

## Regional Six-monthly Report of Descriptive Bovine TB Epidemiology for the Low Risk (Four Yearly Testing) Areas of England

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### Regional Office:

North East of England – comprising the counties of Northumberland (31), County Durham (12), Cleveland (4) and Tyne & Wear (30).

### Year-end report for 2018:

Report from 1 January until 31 December 2018.

### 1. Cattle Industry in the Region

This area is highly diverse, from the urban centres at the coast, with arable production on lower ground, to extensive hill ground in the western bounds. There are around 2400 registered cattle herds in the North East region, the vast majority being in Northumberland and County Durham. Most are beef production, mainly suckler breeding herds, with around 400 being fattening enterprises. There are only around 120 dairy herds in the region.

Local movement of breeding / fattening animals is important, but there are also large numbers of fattening animals bought in from the West of England / Wales. A relatively small number of breeding cattle are brought in from Scotland, Northern Ireland and the Republic of Ireland. Similarly, some fattening cattle come from Northern Ireland in particular.

Outward trade in cattle of all classes to Scotland is important, particularly slaughter and fattening animals. These move relatively freely due to the whole region being on background four-yearly TB testing.

There are no Approved Finishing Units operating in the Region. There are seven Licensed Finishing Units (LFU) in the region for indoor fattening of cattle from OTF premises under biosecure conditions. We have had enquiries from other farmers in the region to set up other similar units, which we are currently assessing. However, to date no more applications have been received.

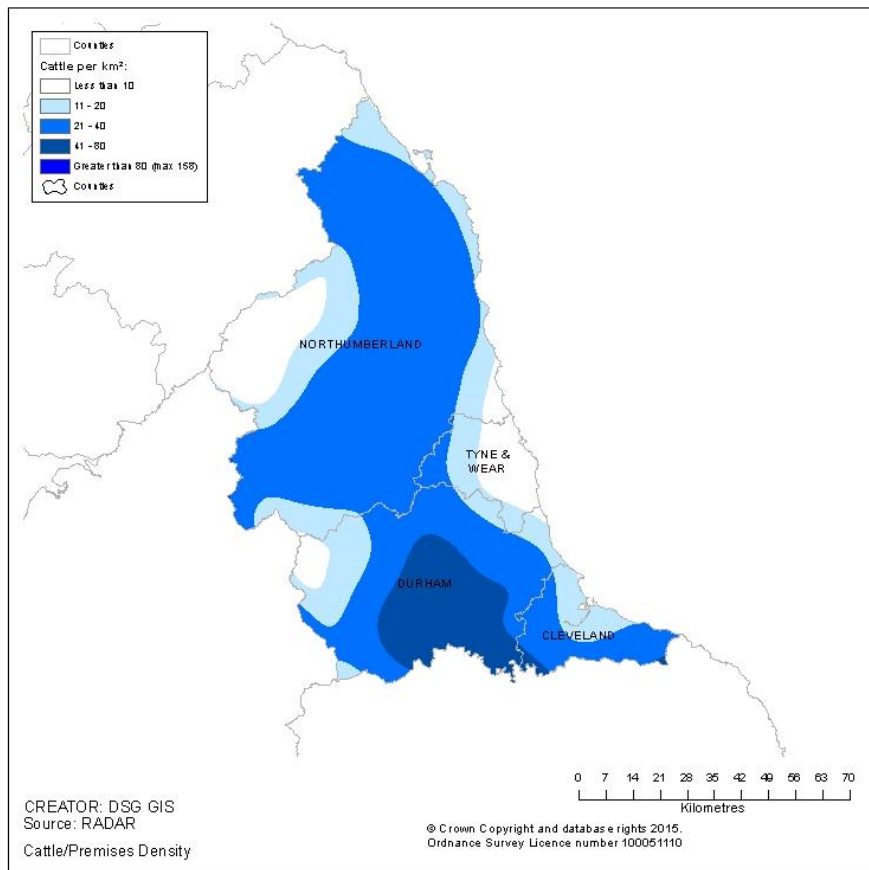
Number of cattle premises by size band in the division at 31 December of the reporting year.

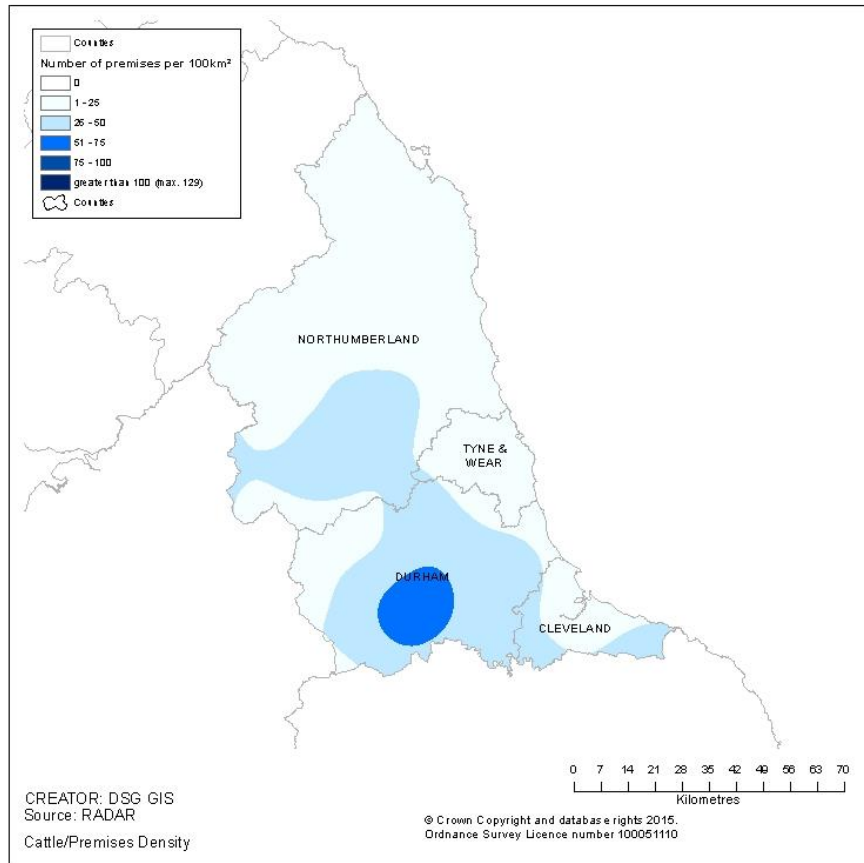
Cattle per premises	0	1 - 50	51 - 100	101 - 200	201 - 350	351 - 500	501+	All	Mean	Median
Cleveland (04)	1	68	20	30	11	4	6	140	117	52
Durham (12)	11	440	176	156	70	22	20	895	96	49
Tyne and Wear (30)	1	40	9	13	3	3	0	69	73	30
Northumberland (31)	12	329	182	215	134	55	33	960	144	87

Cattle breed purpose - numbers and percentages at 31 December of the reporting year.

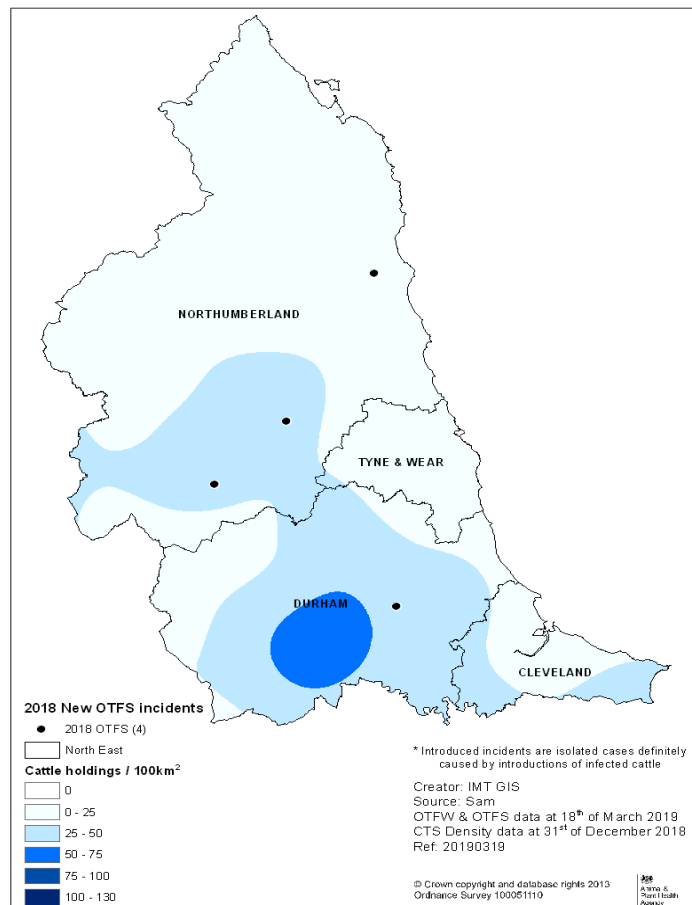
	<b>Beef</b>	<b>Dairy</b>	<b>Dual purpose</b>	<b>Unknown</b>	<b>Total</b>
Cleveland (04)	12.115 ( 74.1% )	4.059 ( 24.8% )	164 ( 1.0% )	1 ( 0.0% )	16.339
Durham (12)	71.934 ( 84.1% )	11.645 ( 13.6% )	1923 ( 2.2% )	8 ( 0.0% )	85.510
Tyne and Wear (30)	4.588 ( 91.1% )	167 ( 3.3% )	278 ( 5.5% )	2 ( 0.0% )	5.035
Northumberland (31)	125.185 ( 90.5% )	11.340 ( 8.2% )	1859 ( 1.3% )	4 ( 0.0% )	138.388

Density of cattle and cattle premises at 31 December of the reporting year.





## 2. Geographical Distribution of Bovine TB Breakdowns in the Region



### 3. Summary of the Regional Headline Cattle TB Statistics

In the North East region there were only four epidemiologically unrelated new TB incidents in 2018, all of them NVL and culture-negative TB reactor herds (i.e. officially TB free status suspended OTFS).

The four herds with outstanding cases from 2017 had their OTF status restored.

Section 8 has been updated.

<b>Herd-level statistics</b>	<b>Cleveland (04)</b>	<b>Durham (12)</b>	<b>Tyne and Wear (30)</b>	<b>Northumberland (31)</b>
(a) <i>Total number of cattle herds live on Sam at the end of the reporting period</i>	159	1045	81	1158
(b) <i>Total number of cattle herds subject to annual TB testing at the end of the reporting period (any reason)</i>	3	104	2	13
(c)				
(d) <i>Total number of herd tests carried out in the period</i>	35	154	15	187
(e) <i>Total number of OTF cattle herds TB tested during the period for any reason</i>	30	78	14	156
(f) <i>Total number of OTF cattle herds at the end of the report period (i.e. herds not under any type of TB2 restrictions)</i>	158	1033	78	1153
(g) <i>Total number of cattle herds that were not under restrictions due to an ongoing TB breakdown at the end of the report period.</i>	159	1038	81	1157
(h) <i>Total number of new TB breakdowns detected in cattle herds during the report period</i>	0	1	0	3
• <i>OTF status suspended (OTFS)</i>	0	1	0	3
• <i>OTF status withdrawn (OTFW)</i>	0	0	0	0
(i) <i>Of the new OTFW herd breakdowns, how many:</i>				
• <i>occurred in a holding affected by another OTFW breakdown in the previous three years?</i>	0	0	0	0
• <i>could be considered secondary to a primary breakdown based on current evidence?</i>	0	0	0	0
• <i>were triggered by skin test reactors or 2xIRs at routine herd tests?</i>	0	0	0	0
• <i>were triggered by skin test reactors or 2xIRs at other TB test types (forward and back-tracings, contiguous, check tests, post-movement, etc.)?</i>	0	0	0	0
• <i>were first detected through routine slaughterhouse TB surveillance?</i>	0	0	0	0
(j) <i>Number of new breakdowns revealed by enhanced TB surveillance (radial testing) conducted around those OTFW herds</i>	0	0	0	0
• <i>OTFS</i>	0	0	0	0
• <i>OTFW</i>	0	0	0	0
(k) <i>Number of OTFW herds still open at the end of the period (including any ongoing OTFW breakdowns that began in a previous reporting period)</i>	0	0	0	0

(l) New confirmed (positive <i>Mycobacterium bovis</i> culture) incidents in non-bovine species detected during the report period (indicate host species involved)	0	0	0	0
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<b>Animal-level statistics (cattle)</b>				
(a) Total number of cattle tested in the period (animal tests)	2782	7892	513	13772
(b) Reactors detected:	0	0	0	2
• tuberculin skin test	0	0	0	2
• additional IFN-gamma blood test reactors (skin-test negative or IR animals)	0	0	0	0
(c) Reactors per breakdown	0	0	0	1
(d) Reactors per 1000 animal tests	0	0	0	0.15
(e) Additional animals identified for slaughter for TB control reasons (DCs, including any first-time IRs)	0	0	0	0
(f) SLH cases (tuberculous carcasses) reported by FSA	0	0	0	2
(g) SLH cases confirmed by culture of <i>M. bovis</i>	0	0	0	0

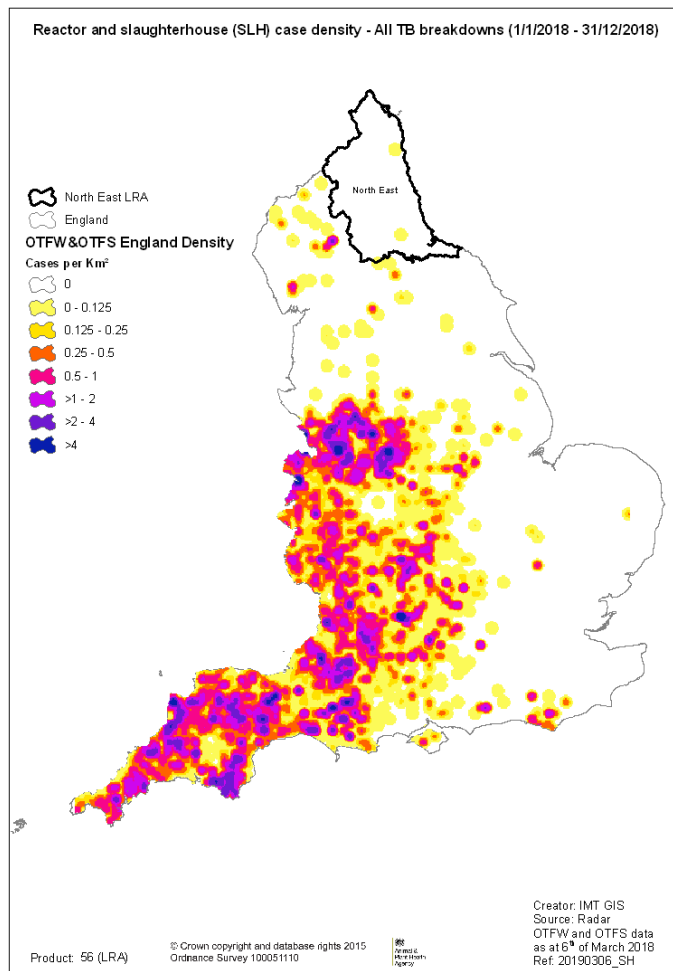
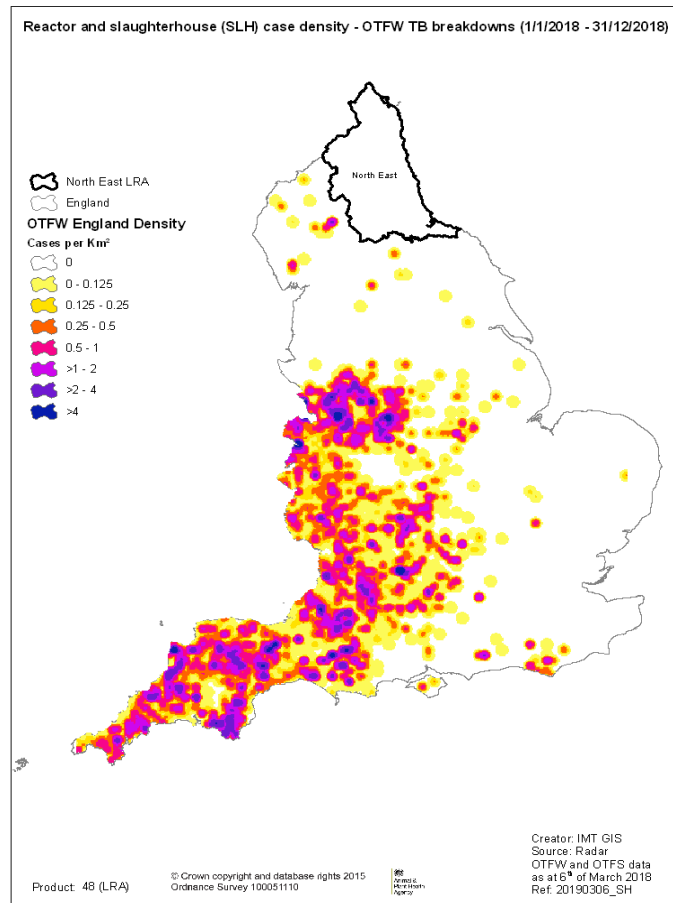
### 2017 (for comparison purposes)

<b>Herd-level statistics</b>	<b>Cleveland (04)</b>	<b>Durham (12)</b>	<b>Tyne and Wear (30)</b>	<b>Northumberland (31)</b>
(m) Total number of cattle herds live on Sam at the end of the reporting period	162	1048	81	1148
(n) Total number of cattle herds subject to annual TB testing at the end of the reporting period (any reason)	3	104	2	16
(o) Total number of herd tests carried out in the period	46	404	29	350
(p) Total number of OTF cattle herds TB tested during the period for any reason	37	228	24	271
(q) Total number of OTF cattle herds at the end of the report period (i.e. herds not under any type of TB2 restrictions)	159	1031	77	1135
(r) Total number of cattle herds that were not under restrictions due to an ongoing TB breakdown at the end of the report period.	159	1033	80	1139
(s) Total number of new TB breakdowns detected in cattle herds during the report period	1	3	0	2
• OTF status suspended (OTFS)	1	1	0	2
• OTF status withdrawn (OTFW)	0	2	0	0
(t) Of the new OTFW herd breakdowns, how many:				
• occurred in a holding affected by another OTFW breakdown in the previous three years?	0	0	0	0
• could be considered secondary to a primary breakdown based on current evidence?	0	0	0	0

<ul style="list-style-type: none"> <li>were triggered by skin test reactors or 2xIRs at routine herd tests?</li> </ul>	0	1	0	0
<ul style="list-style-type: none"> <li>were triggered by skin test reactors or 2xIRs at other TB test types (forward and back-tracings, contiguous, check tests, post-movement, etc.)?</li> </ul>	0	0	0	0
<ul style="list-style-type: none"> <li>were first detected through routine slaughterhouse TB surveillance?</li> </ul>	0	1	0	0
(u) Number of new breakdowns revealed by enhanced TB surveillance (radial testing) conducted around those OTFW herds	0	1	0	0
<ul style="list-style-type: none"> <li>OTFS</li> </ul>	0	1	0	0
<ul style="list-style-type: none"> <li>OTFW</li> </ul>	0	0	0	0
(v) <i>Number of OTFW herds still open at the end of the period (including any ongoing OTFW breakdowns that began in a previous reporting period)</i>	0	0	0	0
(w) New confirmed (positive <i>Mycobacterium bovis</i> culture) incidents in non-bovine species detected during the report period (indicate host species involved)	0	0	0	0

<b>Animal-level statistics (cattle)</b>				
(h) <i>Total number of cattle tested in the period (animal tests)</i>	2180	23532	897	20966
(i) <i>Reactors detected:</i>	2	25	0	3
<ul style="list-style-type: none"> <li><i>tuberculin skin test</i></li> </ul>	2	11	0	3
<ul style="list-style-type: none"> <li><i>additional IFN-gamma blood test reactors (skin-test negative or IR animals)</i></li> </ul>	0	14	0	0
(j) <i>Reactors per breakdown</i>	2	8	0	2
(k) <i>Reactors per 1000 animal tests</i>	1	1	0	0
(l) <i>Additional animals identified for slaughter for TB control reasons (DCs, including any first-time IRs)</i>	0	0	0	0
(m) <i>SLH cases (tuberculous carcasses) reported by FSA</i>	0	5	0	2
(n) <i>SLH cases confirmed by culture of M. bovis</i>	0	1	0	0

# Density of TB reactors and slaughterhouse cases in TB breakdowns per km<sup>2</sup>



#### 4. Suspected Sources of *M. bovis* Infection for all the New OTFW Breakdowns Identified in the Report Period

Most likely origin	Provisional	Final
Introduction (e.g. purchase) of infected animal(s)	0	0
Local - lateral spread from neighbouring holdings:	0	0
<ul style="list-style-type: none"> <li>exposure to infected wildlife e.g. badgers</li> </ul>	0	0
<ul style="list-style-type: none"> <li>other farmed species</li> </ul>	0	0
<ul style="list-style-type: none"> <li>recrudescence of residual infection from a previous TB breakdown</li> </ul>	0	0
<ul style="list-style-type: none"> <li>infected human source</li> </ul>	0	0
Undetermined/obscure	0	0
Other (explain)	0	0

		Probability of isolated, sporadic ('one-off') breakdown, without secondary local spread from the index case		
		Likely (no secondary breakdowns detected)	Possible (no secondary breakdowns detected, but dataset incomplete)	Not likely (secondary spread from the index case, or exposure to a common wildlife source has occurred)
Probability of introduced <i>M. bovis</i> infection introduced via cattle movements	Definite	0	0	0
	Likely	0	0	0
	Possible	0	0	0
	Not likely (indigenous infection in the locality)	0	0	0

#### 5. Overview of the bTB Control Programme in the Region

- All four counties in this region are on background four-yearly TB testing. Not all cattle herds are routinely tested, however, as some (e.g. beef fattening units) are exempt provided animals are from the Low Risk Area and do not therefore need any Post Movement Testing.
- A small number of herds – e.g. dealers, Irish importing herds, heifer rearers – are tested every year. The majority have been under annual testing for a long time and this has identified no particular problems.
- No suspected cases of non-specific or fraudulent skin test reactors.
- No breakdowns involving producer-retailers of unpasteurised milk, unpasteurised cheese makers or open farms have been detected.



- No significant risks or issues concerning the delivery of bTB control policies in the region. As long as the high prevalence of disease in the HRA remains, however, there will continue to be a low risk of sporadic cases caused by the movement of cattle with undisclosed infection that evade detection by pre-movement testing. The introduction of statutory post-movement testing in April 2016 will help mitigate the potential consequences of such events.
- The second meeting of the TB Eradication Group for the Northumberland and Durham area took place in October 2018. Further meetings will be organised as the perceived need indicates, which will be driven by local issues and national policy development.

## **6. Wildlife**

No known involvement of wildlife reservoirs of infection in the region. No convincing pattern of endemic bovine infection in local areas has been detected.

## **7. Other Susceptible Species**

No confirmed cases of *M. bovis* infection were detected in other species.

# Summary map of RAD testing surveillance zones in the North East of England



Creator: IMT GIS  
 Source: Sam  
 OTFW data as at 18<sup>th</sup> of March 2019  
 Ref: 20190318\_NorthEast  
 Product No: 42a

Date: 18/03/2019

0 5 10 15 20 25 Kilometers

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 Ordnance Survey 100051110



## Glossary

- bTB – (bovine) Tuberculosis (infection of cattle with *M. bovis*)
- Edge Area (EA) – the annual TB testing area of England situated between the High and Low Risk Areas
- Epidemiology – the science that studies the patterns, causes, and effects of health and disease conditions in defined populations
- Genotype – the genetic makeup of a cell, an organism, or an individual usually with reference to a specific characteristic under consideration
- High Risk Area (HRA) – the annual testing area of England comprising the South West, West Midlands and part of East Sussex, in which *M. bovis* infection is endemic in cattle herds and in badgers
- IFN- $\gamma$  – interferon-gamma test. A supplementary in vitro blood test for TB used by APHA in conjunction with the tuberculin skin test in some situations, usually to improve the overall diagnostic sensitivity in infected herds with OTF status withdrawn
- Low Risk Area (LRA) – the four-yearly TB testing area of the North and East of England in which *M. bovis* infection occurs only sporadically in cattle and is not considered endemic in wildlife. Although the default testing interval for routine TB surveillance is four years, some higher risk herds in the LRA are subjected to annual testing. There is also more intensive surveillance testing (radial testing) around any herds in the LRA (and parts of the Edge Area) that have their officially TB free status withdrawn due to a TB breakdown
- OTF – Officially Tuberculosis Free status. Herds that are not subjected to TB movement restrictions of any type are classified as OTF
- OTF-S – Officially Tuberculosis Free Suspended status. In England, an OTFS breakdown is a herd in which all the reactors removed had no visible lesions (NVL) on post-mortem examination and had negative culture results for *M. bovis*
- OTF-W – Officially Tuberculosis Free Withdrawn status. In England, an OTFW breakdown is a herd in which at least one test reactor with visible lesions (VL) and/or an animal with *M. bovis*-positive culture result have been disclosed
- Persistent herd breakdown – a herd that has been under TB movement restrictions for 18 months or longer due to infection with *M. bovis*
- Potential 'Hotspots' – a temporary area of enhanced TB cattle and wildlife surveillance that may be declared around some OTFW TB breakdowns of uncertain origin detected in a Region of historically low TB incidence
- SIT – short-interval test. A tuberculin skin test of all bovines in a TB breakdown herd, carried out 60 days after the removal of the last test reactor (or laboratory confirmation of a TB slaughterhouse case) in order to restore the OTF herd status. In the majority of cases, two successive SITs with negative results are necessary. The results can be read using standard or severe interpretation of the skin test. Calves under 42 days old are usually exempted.
- VRA – Veterinary Risk Assessment.

APHA is an Executive Agency of the Department for Environment, Food and Rural Affairs and also works on behalf of the Scottish Government, Welsh Government and Food Standards Agency to safeguard animal and plant health for the benefit of people, the environment and the economy.