

Economic Assessment

1. The policy issue and rationale for Government intervention

Bovine TB is a serious infectious and zoonotic disease of cattle. TB related controls cost government in the region of £100 million a year and are increasing. TB costs to farmers in England are estimated to be in the region of £75 million a year. In 2013, almost 6.3 million cattle were tested for TB resulting in 3,900 new herd TB incidents, 5,200 herds under restriction and the slaughter of 26,600 animals.

The spread of disease between herds and into wildlife is an externality where the actions of one farmer with disease can lead to negative spill-overs and costs to other farmers as well as to the tax payer. Requiring cattle keepers to test their animals prior to moves, and preventing those moves where disease is found, reduces this externality.

Under Defra's TB pre-movement testing (PrMT) policy cattle moved from higher TB risk herds must be tested with negative results before being moved. There are a small number of exempted movements one of which – movements between separate agricultural holdings under the same ownership (Sole Occupancy Authorities or 'SOAs') – represents a disease risk. Potentially infected animals could spread disease over long distances in the annually tested area of England, which potentially increases the TB risks for other cattle farmers, including the estimated 40% of herds that have not had a TB breakdown in the last 10 years.

SOAs were created in 2003 and allow livestock keepers to link different premises, which fall under their sole management and control. There is no distance limit set for holdings within the same SOA. In the past, once the SOA was approved, livestock movements between the premises no longer incurred standstills (standing restrictions on the movements of livestock introduced in the aftermath of the 2001 outbreak of foot and mouth disease). Whenever cattle, sheep, goats or pigs are moved onto a farm, no cattle, sheep or goats may move off for a period of six days. Establishing SOAs therefore reduced burdens associated with movement standstills.

Although the PrMT exemption has been removed for movements between different parts of SOAs spanning the Low-Risk Area (LRA) and annual testing area, farmers can still move untested cattle over long distances in the annually tested area. This potentially increases the TB risks for other cattle farmers, including those who are Officially TB Free (OTF) in the annual testing area.

The Government has also committed to making a change to the exemption as part of our EU-approved TB Eradication Plan, which attracts co-financing of £12m annually for England towards Government-related TB compensation and testing costs.

2. Policy objectives and intended effects

Defra has committed to introduce measures - including pre-movement testing - to tackle TB in cattle. This includes removing pre-movement exemptions for intra-SOA moves, which based on veterinary advice, increases disease risks.

Tightening up the pre-movement testing policy will, we believe, benefit cattle farmers and the taxpayer by helping to stop further spread of the disease. This is the case particularly *within* herds by increasing the prospects for earliest detection of TB and reducing the costs to taxpayers of compensation.

Intended effects are to find disease earlier via pre-movement testing and prevent onward spread. This will avoid future disease control costs to both farm businesses (testing costs, economic losses of infected cattle that are slaughtered and movement restrictions) and taxpayers (testing costs, compensation payments, administration).

3. Policy options considered, including alternatives to regulation

Option 1 – Remove the pre-movement testing exemption for cattle moved within SOAs. But Animal Health and Veterinary Laboratories Agency (AHVLA) would be able to licence movements without pre-movement tests where all premises included in the SOA are within 10 miles of the main farm.. This is the preferred option.

Option 2 – Remove the pre-movement testing exemption for cattle moved within SOAs with pre-movement testing required for all movements from the High Risk and Edge Areas, regardless of the distance.

Previous experience with a non-mandatory approach to pre-movement testing suggests that farmers are unlikely to do so voluntarily. Before 2006 owners of cattle herds in the high TB risk areas were urged to pre-movement test their stock – but farmers very rarely did so.

4. Expected level of business impact

Benefits

The policy is expected to deliver direct benefits to those farmers that will carry out pre-movement testing and indirect benefits to farmers local to where cattle are moved to. These benefits are the avoided costs of TB spreading where testing reveals disease.

Direct benefits accrue from preventing the spread of TB within the herd. Where disease is found through pre-movement testing this will prevent onward spread to other cattle which would have led to greater losses when disease was found. Each cattle slaughtered to control TB is estimated to cost farmers £900 on average and a further £1,200 to taxpayers in compensation payments.

Indirect benefits accrue from avoiding TB breakdowns in new herds if disease is able to spread into local areas. Where pre-movement testing finds disease and prevents this spread, savings to farmers would be significant as each new TB breakdown is estimated to cost farmers £12,000, on average, in economic losses, movement restrictions, isolation costs and testing costs. Each new breakdown is estimated to cost taxpayers £22,000, on average, in compensation payments, veterinary fees and administration.

Costs

The costs to business include the testing costs for SOAs pre-movement testing animals; these include lost productivity via handling and presenting animals and the vet fee paid for the test.

Option 1 – Removal of pre-movement testing exemption for cattle moved with SOAs that are solely within the annually tested area of England. Moves within 10 miles to be licensed without pre-movement testing.

Costs to business

In order to establish the costs to business, the following needs to be estimated: 1. number of affected businesses; 2. number of animals moved and tested per business; and, 3. testing costs per animal.

1. Number of businesses affected

In 2012/13, there were an estimated 8,500 SOAs with cattle in total in the annually tested areas of England¹. It is estimated that 550 of these SOAs had premises more than 10 miles apart².

¹ Data from Defra's Rapid Analysis and Detection of Animal-Related Risks (RADAR) database Nov 12 – Oct 13.

2. Number of animals moved and tested per business

There is uncertainty over the number of animals moved per business as we believe there is an under-reporting of movements within a SOA. We estimate the number of moves within the SOAs in question based upon recorded intra-SOA moves for 2012/13 as a guide for the potential moves each SOA may make in a year. Data set 1 includes all recorded intra-SOA moves for England and Wales, whilst data set 2 excludes those SOAs that moved greater than 100 animals in a single move, as these are likely short-distance moves that would not be affected by the proposal.

Table 1 – SOA movements, cattle numbers and batch data 2012/13.

	England and Wales recorded intra-SOA moves 1	England and Wales recorded intra-SOA moves 2
Number of SOAs	302	290
Number of movements	663	651
Number of cattle	13,290	9,051
Average animals per batch	20	14
Average animals per SOA	44	31

We determine the numbers moved and tested per affected business by applying these average moves per business to the SOAs affected by this proposal. This results in between 17,200 and 24,200 intra-SOA animal moves per year for 550 SOAs more than 10 miles apart.

Moves within 60 days of a clear test will not require a further pre-movement test. Given herds in the annually tested area are on annual surveillance testing, a proportion will likely be covered by these³. Therefore, we estimate the total number of animals requiring a pre-movement test could be approx 14,300 - 20,200 per year.

3. Testing costs per animal

Costs of pre-movement testing include vet fees, farmer cost in terms of time for gathering and presenting animals and any impact on productivity⁴. These are estimated on a per cattle basis using estimates in the PrMT Review (2010)⁵. Note that movements within 10 miles shall be made under a general licence from AHVLA, rather than farmers being required to acquire individual licences for each move. Therefore, we do not envisage any licensing costs.

Costs will vary depending upon the number of animals tested (numbers moved in a batch) as economies of scale create lower costs per animal for the largest batches.

The estimated batch size is taken from the data on all recorded intra-SOA moves for England and Wales in 2012/13 (table 1). Estimated batch size is therefore 14 – 20.

Costs per animal range between approx £9 and £12 (see PrMT Review 2010, table 14). Costs for all cattle tested range £125k - £242k (tables 2 & 3). The central estimate for annual gross costs to business is approx £183k, cost per business is £0.3k.

² The 10-mile distance referred to in this RTA is the distance between the main holding and any of the links

³ This is calculated assuming that movements are allowed up to 60 days after a clear test. 60 days is 16% of a year thus this many animals could have been routinely tested within the last 60 days.

⁴ The farmer cost is inflated by 30% to account for non-wage costs and adjusted to 2014 prices.

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

Table 2 – Pre-movement testing exemption for >10 mile SOAs costs.

Cost summary	SOAs > 10 miles		
Yearly	Low	Central ⁶	High
Cost per business	£0.2k	£0.3k	£0.4k
Cost to all businesses	£125k	£183k	£242k

Note that there may also be some familiarisation costs to businesses, however these are assumed to be negligible. This is due to herd owners having had much experience of TB testing. Their herds are tested annually and their stock must be pre-movement tested if moved/sold to a new farm.

Table 3 – Pre-movement testing exemption for >10 mile SOAs assumptions & costs.

SOA data	SOAs >10 miles subset 1		SOAs >10 miles subset 2	
Number of SOAs	550		550	
Sample number of recorded intra-SOA animal moves	13290		9051	
Sample number of premises recording intra-SOA moves	302		290	
Sample number of movements	663		651	
Average number of movements per business	44		31	31
Average numbers per batch	20	14	20	14
Total number of assumed intra-SOA moves (# SOAs x average number of movements per business)	24204		17166	17166
Proportion of cattle not covered by recent routine test	84%		84%	
Total number of animals pre-movement tested	20225		14344	
	Low	High	Low	High
Assumed batch size per move	20	14	20	14
Vet fee per business move	£5.43	£8.69	£5.43	£8.69
Labour/productivity cost per animal (PrMT Review, 2010, 2014 prices)	£3.27		£3.27	
Total cost to all businesses	£176,000	£242,000	£125,000	£172,000
Total cost per business	£320	£440	£227	£312

⁶ Note that this is the middle (median) estimate between our low and high scenarios.

Option 2 – Removal of pre-movement testing exemption for cattle moved within SOAs that are solely within the annually tested areas of England. Require all cattle to be tested before being moved, regardless of the distance.

To estimate the costs if all SOAs in the HRA and Edge area had the exemption removed, the method would be the same but with a greater number of businesses (8500). Total costs to business range between £1.93m and £3.74m. The central estimate of total costs to business would be approx. £2.83m, cost per business £0.3k (see tables 4 & 5).

Table 4 - Pre-movement testing exemption for all SOAs costs.

Cost summary table	SOAs		
	Low	Central	High
Yearly			
Cost per business	£0.2k	£0.3k	£0.4k
Cost to all businesses	£1.93m	£2.83m	£3.74m

Table 5 - Pre-movement testing exemption for all SOAs assumptions & costs

SOA data	All SOAs subset 1		All SOAs subset 2	
Number of SOAs	8500		8500	
Sample number of recorded intra-SOA animal moves	13290		9051	
Sample number of premises recording intra-SOA moves	302		290	
Sample number of movements	663		651	
Average number of movements per business	44		31	
Average numbers per batch	20	14	20	14
Total number of assumed intra-SOA moves (# SOAs x average number of movements per business)	374056		265288	
Proportion of cattle not covered by recent routine test	84%		84%	
Total number of animals pre-movement tested	312568		221679	
	Low	High	Low	High
Assumed batch size per move	20	14	20	14
Vet fee per business move	£5.43	£8.69	£5.43	£8.69
Labour/productivity cost per animal (PrMT Review, 2010, 2014 prices)	£3.27		£3.27	
Total cost to all businesses	£2,719,000	£3,738,000	£1,929,000	£2,651,000
Total cost per business	£320	£440	£227	£312