefore, is for a scheme that fits easily within existing processes without adding to the burden on auction marts whilst providing sufficient information to be useful. In which case, we recommend that the first step in introducing Risk-Based Trading is to work with the auction marts to encourage them to amend their sales entry forms to include the following TB data:
- Date of pre-movement test (including where this was conducted as a routine whole herd test).
  - Date of last routine herd test
  - Length of time the herd has been OTF (Officially TB Free)
  - Risk rating (when available – this is discussed later – see paragraph 6.10)

This information should then be displayed ringside at the time of sale.

- 4.12 If a vendor does not provide the information listed above, the cattle should be displayed as “TB information not supplied”. This will indicate to purchasers that they should be asking for this information and encourage vendors to ensure that information is made available. We recognise that there may also be a need to capture the TB risk across the lifetime of the animal but this will not be possible with this interim phase that we propose. The list above should not be considered exhaustive - if it is agreed that other information is needed, the system should be adapted.

- 4.13 It is not necessary to include all cattle in a risk-based trading scheme. For example, those sold through a “red” market will be slaughtered soon after purchase and will have no need for TB information at the point of sale.
- 4.14 There is a precedent for the sharing of TB information at market sales. Some markets regularly display TB information for cattle that can be sold into Scotland. This is backed up by the statutory requirements in Scotland for a clear TB history of animals being brought into the country. This requires the tracing of an animal’s movement history through the Cattle Tracing System (CTS) and markets have had to employ additional staff to carry out this work.
- 4.15 When the practice of risk-based trading is up and running we believe it would be useful to move away from a system using a number of different risk identifiers (those categories listed at 4.11 above for inclusion on the sales entry form), towards a system based on an individual herd risk-rating that could be displayed at markets and easily compared by purchasers. The development of such a system is underway and could be introduced in the medium term. We have addressed this below (see section 5)
- 4.16 In Ireland, the markets utilise a database that interacts with the Government database and are able to download information about animals being sold. They do not use this for TB information, but it provides an example of what can be achieved through co-ordination of markets and government databases and investment. (see paragraph A.14 in Annex A)

### **Farm to farm sales**

- 4.17 Cattle are also sold privately on farms or through a buying agent and tend to be advertised in the farming or local press or through word of mouth. If purchasers are local to the cattle for sale they may have some knowledge of the farm’s TB history. If not then private sales offer the opportunity to request more information direct from the vendor on the cattle for sale, which should be encouraged.

### **Seasonal Movements, Bed and Breakfast Movements**

- 4.18 There are a number of cattle movements that take place that do not involve a change of ownership of animals. Seasonal grazing onto rented or common land and bed and breakfast arrangements are an integral part of the cattle industry. However, it is not always necessary to record all of these moves on the cattle passport. In order to help the industry and reduce the burden of movement reporting cattle keepers can apply for a ‘link’ between holdings where movements frequently occur providing the ownership does not change.

Where a link has been in place it will not be fully reflected in the animal's movement history and a potential purchaser will have no indication that such movements have taken place. Potential purchasers and farmers using bed and breakfast facilities and seasonal grazing should be aware of the disease risk and the biosecurity and testing arrangements that should be in place for such situations.

- 4.19 The more movements an animal makes, and the more herds it interacts with (particularly on common land or in bed and breakfast-type arrangements), the higher the risk of TB spread. We believe that such practices should be taken into account when assessing a herd's risk level, and therefore something for buyers to consider. It is not just the TB risk of the herd at the home farm, but also the farming practices including movements of the herd (or parts of the herd), that may expose the group to disease.

### **Databases**

- 4.20 The two key government databases related to the cattle industry in England are the Cattle Tracing System (CTS) and SAM (AHVLA's data system). CTS enables farmers to report births, deaths and movements and to check details of animals on their holding. It does not hold any TB testing data; this is held on SAM. Industry does not have direct access to SAM and, as currently configured, neither system provides risk-based trading information.
- 4.21 The links between the two systems are primarily one-way providing CTS data to SAM to merge with TB data creating a TB history for an animal and a herd. SAM holds the information that farmers need, but is not currently accessible, whereas CTS is accessible but does not hold all the relevant information. We have been advised that updating the CTS system is likely to be time consuming and costly as, unlike SAM, it is not a modular system. The processing power and software development that would be necessary to permit potentially 80,000 keepers to access individual keepers' TB records should not be underestimated. We are doubtful that CTS as currently configured could be upgraded to do this. Even if it were possible we are aware that there are legal issues in terms of data protection to be overcome. It could be easier and more practical to update SAM if such a change were needed. There are precedents in other countries (such as Ireland), where databases have been developed that interface with Government computer systems. We are advised however that this is still not a simple option and would require significant investment. We recommend that the establishment of such a database should be scoped.

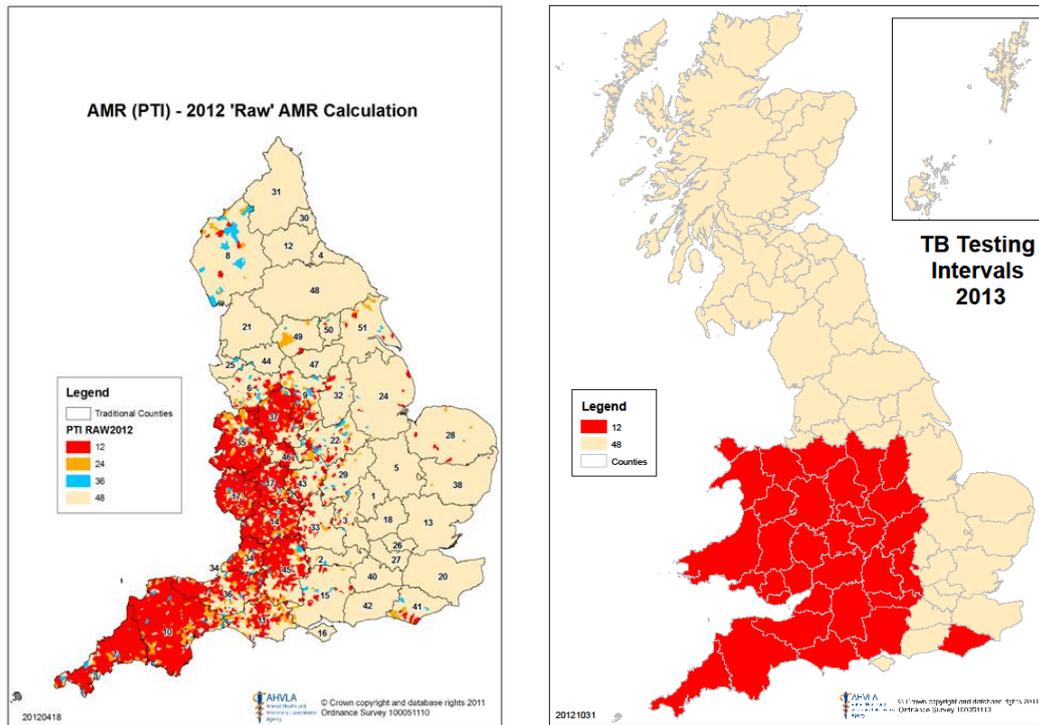
## 5. Risk

### Determining risk levels

- 5.1 The assessing and setting of risk factors is the starting point for any successful risk-based trading scheme. At an initial glance, it could be argued that the easiest proxy for risk could be the herd's TI (testing Interval), but we have decided against this approach.
- 5.2 In previous years, each herd's PTI (Parish Testing Interval) has been determined based on the parish's historical levels of TB incidence. This meant that the routine testing frequency (of one to four years) was linked to the geographical area; the higher the historical risk in an area the more frequently herds were tested. PTI only took account of historical disease incidence and although previous breakdowns are an indicator of future risk, they are only one of a number of risk factors. Relying on TI to determine risk is to rely on a very blunt tool that fails to recognise a difference in the risks posed by animals from a closed herd that had never experienced a breakdown, compared to one which had only just regained OTF status but continued to use risky farming practices. They could both be in TI1 areas, but their risk profiles are quite different.
- 5.3 Our decision not to use TI as the only proxy for TB risk is further supported by the changes to the surveillance testing regime that were introduced on 1 January 2013. These changes will result in a large area of the country being placed on annual testing (see figures 3 and 4 below). Whole herd testing frequency will be determined for disease prevention purposes rather than in response to historical incidence and the link between TI and herd risk will be much looser. This means that a herd in a TI1 area cannot automatically be considered a high risk herd. The ADAS research<sup>6</sup> indicated that if any TB information is currently shared between farmers at a sale, it is the testing interval for the vendor's farm. However, the new surveillance routine introduced in 2013 will make this a much less useful measure of risk. Risk-based trading should aim to provide a more complete picture of risk and encourage farmers to think more broadly about the risk factors for TB and how these should influence their purchasing decisions.

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<sup>6</sup> Page 10. Farmers' attitudes to a risk-based trading scheme for cattle in England. ADAS



**Figure 3: A representation of TB testing intervals based on actual, historical incidence at parish level up to 2011**

**Figure 4: Testing intervals introduced January 2013**

- 5.4 There are a number of factors that contribute to TB risk levels, and these vary across the country and across different types of farms<sup>7</sup>. An ongoing study has identified important risk factors, not all of which are under farmers' control.
- 5.5 There are ways that a farmer can determine, to some degree, the level of TB risk a herd poses through the use of proxy measures. For example, if an animal has been specifically pre-movement tested (i.e. not as part of a routine test) it is likely to have come from a high risk area (T11); this is a particularly useful indication of TB risk for animals that are bought from a low incidence area (T14). The presumption may be that the animal is low risk as it is being sold from a low risk area. However, if an animal has been pre-movement tested it can mean that the animal has recently been bought from a high risk herd and moved into a lower risk one for onwards sale. Requesting the date that an animal joined a herd can also give an indication of whether animal

<sup>7</sup> Study SE3283 TB Risk Based Trading.

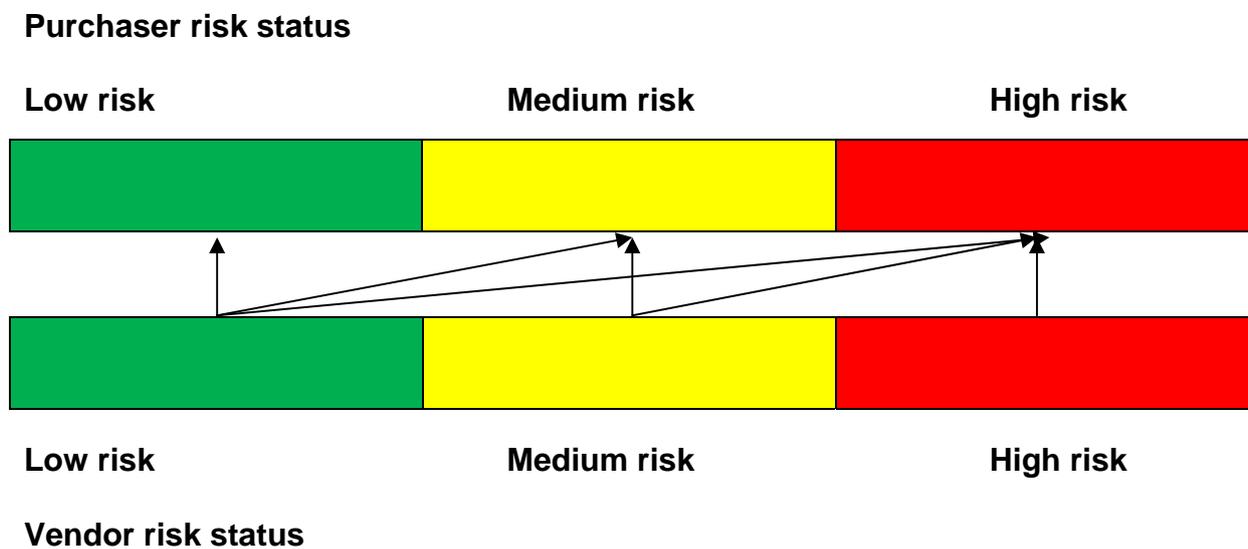
originated from a herd other than that it is being sold from. If this is the case, a purchaser may want to look further into an animal's background than the immediate herd it is being sold from in order to determine the true level of risk associated with that animal. Just because an animal is from a higher risk area, it doesn't mean that it is from a high risk herd; just because it is from a lower risk area it doesn't necessarily mean it is from a low risk herd.

- 5.6 Information on the number of tracing tests that a herd receives could indicate high risk trading practices as it could indicate that a herd has received a significant number of higher risk animals.
- 5.7 Measuring risk is not only about consideration of factors that increase risk; there are mitigating actions such as biosecurity, which farmers can take to reduce their overall risk. Capturing this information within assessment of TB risk has proven difficult due to the subjective nature of the assessment of the effectiveness of biosecurity and the lack of scientific quantification of the benefits of different biosecurity measures.

### **Farmers' approaches to disease risk**

- 5.8 Farmers have different approaches to risk depending on where their farms are located (and the risk posed by local wildlife), who they are trading with and what purpose they are buying cattle for. For example, a farmer purchasing breeding stock should be particularly concerned about the TB risk status of those animals as he will be keeping them on-farm for a significant period of time, increasing the risk of disease spread from undetected infected animals.

5.9 Figure 5 below illustrates a simple matrix for risk-based decisions for all potentially transmissible diseases. For the purposes of illustration, each herd has an indicative risk status of low, medium or high. When making a purchasing decision, a farmer should consider both his own risk status and that of the herd he is buying from. For example, a farmer with a high risk status in the diagram below may be willing to purchase cattle from any of the categories of vendor risk status, because his own herd already has a high background level of risk. However, a farmer with a low or medium risk status may prefer to purchase cattle from herds of a similar or lower risk level to their own in order to protect their lower risk herd. Purchasers should consider all appropriate risks and for all movements consider the management required post-purchase



**Figure 5: Risk-based trading decisions**

5.10 Some farmers already undertake their own form of risk analysis along the lines of the diagram above, when purchasing from a higher or lower risk area of the country. There are farmers in the North East, for example, who will not consider purchasing cattle from the South West for fear of importing disease into their herds. The problem with this approach is that not all farmers consider risk, and those who do have to do so on the basis of very limited information. The aims of a risk-based trading scheme should be to support those farmers who already want to make risk-based purchasing decisions and to encourage others to begin to do so. If sellers of cattle from annual testing areas can share information on the risk of their animals, then this can help to sustain a market for those animals, and provides an incentive for sellers to take measures to improve the disease status of their animals. Whatever their

approach to risk, farmers are unable to make a properly informed decision on purchasing unless they have all the relevant background information to hand.

- 5.11 The challenge lies in designing a trading system that provides sufficient information while remaining simple to administer and understand, is responsive to changing herd status, respects data confidentiality issues, and is practical for use at the point of sale; particularly in busy markets where farmers do not have the time to investigate the background of every animal in which they are interested, but rely upon information exhibited within the sale ring at the time the animal(s) is sold.
- 5.12 Understanding the TB risk that farmers are taking when purchasing cattle not only impacts on purchasing decisions. Knowing the risk that cattle coming into a herd may pose can also result in farmers making husbandry changes within their herds – through the use of separation or post-movement testing of new animals for example. Such measures can reduce the risk that new animals may present to a herd. It is important that the communication plan accompanying the introduction of risk-based trading measures emphasises the value of post-purchase behaviour in disease control.
- 5.13 This post-purchase behaviour is particularly important. A study of breakdowns in low risk areas (TI4)<sup>8</sup> from 2006 to 2011 indicated that up to 80% of the breakdowns were the result of cattle movement from higher risk farms and that the infected animals were on farm for some time before detection. Reducing the risk of disease translocation by separating new animals from the herd and post-movement testing (instead of waiting for the routine 4 yearly test), would identify infection earlier and enable farmers to tackle it before significant spread through their herds and possible spread into local wildlife.
- 5.14 We recommend that a key message to farmers should be that all animals moving from a high risk area to low risk area, that are not going to slaughter within 120 days or to licensed exempt units, should be post-movement tested and separated from the new herd wherever possible. Farmers in higher risk areas may also wish to consider similar measures to protect their herds from introduced infection. We decided to exclude animals destined for slaughter as animals that are housed or slaughtered in a short space of time are less likely to pose a disease risk.
- 5.15 A farmer cannot be expected to know all of the risks associated with an animal he is buying, or to be able to perform a calculation based on all of the

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<sup>8</sup> Unpublished data from AHVLA

factors (and weight appropriately), to come up with a reliable measure of TB risk that the animal may pose to his herd. A reliable, useful and sustainable risk-based trading system would take all of the risk factors into account and convey the risk level to farmers in an understandable way (perhaps through either a numerical or colour-based score). It is important that whatever output is provided to farmers, it is easy to understand and to use. Once risk-based trading is embedded, farmers should be able to make important purchasing decisions based on an understanding of what the rating means, why an animal or herd has been given a particular status, and how this compares to his own herd's TB risk level.

## 6. Discussion of Options

- 6.1 Our view is that the ideal solution to risk-based trading must be the development of a database that facilitates the electronic transfer of the information needed at the point of sale. We recommend that the practicalities of establishing a database and the funding options available be explored.
- 6.2 In the short-term, until a database is established, we have included some shorter term (Phase 1) measures that can be introduced more quickly and less expensively. We acknowledge that such a system is not perfect but it would be a good start and would provide the foundation awareness among farmers that would encourage them to take part in a risk-based trading scheme and perhaps provide evidence for the need for the development of a more sophisticated scheme in the future.
- 6.3 Some of the schemes that we looked at were regional, but for ease of introduction and for maximum impact, we recommend the introduction of a national risk-based trading scheme in England. In addition, we realise that disease does not recognise national boundaries and we therefore recommend that the devolved administrations be approached with a view to considering the introduction of risk-based trading beyond England. The CTS and SAM databases operate on a GB basis, so provision of data shouldn't be an obstacle to wider roll-out of a database that communicates with these systems. For the benefit of simplicity and ease of communication, we have steered away from designing different schemes for different parts of the market. However, we are aware of the level of existing controls on restricted sales and therefore we recommend that risk-based trading measures apply only to OTF (Officially TB Free) herds.
- 6.4 We are conscious that any voluntary scheme may lack support from owners of higher risk herds, especially if animals with a high risk declaration received a reduced value. However, we believe that within higher risk areas there will be particular benefits and opportunities for those herds that are able to provide their TB risk information. The onus must therefore be not only on vendors to declare their herd status, but also on purchasers to demand this information.

### Phase 1

- 6.5 We recommend that all sales should be supported by the introduction of buyers' and sellers' best practice guidelines. This should be an integral part

of herd health plans, within which there should be pre- and post- purchase plans for all infectious diseases including TB.

- 6.6 We considered whether the Food Chain Information (FCI) form, which is currently used at slaughterhouses, might be a useful platform for sharing TB information. However, although FCI declarations are always used for prime (slaughter) cattle they are not widely used when selling store and breeding cattle. We concluded that rather than trying to adapt an imperfect system, it is more effective to introduce a new measure from scratch.
- 6.7 Farmer demand for TB information is key to the success of any risk-based trading scheme. However, we are conscious that a shift in trading habits, such as envisaged by a risk-based trading system, cannot be left to develop on its own. Any scheme must determine both what information farmers are likely to ask for, and what information they should be given regardless of whether they think to ask for it – in particular some movement history of an animal to reflect its historical risk (this is already taking place for movements to Scotland). The use of buyers' best practice guidelines would provide a useful prompt and enable farmers to consider the level of risk they are willing to take and how to act accordingly to minimise that risk. We also recommend that sales entry forms for markets be adapted to include TB information. At a minimum, this should include:
- Date of pre-movement test (including where this was conducted as a routine whole herd test).
  - Date of last routine herd test
  - Length of time the herd has been OTF (Officially TB Free)
  - Risk rating (when available)

This information should then be displayed at ringside and printed on the buyers' sales records.

- 6.8 We are conscious of the practical difficulties of such an approach (such as the reliability and practicalities of data capture), but consider it to be a simple, low cost option that could be introduced quickly and begin raising the profile of the advantages of risk-based trading. The scheme can then be further developed as risk-based trading becomes embedded in purchasing behaviour and it will be possible to assess whether investment in more complex approaches (such as databases), would provide value for money.
- 6.9 The practicalities involved in the application of a scheme need to be considered. In particular, if we expect markets to share information with buyers, consideration needs to be given to the space available on the market

display boards and how much information can be exhibited, especially if multiple animals are sold in the same batch. The different systems at markets may need to be addressed, and markets may need to be encouraged to update their information systems so that farmers can expect a consistent approach at whichever market they attend.

- 6.10 We recommend the introduction of a system that generates an overall TB risk scoring for a herd. The risk rating can be generated in a number of ways (self-assessment, code related to number of years TB free or infected, centrally designated, e.g. by AHVLA), and it can be as simple or as complex as resources allow. There are risks around the reliability of self-declaration forms and around farmers identifying their own levels of risk. The ADAS research showed a clear reluctance of respondents to rely on self-declaration, both for reasons of reliability and because of the additional paperwork that they believed this would require. We are encouraged by the research being conducted at AHVLA which takes a range of risk factors into consideration before potentially generating an overall risk rating for all herds. We recommend that serious consideration be given to how the AHVLA research can be made accessible to farmers and integrated into risk-based trading practices. For those herds with high risk ratings, consideration should be given to how they can work to improve their score.
- 6.11 For other diseases an industry led system of national accreditation has been developed (see paragraph 21 in Annex A - CheCs) to bring standardisation and manage the risks of self declaration. We understand that the owners of this scheme are considering the development of a TB module. We recommend that further dialogue is had to establish whether this could form the basis of standardised TB risk and accreditation scheme that provides the benchmark for assigning a TB risk status to cattle herds throughout the UK.
- 6.12 We considered following the Welsh example by recommending the introduction of passport stickers. However, given the plans to phase out paper passports in the medium term and the difficulties of the timing of sharing information, we decided that there are other more effective options available.

## **Phase 2**

### **Electronic Database**

- 6.13 We believe that ultimately the introduction of a comprehensive, accessible, database should be the solution to facilitate the sharing of accurate information to support risk-based trading. In order to be truly useful to

industry, it should be developed with wider uses in mind than TB risk-based trading.

- 6.14 We recommend that an industry-led steering group be set up to investigate fully the opportunities and costs of establishing a database, either standalone or linked to CTS and AHVLA, which can be used to support a fully developed risk-based trading scheme. This database should be able to facilitate the provision of a range of TB risk factors such as movement history, testing history, background endemicity and biosecurity protection and including an overall risk rating at the herd level as generated by a supporting system.
- 6.15 The steering group will need to commission expert advice to scope out the work required and to provide evidence and the details needed for a business case and cost-benefit analysis.
- 6.16 There is currently a database for sheep and goats under development. Its architecture will facilitate future emerging industry requirements (not funded by Defra) and expansion to include other species. Defra anticipates the system being operational by April 2014. We recommend that it be investigated whether cattle could be added to the sheep and goat database, whether such an addition would be useful to a risk-based trading scheme, and what resources would be needed to carry this out.
- 6.17 We also understand that the Scottish Government is considering the introduction of a cattle database for BVD. We recommend that contact is made with the Scottish Government to identify whether any lessons can be shared.

## 7. Supporting measures

### Communication

- 7.1 A key theme that emerged from all of our research into existing schemes is that generating and maintaining the interest of vets, farmers, auctioneers and AHVLA staff is possibly the most challenging part of introducing a scheme; particularly one that is voluntary. We therefore recommend that the introduction of any scheme will need to be accompanied by a well thought out and comprehensive communication plan.
- 7.2 We see the introduction of a simple risk-based trading scheme as the first stage in communicating with farmers and educating them about risk management. The scheme can then develop to include more sophisticated approaches as risk-based trading becomes embedded in purchasing practices. For example, using simple self declaration of testing dates etc (see paragraph 6.7) in the first instance and moving onto the use of online risk assessment programmes to generate a more meaningful risk rating for herds, supported by a database containing significant information about the history of individual animals.
- 7.3 If farmers do not understand the value of such a scheme in the early stages, they are unlikely to maintain interest into the later more complex stages of a scheme and the viability of the whole project is undermined. Engagement and education is therefore vital in the introductory phase of any new scheme.
- 7.4 The following key areas need to be considered when designing the communication plan:
- Convincing farmers that risk-based trading is important and can have a real impact on disease spread.
  - Making buyers aware of the value of TB information and encouraging them to demand the relevant details prior to purchase.
  - Convincing markets to demand TB status information from sellers and passing this on to buyers, regardless of whether the buyers ask for it.
  - Highlighting the benefits to both buyers and sellers.
  - Maintaining interest of those farmers who might consider themselves disadvantaged by the scheme (e.g. high risk farmers, who may be concerned about their stock being devalued).
  - Convincing farmers to invest money in risk-based trading – either in the form of money to set up the scheme, or through paying vets to undertake risk assessments as may be needed to support any system.

- Myth-busting, particularly in high-risk areas, around the view that cattle movements are not an important risk factor when compared to wildlife risk.
- Providing useful guidance on how to respond to TB risk on-farm when introducing new animals into a herd.
- Continuous engagement with farmers, local vets, auctioneers and AHVLA staff, responding to their feedback, to keep up interest. It is important that interest is not allowed to flag following an initial launch.

7.5 Vets have a key role to play in advising their clients on the risks associated with buying cattle. This is one of the reasons why we recommend that communication of the importance of a risk-based trading scheme for all sales must be aimed at vets as well as at farmers. It is important that all parties involved in the trading of cattle understand the importance of risk-based trading and take advantage of the tools available.

7.6 Risk-based trading needs to be embedded as “business as usual” and all parts of the industry have a role to play in this. We strongly favour the voluntary approach to the introduction of risk-based trading, and believe that the Government and industry working in partnership is the way forward. However, it is clear from the schemes that we have looked at, that maintaining interest at a high enough level is incredibly challenging and we believe that if a voluntary approach is not successful, a mandatory approach must be considered to ensure the success of risk-based trading. We agree with TBEG and the farm regulation Task Force that risk-based trading is a key component of a successful plan to eradicate TB, and as such, whatever measures need to be introduced in order to ensure its success must be kept on the table.

### **Fraud prevention**

7.7 Any scheme that shares information, on which purchasing decisions are based, will need to have tight fraud prevention measures incorporated from the start. We are confident that existing AHVLA checks on pre-movement testing as well as the Business Protection from Misleading Marketing Regulations 2008 and the Fraud Act 2006 provide protection against false information being passed on. All information provided by a vendor is his sole responsibility; however, AHVLA inspectors and Trading Standards officers will need to be informed about the changes so that they are aware of new data being shared and are content to check this information as well the usual checks that they carry out.

## **Post-movement behaviour**

- 7.8 Risk-based trading is not only about enabling farmers to know the risk level of animals that they are introducing to their herd, but also ensuring that farmers know how to respond to that risk level appropriately and to encourage best practice. Guidance on separation and post-movement testing of herds already exists on the AHVLA website<sup>9</sup>, but it should be given greater prominence as part of the introduction of a risk-based trading scheme. Information leaflets should be made available at markets and vet practices and the relevant section of the AHVLA website should be publicised more widely.

## **Monitoring**

- 7.9 With the introduction of a voluntary risk-based trading scheme, monitoring won't be simple. However, it should be possible to obtain feedback from markets on the volume of declaration forms or risk ratings shared at sale. Auctioneers should also be able to indicate whether purchasers have begun to routinely ask for TB risk information and whether they have seen a change in purchasing patterns as a result of the sharing of such information.
- 7.10 Private sales will be more difficult to monitor, but we recommend that a short research project be commissioned after an introductory period (a year), to investigate whether farmers have engaged with the scheme and changed their behaviour accordingly. They should also be able to provide feedback on the effectiveness of the communication of risk-based trading and give guidance on how to maintain and grow farmer interest in the scheme.
- 7.11 The ultimate aim of a risk-based trading scheme is to make farmers more aware of the risks of trading and improve their ability to respond to those risks. We would hope that this would be a natural consequence of the sharing of risk information. However, risk based trading is only one of a broad range of tools at farmers' disposal for reducing the spread of TB and to accredit any particular disease reduction to a single tool would be virtually impossible. The best measure of the effectiveness of risk-based trading is demand for risk information at the point of sale and a change in farmer behaviour in response to that information.

## **Regulatory options if voluntary measures fail**

- 7.12 We believe that the voluntary approach is preferable to mandatory approaches, not only to ensure the goodwill of those taking part, but also to

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<sup>9</sup> <http://animalhealth.defra.gov.uk/managing-disease/biosecurity.html>

maintain flexibility of the scheme and to deliver better value for money. Mandatory approaches can be too rigid to allow a scheme to respond to feedback and evolve over time. It is our belief that the introduction of risk-based trading needs to be phased and responsive to the demands and needs of farmers. There is some legal backing to the scheme by the Misleading Marketing Regulations (as mentioned above), and we believe this is sufficient to begin with.

## 8. Delivery and Costs

- 8.1 The terms of reference for the group state that we are not responsible for delivery of a risk-based trading scheme. However, we felt it appropriate to make some observations around delivery based on our own experiences and on those that have been highlighted in the evidence we have collected during our deliberations.
- 8.2 Bovine TB is already a costly disease for both Government and industry. We understand that there are costs involved in the setting up of any new scheme. We believe that any new disease control set-up costs should be seen within the context of the longer term savings and reduced disease incidence. Risk-based trading should therefore be seen as an opportunity to invest to save.
- 8.3 One of the key strengths of our group has been the broad membership and its inclusion of representatives of different parts of the industry. We strongly believe that the introduction of a scheme that requires input and engagement from all those represented in the purchasing process will only be successful if it is driven by those parties. There is a role for Government in co-ordinating such efforts and bringing the interested parties to the table. There is also likely to be a need for seed funding and technical expertise that would be better found by a broad membership group than from a single party.
- 8.4 The costs of introduction of the short-term measures that we recommend will largely be borne by industry and by the markets in particular. The key initial costs will include developing and delivering a comprehensive communications programme which should be co-ordinated by Defra but supported by and delivered by stakeholder groups, ideally at the regional level. Efficiencies could also be found by incorporating risk-based trading messages into other communication plans (such as that for the bovine TB strategy for example).

## **9. Tracking Progress**

- 9.1 A first report should be produced showing progress at the end of 2013.
- 9.2 We recommend that a short research project be commissioned after an introductory period (a year), to investigate whether farmers have engaged with the scheme and changed their behaviour accordingly.

## 10. Summary of Recommendations

1. We recommend that TBEAG look into options for increasing the sensitivity of the pre-movement test to enable farmers to place more emphasis on the value of a negative test when purchasing an animal. (Paragraph 4.5)
2. We recommend that TB information on cattle should be provided as a matter of course at all cattle sales (except for animals going straight to slaughter or to a licensed exempt unit). (Paragraph 4.8)
3. We recommend that TB information be supplied in advance of the sale for markets to be able to share it with purchasers. (Paragraph 4.10)
4. We recommend that the first step in introducing Risk-Based Trading is to work with the auction marts to encourage them to amend their sales entry forms to include the following TB data:
  - Date of pre-movement test (including where this was conducted as a routine whole herd test).
  - Date of last routine herd test
  - Length of time the herd has been OTF (Officially TB Free)
  - Risk rating (when available)

(Paragraphs 4.11, 6.7)
5. We recommend that the establishment of a database should be scoped. (Paragraphs 4.21, 6.1, 6.14)
6. We recommend that a key message to farmers should be that all animals moving from a high risk area to low risk area, that are not going to slaughter within 120 days or to licensed exempt units, should be post-movement tested and separated from the new herd wherever possible. (Paragraph 5.14)
7. We recommend the introduction of a national risk-based trading scheme in England. (Paragraph 6.3)
8. We recommend that the devolved administrations be approached with a view to considering the introduction of risk-based trading beyond England. (Paragraph 6.3)
9. We recommend that risk-based trading measures apply only to OTF (Officially TB Free) herds. (Paragraph 6.3)

10. We recommend that all sales should be supported by the introduction of buyers' and sellers' best practice guidelines. (Paragraph 6.5)
11. We recommend the introduction of a system that generates an overall TB risk scoring for a herd. (Paragraph 6.10)
12. We recommend that it be investigated whether cattle could be added to the sheep and goat database, whether such an addition would be useful to a risk-based trading scheme, and what resources would be needed to carry this out. (Paragraph 6.16)
13. We also understand that the Scottish Government is considering the introduction of a cattle database for BVD. We recommend that contact is made with the Scottish Government to identify whether any lessons can be shared. (Paragraph 6.17)
14. We recommend that the introduction of any scheme will need to be accompanied by a well thought out and comprehensive communication plan. (Paragraph 7.1)
15. We recommend that a short research project be commissioned after an introductory period (a year), to investigate whether farmers have engaged with the scheme and changed their behaviour accordingly. (Paragraphs 7.10, 9.2)

## **Annex A: Summary of existing disease risk-based trading schemes**

- A.1 Most risk-based trading schemes currently in use are simple – based on the TB status of the herd over time; and/or geographical factors (including disease prevalence and presence of a wildlife reservoir).

### **National Schemes**

#### **Australia**

- A.2 Australia used a mixture of geographical and herd risk measures during their eradication program. Herds were classified on the basis of their health status (i.e. whether disease had been detected) and, if they were clear, for the length of time that they had been clear. “Confirmed free” was the highest disease status possible with three different classifications reflecting the length of time and testing that has taken place (up to 8 years after the last reactor). Where no testing data was available, herds could be classified as negative through monitoring (for example no evidence detected at the slaughterhouse). Infected herds could only sell to a herd of equal or lower TB status. Disease-free herds enjoyed premium prices and also had access to additional markets.
- A.3 Areas of similar disease prevalence were set up and administered as separate units. In the early stages of the bovine TB eradication campaign the movements of cattle from herds that had achieved one test with no evidence of TB were permitted to areas of similar status. Implementing this type of system required a considerable change to the traditional and established trading patterns in place at the time. It was not a voluntary scheme, but the mandatory basis of the scheme ensured the Australian eradication strategy effectively stopped disease spread from the high incidence areas to the low incidence areas and had a significant motivating effect on the high incidence area keepers who understood the value of controlling the disease and achieving the OTF (Officially TB free) status.

#### **New Zealand**

- A.4 The New Zealand system also uses a combination of area and herd-based measures. There are three basic herd classifications – infected, clear and suspended. Suspended status occurs when a disease is suspected but not yet confirmed; animals have been imported from an infected herd and have yet to pass a whole herd test; or have overdue tests (similar to our TB2 restrictions or OTF suspended status). The classification for clear herds ranges from 1-10 depending on the number of years that the status has been

in place. For premises to move from infected to clear, two negative herd tests must have been completed at least six months apart.

- A.5 Movement from infected herds requires both skin and blood testing, permits to move, and the application of white movement tags. Animals then have to be post-movement tested and the status of the importing herd moves to suspended.
- A.6 The use of these classifications is voluntary and there is no ban on trade between different risk categories, although, when purchasing animals from a lower rated herd the receiving herd's status is downgraded to the status of the lowest rated animal being introduced. It is therefore in farmers' own interests to purchase from herds of equal or higher status. Additionally, when importing from herds below C2 (clear for 2 years) status farmers are advised to further check the health status of the animals they are buying.
- A.7 Animal Status Declaration Forms are required for each movement (irrespective of the status of the herd). This form provides a declaration of the health status of the herd including whether the herd of origin has imported any animals from a lower status herd in the last three years.
- A.8 Different classification areas were set up to reflect risk posed by a wildlife reservoir. Movement control areas (highest risk areas) are on annual testing and require pre-movement testing for movements out of herds; special testing areas adjacent to these areas have frequent testing but do not require pre-movement testing; and surveillance areas have reduced testing (three-yearly) to reflect the lower levels of risk in these areas.

## **Wales**

- A.9 The Welsh Government has piloted a scheme whereby farmers were given stickers to put on their cattle passports to indicate the date of the animal's last clear TB test. Following an 18 month pilot it was recently rolled out across the country. The set-up costs were extremely low at around £2k for the purchase of the stickers; the main expense was in communicating with vets and farmers to generate and maintain interest.
- A.10 Initial take-up was relatively encouraging but use of the passport sticker subsequently dropped. This drop in demand could be due to the introduction of compulsory pre-movement testing for all cattle in Wales meaning that the need for a sticker indicating the latest test result is reduced. Also, the value of the last clear test date for an individual animal is of very limited risk significance, both with regard to the individual animal and the herd of origin, particularly in the high incidence areas.

- A.11 Timing is also an issue under the Welsh scheme. Using the passports to share information meant that the purchaser is often unaware of the information until after a sale has taken place and they are in receipt of the passport. This can help with post-purchase behaviour such as biosecurity and separation but is too late to usefully influence a purchasing decision. This highlights the need to ensure that the information provided to purchasers is truly useful and further emphasises the need for ongoing engagement. There is no evidence that the introduction of passport stickers has had an impact on cattle prices, even on those animals from higher risk areas.
- A.12 In addition to the passport sticker, the Welsh government has introduced a biosecurity measuring tool for use in the parts of Wales where badger vaccination is taking place. The government has provided funding for vets to visit farms and undertake a biosecurity assessment in partnership with the farmer. A score is generated (using a spreadsheet that has been developed for the purpose), following which an action plan is agreed. A return visit takes place at a later date and the score reassessed. A single score does not carry much weight on its own; it is a tool for assessing progress when compared to the score at the second visit.
- A.13 The weighting tool (spreadsheet) was developed by a working group involving vets, and scientists and used RVC epidemiology work and the “freedom from infection” model to generate the overall score. The system could theoretically be developed to use different weightings in different risk areas. This has been a costly project, as the government has funded one-to-one visits from vets,

## **Ireland**

- A.14 In Ireland, there is not a trading system that assesses a herd’s risk level in the same way as the New Zealand or Australian models. However, market trading is supported by a livestock market database (AIM) which links auctioneers’ back office systems to Government databases to deliver timely and accurate information about livestock entered at a market and intended for sale. In addition to this, the Irish Cattle Breeders Federation has developed a database for the industry which holds information on genetics, milk yields etc and has an interface with the Government’s databases.
- A.15 Approximately 1.7M animals move through Irish markets per year. The AIM database was funded by and is owned by the Department of Agriculture, Food and the Marine (DAFM). All movements and change of ownership are recorded but the information is not “police-forced” for DAFM. Testing data is entered into the system by vets who have 7 days to update the system after testing. The information displayed at markets includes the date of the last

clear TB test, but no further TB information. All herds are under annual testing in Ireland and those under TB herd restrictions are not allowed to sell animals in the markets.

- A.16 Farm to farm movements are also registered on AIM, with farmers generating a certificate for movement and for change in ownership. The system is not currently being used to full capacity; it could, for example, trace the TB history of an individual animal but isn't currently used that way. With updated technology at markets displaying more information, and by maximising the features of the AIM database, Ireland would be able to introduce a risk-based trading scheme if there was demand for it.
- A.17 The Irish Cattle Breeders' Federation (ICBF) is an organisation that was set up to work for the long term benefit and profitability of the national herd. They have done this mainly through the setting up of a large database that enables them to share information and increase efficiency and profitability of the cattle sector.
- A.18 It was important for the success of both databases, that the projects were industry-driven. However, public funding was vital for investment in such long-term projects. A significant source of the set-up costs for these databases was Rural Development Funding, but industry also contributed and in the case of the ICBF database, all users pay an annual subscription fee to cover administration costs.

## **Scotland**

- A.19 In Scotland different rules and regulations apply to animal sales with the aim of minimising TB risk and to preserve its Officially TB Free (OTF) status. Movements of all cattle over 42 days of age from high TB incidence areas in England (and Wales) to Scotland (or for moves from high incidence areas in England and Wales to Scotland via a market) require a pre-movement test unless they are going direct to slaughter. All cattle not going direct to slaughter require a post-movement test between 60 and 120 days after introduction. There is also requirement for bovine animals of 42 days of age or more, from low TB incidence areas of England (3 and 4 yearly tested parishes) to be skin tested before movement to Scotland unless they have spent their whole lives in low incidence areas or they are being sent direct to slaughter in Scotland.
- A.20 If cattle are being sold through a market, to enable movement to Scotland, the seller must be able to provide evidence that the necessary testing has been completed with negative results, or that testing was not required. Where cattle are moved from low incidence areas to Scotland for further fattening

they need to have had a TB test with negative results in the low incidence area prior to movement, unless they are exempt. The burden of providing this evidence has largely fallen to the markets, some of which have had to take on extra staff to manage the additional workload.

## **Domestic Health Schemes**

### **Cattle Health Certification Standards (CHeCs)**

- A.21 CHeCs is an independent industry body set up to establish standards to which other bodies providing cattle health schemes must adhere if they wish their health scheme to have a nationally accredited status. Currently there are more than ten CHeCs accredited cattle health schemes in operation throughout the UK and the Republic of Ireland. The schemes provide biosecurity guidance and disease specific guidance and protocols for diseases including BVD (Bovine viral diarrhoea), Johne's disease and leptospirosis. There is not a current bovine TB scheme, but it is under consideration.
- A.22 The CHeCs disease accreditation programme provides grades of accreditation which enables herds to maintain or move towards clear tests. This system can be used to classify the level of risk for particular diseases associated with buying cattle from these herds. In addition, CHeCs has also developed disease reduction programmes for some diseases with the objective of reducing the detrimental effects on herd productivity caused by the disease and to reduce disease prevalence over time.
- A.23 CHeCs is an industry owned and funded organisation that draws on expert input to develop universal standards for disease control.

### **LASER**

- A.24 We looked at the LASER (Livestock Assurance South East region) scheme that operates in the South East of England as an example of a regional risk-based trading scheme. We found the approach to signing up farmers particularly interesting – a large scale communication plan was aimed at local vets who signed up their clients who were subsequently asked whether they wanted to “opt-out”. The use of a web-based portal means that vets and farmers can access health plan details easily. Like any system, it relies heavily on the timely inputting of accurate data.

### **My Healthy Herd**

- A.25 My Healthy Herd is a web-based computer package that is used by farmers and their vets to assess disease risk and to help them manage this risk. It is

currently active for diseases such as Johnes, and the owners are considering developing a TB module. The system considers biosecurity (the risk of disease entry into a herd) and biocontainment (the risk of disease spread within a herd). All risk factors are entered into a program that uses a mathematical algorithm to weight the factors, and identify the overall risk level and direction of improvement/worsening of risk, displayed as a RAG status arrow. One of the benefits of this is that the algorithm can be adjusted as knowledge develops and risk factors can be reweighted according to most recent expertise. Farmers can then make an informed decision on the level of risk that they can accommodate and make purchasing decisions based on this. The program is not aimed at eliminating risk, but in giving farmers the information that they need in order to manage risk effectively.

- A.26 The outputs of a system such as My Healthy Herd are herd/farm level risk ratings, not individual animals' risk ratings. We believe that herd information needs to be paired with the historical movements of an animal to give an overall assessment of its risk level.

## **Annex B: Group membership**

**Chair: Professor Bill Reilly** - President of the British Veterinary Association in 2009-10. Member of the England Advisory Group on Responsibility and Cost Sharing and is currently the Chair of the Veterinary Products Committee.

**Neil Blake** - Veterinary practitioner and Chair of British Cattle Veterinary Association Government liaison group.

**Clive Davies** - Livestock breeder working on a West midland tenanted farm

**Chris Dodds** - Executive Secretary for the Livestock Auctioneers Association

**Terry Gadd** – RPA, Head of Livestock Policy

**Peter Gray** - AHVLA regional veterinary Lead for the NE

**Mike Gregson** – Trading Standards Service Management Team, Oxfordshire County Council.

**Rob Harrison** - Chair of NFU SW regional dairy board, vice chair of the National NFU dairy board and member of the Gloucestershire TB strategy group

**Malla Hovi** BVS, PhD MRCVS - Head of Veterinary advice to the Defra TB Programme

**Alistair Mackintosh** – beef, sheep and arable farmer, on the West Coast of Cumbria

**Ken Proctor** - NFU county chairman for Norfolk, dairy board chairman for the NFU Eastern region.

**Stuart Roberts** – Animal Health and Welfare Board for England

**John Royle** - Chief Farm Policy Adviser and the NFU's lead on bovine TB policy

**Robert Whitelock** – Robert Whitelock, Fellow of the Livestock Auctioneers, Primestock Manager, Hexham & Northern Marts

## **Annex C: Evidence**

We are grateful to the following people for providing evidence to the group at its meetings.

Patrick Kitson - Welsh Government

Matt Dobbs - Westpoint vets and TBEAG member

Dick Sibley, Peter Orpin - My Healthy Herd

Amie Adkin, Sara Downs and Adam Brouwer - AHVLA

Terry Gadd, John Bell, Lynne Newman - RPA

Kate McHugh - AHVLA

Gareth Enticott - Cardiff University

Ray Doyle - Irish Cooperative Organisation Society

Brian Wickham - ConsultWickham

Stephen Edge, Harriet Fuller, Diane Simpson - ADAS

Defra TB programme, livestock movements team and social researchers

## Annex D: Terms of reference

### Objectives

The role of the group will be to make recommendations on options which could be implemented within a relatively short timescale (approximately one year), in order to improve the information that farmers get about the TB risk of cattle they are buying or receiving. The aim of a risk based trading scheme would be to empower farmers to make better informed cattle trading decisions, and take greater responsibility for managing the TB risk of their herd, as part of wider industry and government efforts to help stop the spread of TB.

The group will present a report of its recommendations to Ministers at the end of this year and should present findings to AHWBE and TBEAG by December 2012. The group will make recommendations on risk based trading options to include:

- Which information should be available to farmers buying and receiving cattle, and how risk is categorised and presented.
- How risk information should be communicated (in which format, by whom, and when).
- The role of different parties in setting up and running a scheme to communicate this information, including
  - farmers
  - industry bodies or groups
  - vets
  - agents
  - other groups
  - government
- How best to involve industry in implementing and running a scheme, and how to optimise participation and promote industry ownership of the scheme.

In developing options, the group should have regard to the principles that TBEG recommended that a risk-based trading system in England should be based on. These are:

- Farmers have accurate and useful information about their herd's TB status.
- Buyers ask for information and there is full disclosure by the seller and at markets.
- The system and provision of information is on a voluntary basis (initially at least), but the provision of false information would be illegal (fraudulent).
- Farmers (seller and buyer) take responsibility for the TB risk in their herd which includes having accurate and up to date information.

- The system needs to be simple to operate and easy to understand

The group may also make recommendations and assessments of potential schemes which could be implemented over a longer timescale. These options might include mandatory schemes or schemes which offer incentives or penalties based on trading behaviour.

In order to achieve these objectives, it is expected that the group will

- Engage with a range of stakeholders.
- Consider a range of evidence, including experience in industry, stakeholder views, legal advice, and scientific and research findings.
- Consider the practicality and costs of different schemes and methods of sharing information.
- Consider what risk information farmers will understand, use and find helpful.
- Work with the wider cattle industry to get buy-in.
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### **Membership**

The members of the group will serve in a personal capacity and will not represent any organisation with which they may be associated.

### **Timing**

The group will be established from July 2012 until January 2013.

### **Classification**

The group should be classified an ad-hoc advisory group (category E1), according to Cabinet Office guidelines on *Categories of Public Bodies: A Guide for Departments*

Key characteristics of such groups are that:

- These bodies are set up quickly to provide independent, expert advice to Government on a specific issue.
- These bodies have a lifespan of less than 2 years.
- They have a remit that is focussed on a single issue.
- Individuals will be appointed in a personal capacity because of their specific skills and experience