Animal &
Plant Health
Agency

Regional six-monthly report of descriptive bovine TB epidemiology for the Low Risk (4 yearly testing) Areas of England

North east of England - Northumberland, County Durham, Cleveland and Tyne and Wear.

2019 Mid-year (first six months)

Contents

1. Geographical distribution of Bovine TB breakdowns in the region

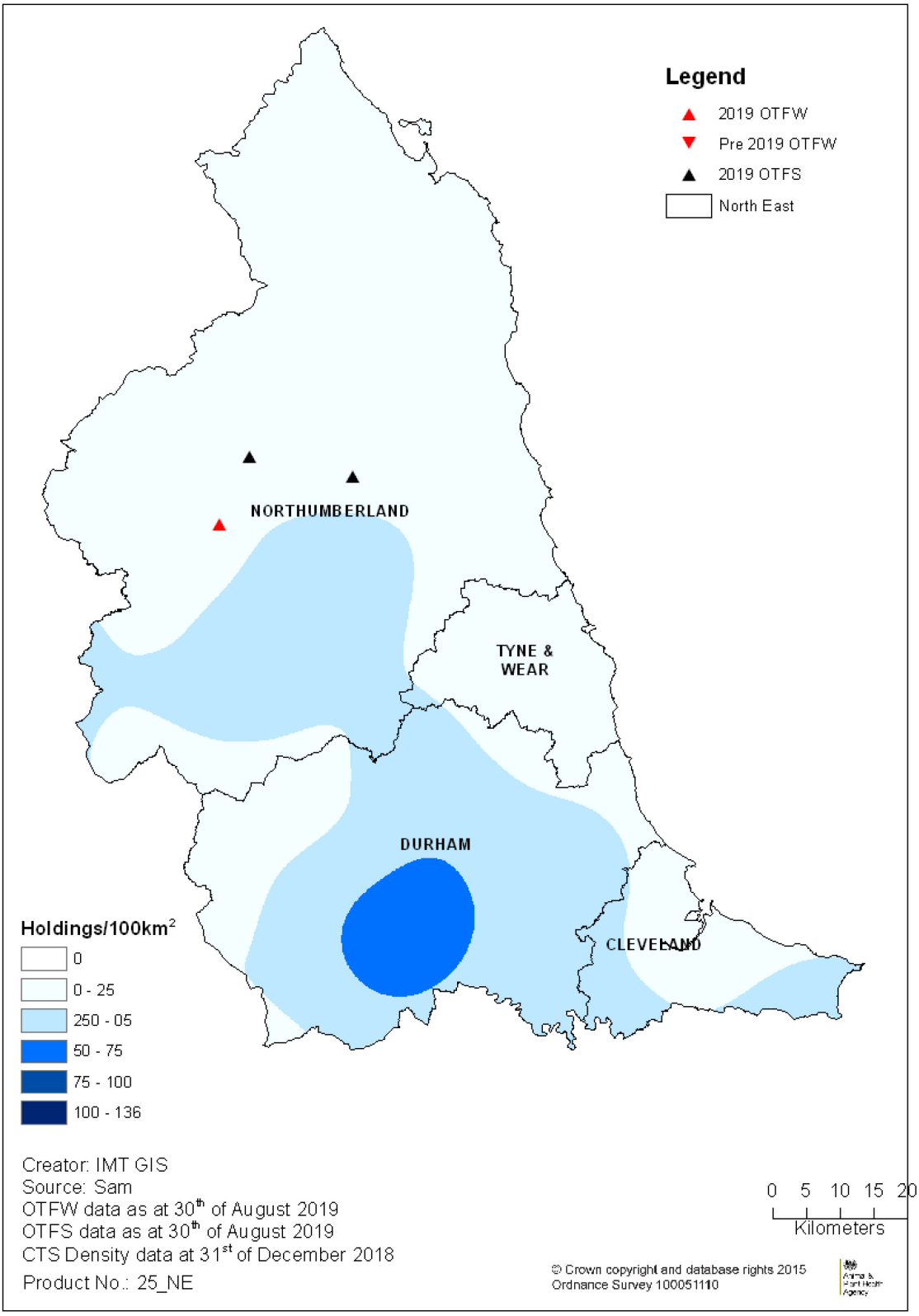
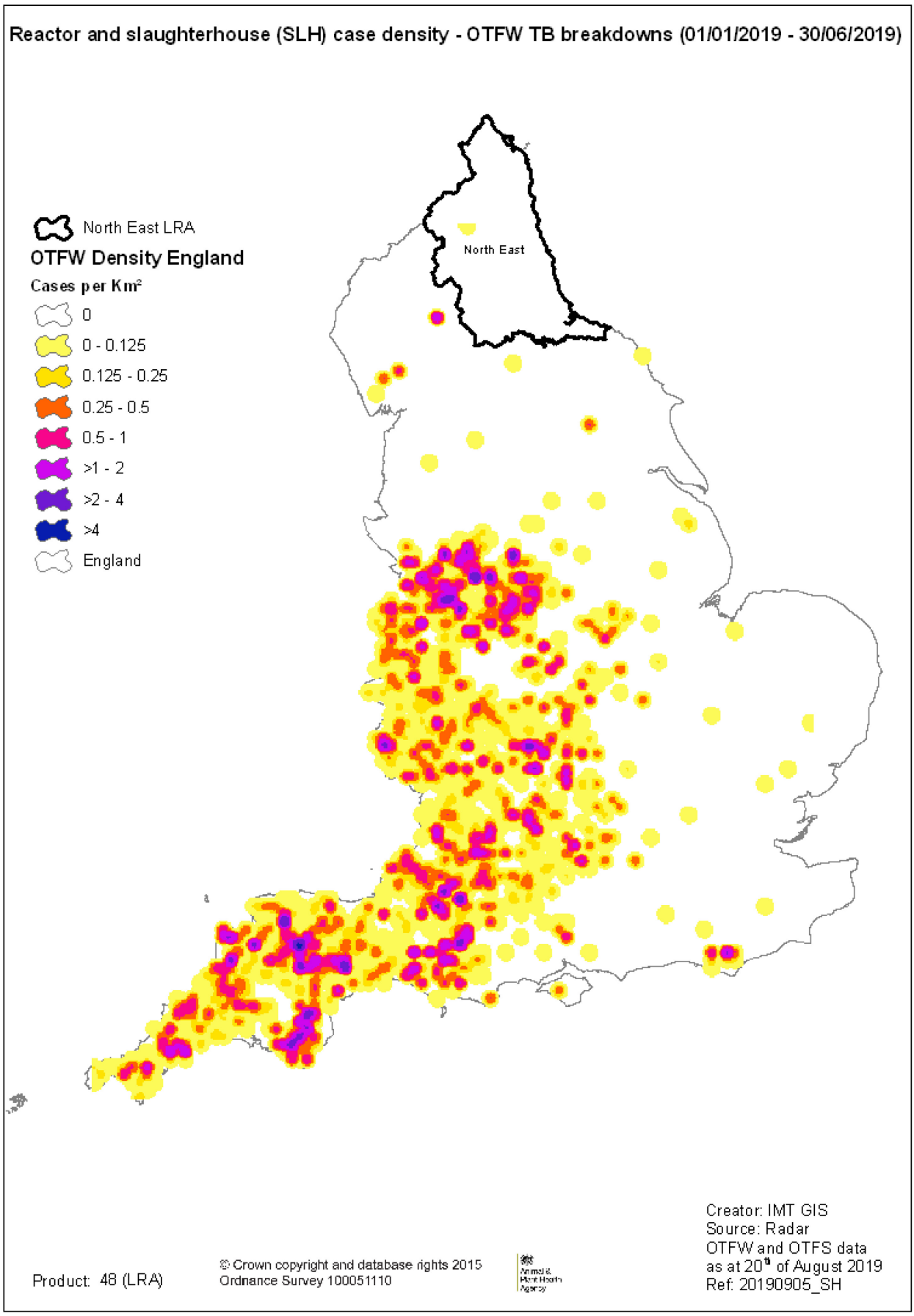
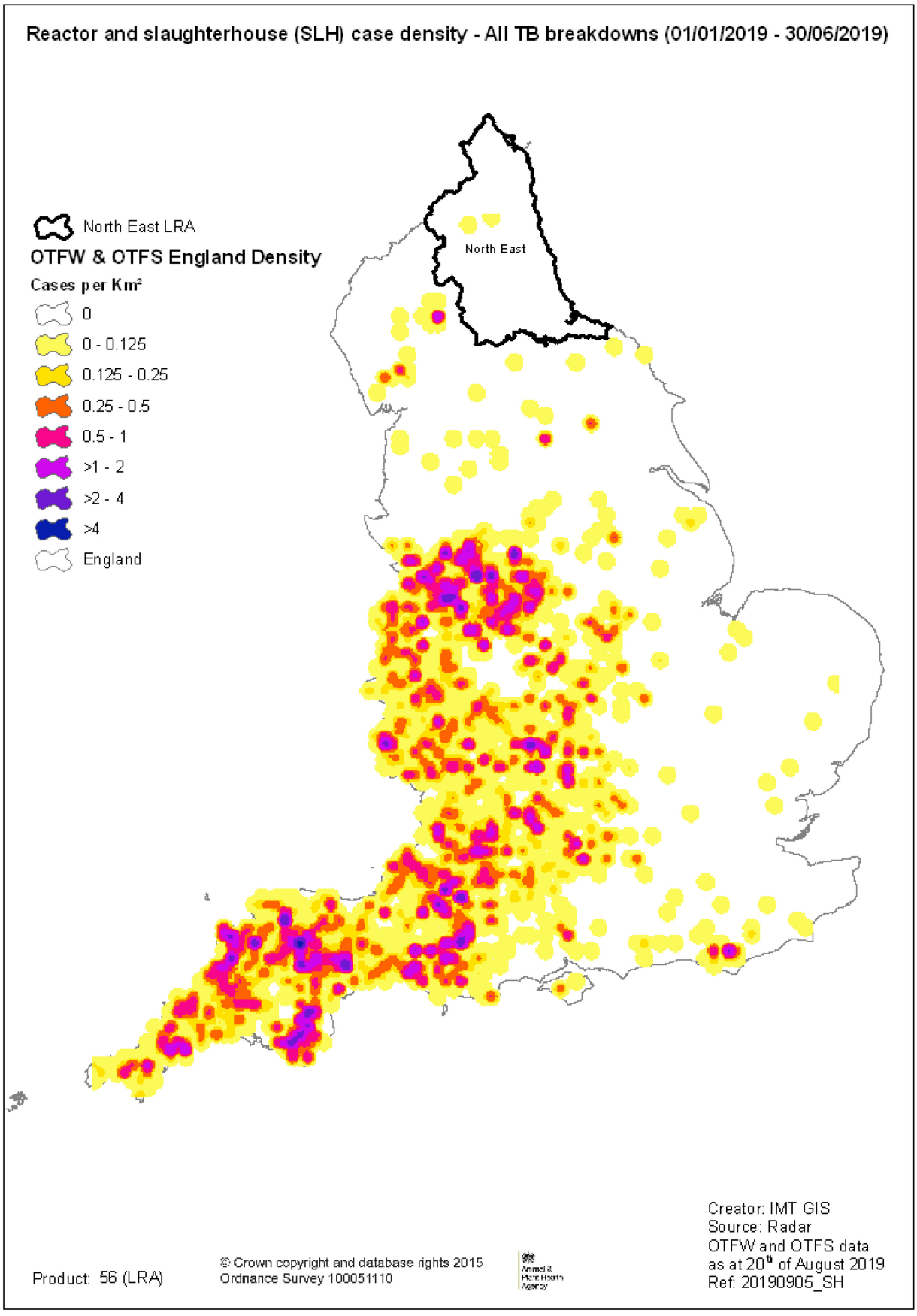


Figure 1: Geographical distribution of all new TB breakdowns (OTFW and OTFS) in 2019 and pre 2019 OTFW breakdowns still ongoing at the end of the report period overlaid on a cattle holding density map.



Figures 2: Display the density of skin test, IFN-gamma test reactors and slaughterhouse cases per km² in OTFW TB incidents in the first six-months of 2019



Figures 3: Display the density of skin test, IFN-gamma test reactors and slaughterhouse cases per km² in all TB incidents in the first six-months of 2019

2. Summary of the regional headline cattle TB statistics

In the North East region there are currenly two OTFS cases and only one OTFW case, all three of them starting this year in Northumberland.

Herd-level statistics	Cleveland	Durham	Tyne&Wear	Northumberland
(a) Total number of cattle herds live on Sam at the end of the reporting period	162	1041	81	1132
(b) Total number of cattle herds subject to annual TB testing at the end of the reporting period (any reason)	3	14	3	74
(c) Total number of herd tests carried out in the period	20	242	6	208
(d) Total number of OTF cattle herds TB tested during the period for any reason	18	156	5	175
(e) Total number of OTF cattle herds at the end of the report period (i.e. herds not under any type of TB2 restrictions)	162	1032	78	1123
(f) Total number of cattle herds that were not under restrictions due to an ongoing TB breakdown at the end of the report period.	162	1033	81	1128
(g) Total number of new TB breakdowns detected in cattle herds during the report period:	0	0	0	3
• OTFS	0	0	0	2
• OTFW	0	0	0	1
(h) 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
• were triggered by skin test reactors or 2x Inconclusive Reactors (IRs) at routine herd tests?	0	0	0	1
• were triggered by skin test reactors or 2xIRs at other TB test types (forward and back-tracings, contiguous, check tests, post-movement, etc.)?	0	0	0	0
• were first detected through routine slaughterhouse TB surveillance?	0	0	0	0
(i) Number of new breakdowns revealed by enhanced TB surveillance (radial testing) conducted around those OTFW herds:				
• OTFS	0	0	0	0

• OTFW	0	0	0	0
(j) Number of OTFW herds still open at the end of the period (including any ongoing OTFW breakdowns that began in a previous reporting period)	0	0	0	1
(k) New confirmed (positive Mycobacterium. bovis (M. bovis) culture) incidents in non-bovine species detected during the report period (indicate host species involved)	0	0	0	0

Animal-level statistics (cattle)	**Cleveland**	**Durham**	**Tyne&Wear**	**Northumberland**
(a) Total number of cattle tested in the period (animal tests)	1121	13467	90	14438
(b) Reactors detected:	0	0	0	3
• tuberculin skin test	0	0	0	3
• additional gamma interferon (IFNg) 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	0.21
(e) Additional animals identified for slaughter for TB control reasons (Direct Contacts (DCs), including any first-time IRs)	0	0	0	0
(f) Slaughterhouse (SLH) cases (tuberculous carcases) reported by Food Standards Agency (FSA)	0	0	0	0
(g) SLH cases confirmed by culture of M. bovis	0	0	0	0

3. Suspected sources of *Mycobacterium bovis* infection for all the new officially tuberculosis free status withdrawn breakdowns identified in the report period

Most likely origin	**Provisional**	**Final**
Introduction (e.g. purchase) of infected animal(s)	1	0
Local - lateral spread from neighbouring holdings:	0	0
• exposure to infected wildlife e.g. badgers	0	0
• other farmed species	0	0
• recrudescence of residual infection from a previous TB breakdown	0	0
• infected human source	0	0
Undetermined/obscure	0	0
Other (explain)	0	0

Categorisation of all new OTFW TB breakdowns identified in your region, according to:

(a) the probability of them being the result of introduced infection (inward cattle movements) and
(b) the strength of evidence that we are dealing with an isolated incident without further propagation from the index farm to neighbouring herds (or vice versa)

		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 *M. bovis* infection introduced through cattle movements	Definite	0	0	0
	Likely	0	1	0
	Possible	0	0	0
	Not likely (indigenous infection in the locality)	0	0	0

4. Overview of the Bovine TB Eradication 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 (LRA) and do not therefore need any post movement testing.
- A small number of herds -e.g. dealers, Irish importers, 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 exemptions applied to the deployment of the IFNg blood test
- Radial bTB surveillance applied in the only OTFW bTB breakdown in the region in Northumberland area.
- No confirmed or suspected cases of zoonotic (human) *M. bovis* infection
- No suspected cases of non-specific and fraudulent skin test reactors.
- No breakdowns involving producer-retailers and unpasteurised cheese-makers, open farms have been detected.
- Local meeting organised by NFU attended by local farmers, Official Veterinarians (OVs) and APHA officials held in Northumberland in order to assess the TB situation in Northumberland.
- No significant risks or issues concerning the delivery of TB eradication 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 2016 helps mitigate the potential consequences of such events.

5. Wildlife

There is no obvious evidence of indigenous reservoir of *M. bovis* infection in the local wildlife populations.

6. Other susceptible species

No TB infection in any other animal species, including domestic non-bovine farm animals (camelids, goats, sheep, pigs), pets and zoo animal collections in this region.

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-γ – 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.

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