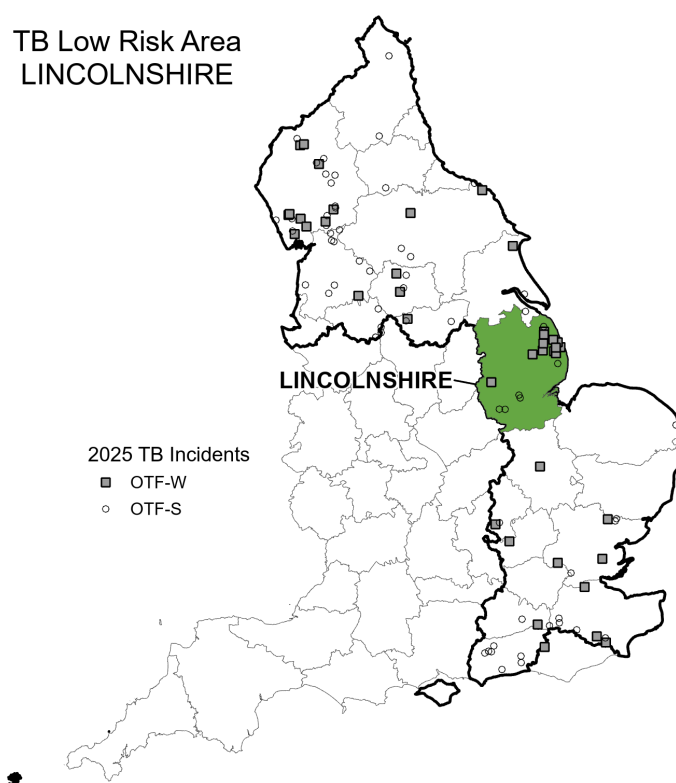




Animal &  
Plant Health  
Agency

## Year End Descriptive Epidemiology Report: Bovine TB in the Low Risk Area of England 2025: Lincolnshire



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# Introduction

This report describes the frequency and geographical distribution of TB in 2025 in cattle herds in Lincolnshire, which is part of the Low Risk Area of England (LRA).

This report is intended for those involved in the control of TB, both locally and nationally. This includes, but it is not limited to:

- cattle farmers
- private veterinarians
- government
- policy makers
- the scientific community

Details of the data handling methodology used in this report, a glossary of terms, and the TB control measures adopted in the LRA, can be found in the [explanatory supplement for the annual reports 2025](#).

## Classification of TB incidents

Unless otherwise specified, this report includes all new TB incidents detected during the reporting period (1 January to 31 December 2025). This includes both 'Officially Tuberculosis-Free Status Withdrawn' (OTF-W) and 'Officially Tuberculosis-Free Status Suspended' (OTF-S) incidents.

OTF-W incidents are those involving the detection in the affected herd of at least:

- one reactor (positive animal) to the Single Intradermal Comparative Cervical Tuberculin (SICCT) test, or a positive animal to the supplementary interferon gamma (IFN- $\gamma$ ) blood test, with typical lesions of TB identified at post-mortem (PM) meat inspection, or
- one animal (such as a skin test reactor, IFN- $\gamma$  test-positive animal, or slaughterhouse case) with *Mycobacterium bovis* (M. bovis) positive polymerase chain reaction (PCR) test or bacteriological culture results in tissue samples collected from carcasses during the PM inspection

OTF-S incidents are triggered by reactors to the skin test (or IFN- $\gamma$  test-positive animals), but without subsequent detection of TB lesions or positive PCR test (or culture) results in any of those animals.

[Licensed Finishing Units](#) (LFUs) have been excluded from the numbers presented in this report due to the limited epidemiological impact of any TB detections in such units.

## Cattle industry

There were 806 active cattle herds registered in Sam (APHA's operational database) in Lincolnshire on 31 December 2025 (Appendix 1). Sam includes herd type and herd size, with size based on a herd's most recent test or when the herd was first registered. In this report herd size is generated for a point in time (31 December) from the number of on and off movements of cattle in the Cattle Tracing system (CTS) data accessible via the RADAR data warehouse. In the LRA where most cattle herds are OTF and tested every 4 years this can therefore provide a more recent description of the herd size at a point in time.

Further details on the data sources used in these reports can be found in the [explanatory supplement for the annual reports 2025](#).

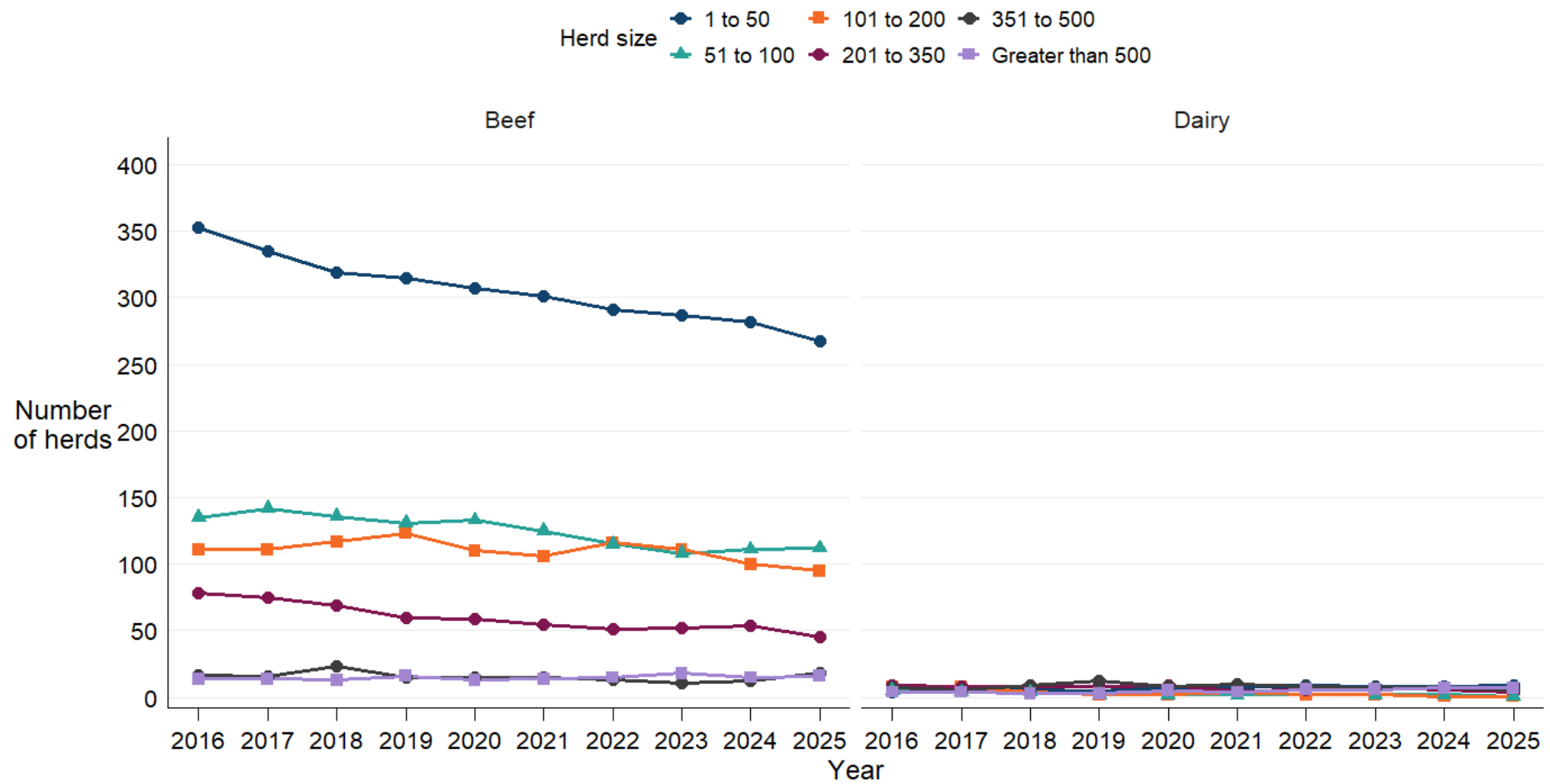
Appendix 2 provides a summary of headline cattle TB statistics in Lincolnshire.

In 2025 Lincolnshire had no livestock markets approved by APHA to hold slaughter gatherings of cattle from OTF herds that are eligible for, but have not been subjected to, pre-movement TB testing (known as 'TB pre-movement testing-exempt' markets).

There were 9 LFUs active in Lincolnshire during 2025. Within these, there were no new TB incidents and 3 ongoing incidents in 2025.

There were 724 beef herds, 36 dairy herds and 28 other herds active in this county at the end of 2025 and 18 of undetermined type (Appendix 1). Over the last 10 years beef herds of size 1 to 50 has consistently been the predominant category in the area but their number has reduced by a quarter (from 353 herds in 2016 to 267 in 2025). There has also been a reduction in the number of beef herds comprising between 201 to 350 animals (78 herds in 2016 and 45 in 2025). All other beef herd sizes have remained relatively stable over the last 10 years. The number of dairy herds in the area has remained low and stable in the same period (Figure 1).

The number of herds in the 'Other' production type category has remained consistent over time (Appendix 1). This category includes a range of herd types not limited to mixed herds, dealers, specialist breeders and non-standard holdings.



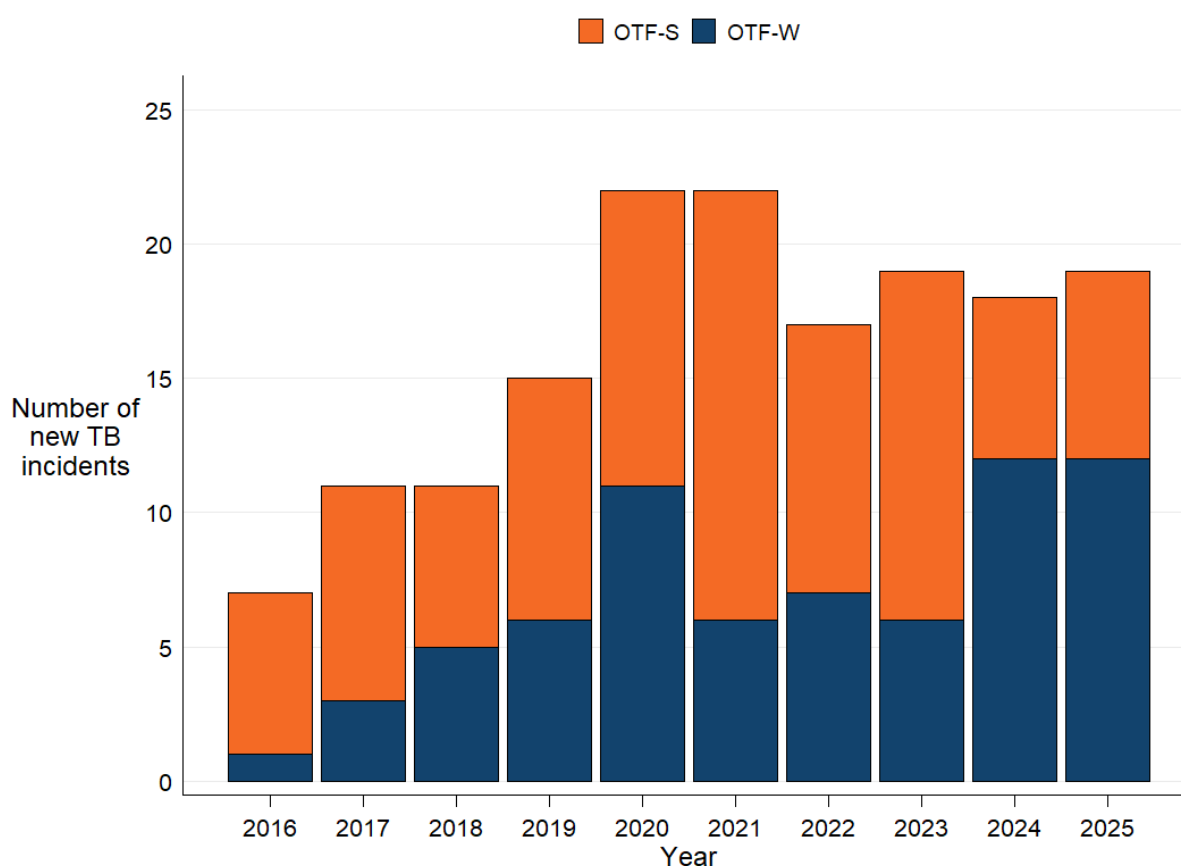
**Figure 1:** Number of herds with  $\geq 1$  animal on the last day of the reporting year in Lincolnshire by herd size and herd type (dairy and beef), between 2016 to 2025.

## Number of new TB incidents

In 2025, 19 new TB herd incidents were declared in Lincolnshire, one more than 2024 (Figure 2).

The number of OTF-W incidents was 12 in 2025, which was the same as the previous year. Over the last 10 years (2016 to 2025), there was an overall upward trend in the annual number of new OTF-W incidents in Lincolnshire, with values ranging between 1 and 12 and noticeable fluctuations over time.

The number of OTF-S incidents was 7 in 2025, representing an increase of one from 6 in 2024. Across the longer term from 2016 to 2025, values have fluctuated over time ranging between 6 and 16.



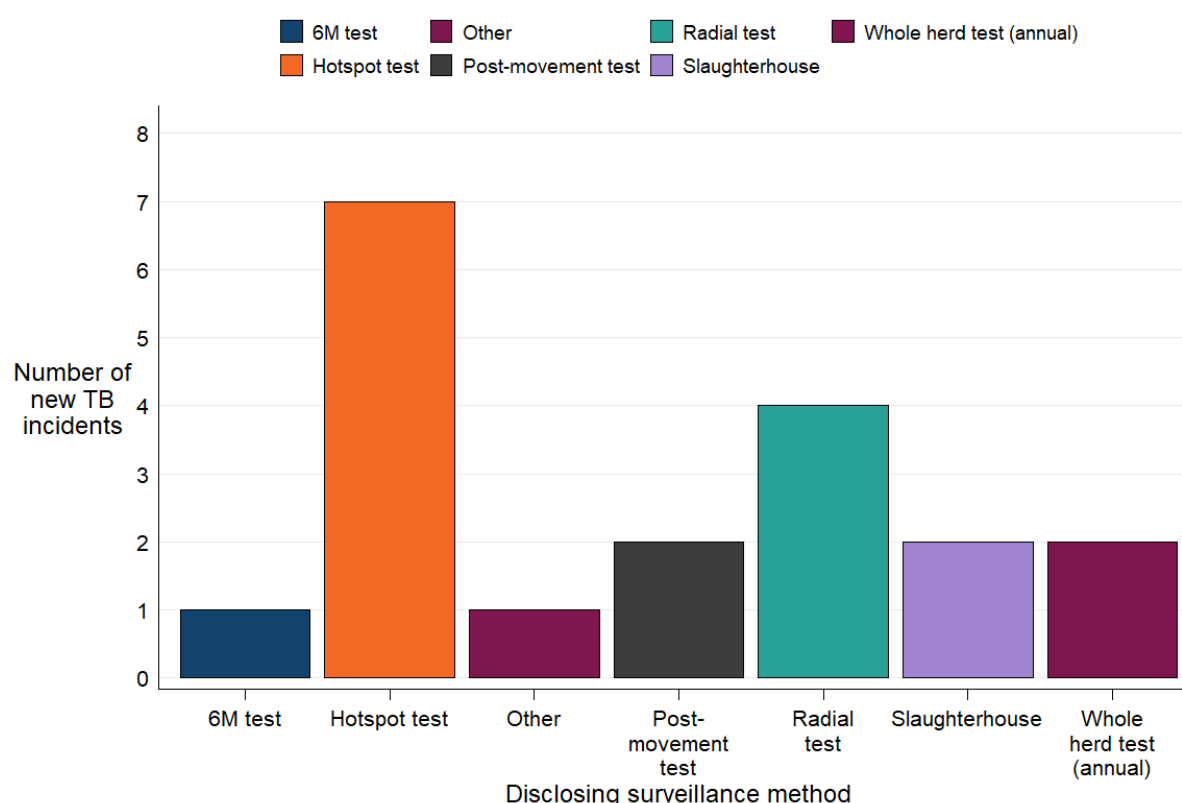
**Figure 2:** Annual number of new TB incidents in Lincolnshire from 2016 to 2025.

## Disclosing TB surveillance method

Seven incidents were identified through hotspot testing in Lincolnshire in 2025. This is an increase compared to 2024, when only one incident was detected under this TB surveillance stream, but similar to the 5 incidents detected in 2023. This was followed by 4 incidents detected via targeted surveillance testing around holdings affected by OTF-W incidents (commonly referred to as radial or “RAD” testing). This

is lower than in 2024, when 11 incidents were detected by targeted surveillance. This change is likely a result of enhancements to the cattle TB testing regime in Hotspot 28 during the summer of 2025, when 6-monthly testing replaced annual whole-herd testing and RAD testing of cattle herds in the area.

A further 2 incidents were detected through post-movement testing, 2 more during routine post-mortem meat inspection of cattle carcasses in slaughterhouses, and 2 during annual whole-herd testing. One incident was identified through 6-monthly (post-incident) herd testing (6M tests). Finally, one incident was detected by 'other' types of tests, which includes, but is not limited to, private testing, inconclusive reactor retests, and export tests (Figure 3).



**Figure 3:** Number of new TB incidents (OTF-W and OTF-S) in Lincolnshire in 2025, according to the surveillance methods that detected them.

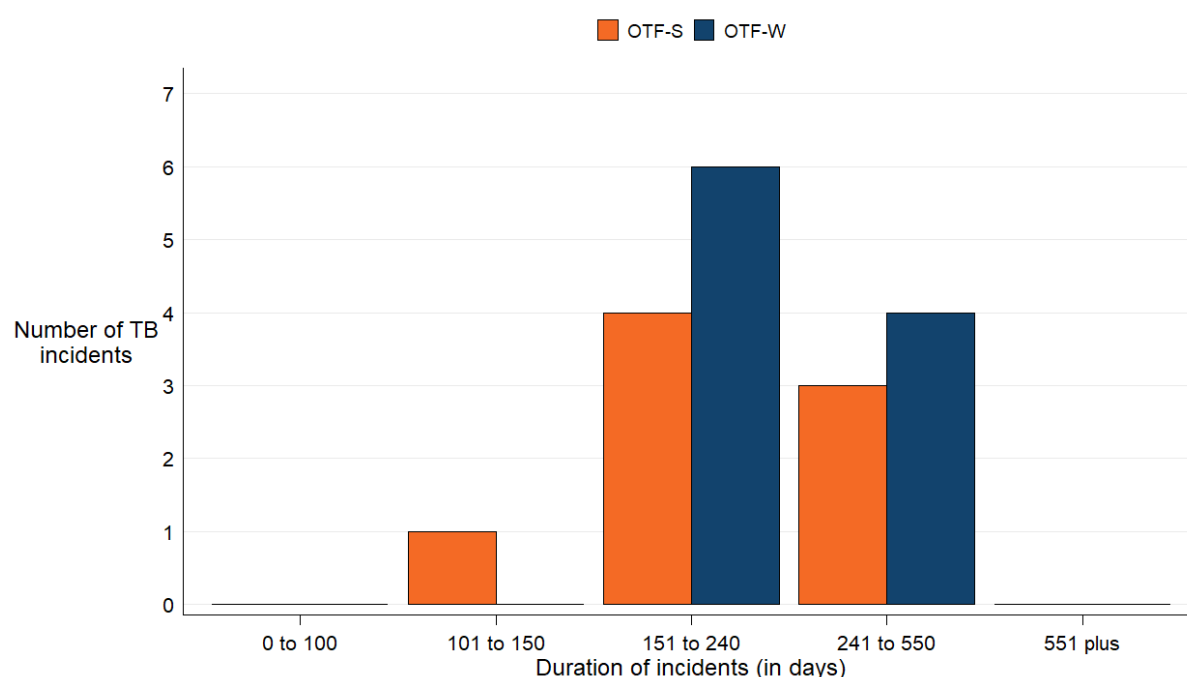
## Duration of TB incidents

Of the 18 incidents that were resolved in 2025 across Lincolnshire, 5 had started in 2025, 11 in 2024 and 2 in 2023. None of those incidents could be categorised as persistent (lasted more than 550 days) (Figure 4).

Of the 10 OTF-W incidents that ended in 2025, 6 were resolved within 151 and 240 days and 4 within 241 and 550 days. This is similar to 2024, when 2 incidents were resolved within 151 to 240 days and 3 within 241 to 550 days.

Of the 8 OTF-S incidents that ended in 2025, one was resolved within 101 and 150 days, 4 within 151 and 240 days and 3 within 241 and 550 days. Some of these incidents were longer than those reported in 2024. In 2024, one incident was resolved within 100 days, 2 within 101 to 150 days and 3 within 151 to 240 days.

There were 18 incidents still ongoing at the end of 2025 in Lincolnshire, including 14 OTF-W incidents (two of which were persistent). This was more than the number of OTF-W incidents ongoing at the end of 2024 (17).



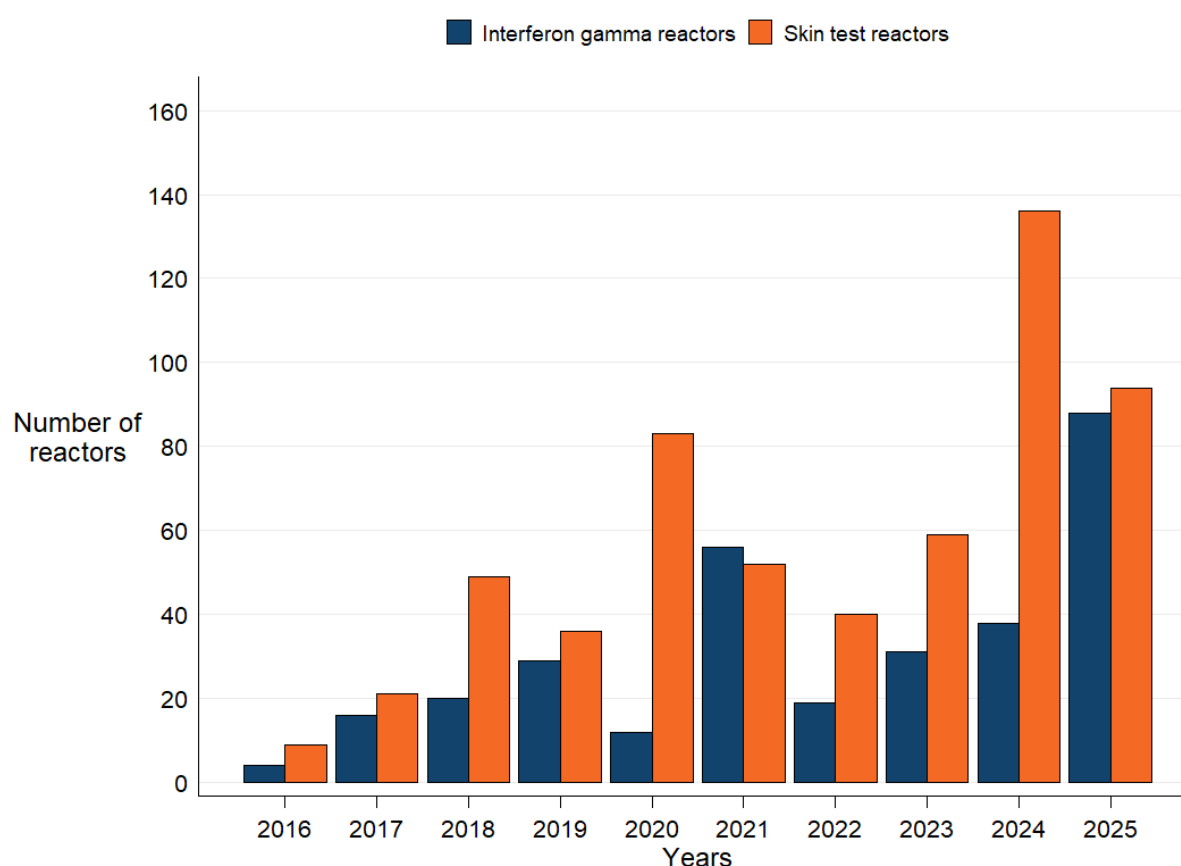
**Figure 4:** Duration of TB incidents (OTF-W and OTF-S) that closed in Lincolnshire in 2025.

## Skin test reactors and interferon gamma test positive animals removed

During 2025, a total of 182 cattle were removed as TB test reactors from incident herds in Lincolnshire (a 4.6% increase on the 174 removed in 2024). Of these, 94 were skin test reactors (136 in 2024) and 88 were positive to the supplementary interferon gamma blood test (IFN- $\gamma$ ) (38 in 2024) (Figure 5). The higher number of IFN- $\gamma$  test reactors and fewer skin test reactors seen in 2025 was likely a result of several factors. Several OTF-W incidents were disclosed towards the end of 2024, which will have triggered mandatory IFN- $\gamma$  herd tests during 2025, alongside the new 2025 OTF-W incidents. The previous year also saw several TB breakdowns with relatively high proportions of reactors (“explosive TB incidents”), but this was not seen in 2025 to the same extent, and it may have contributed to a drop in the number of skin test reactors removed in 2025.

In Lincolnshire, the number of skin test reactors showed an overall increasing trend over the 10-year period 2016 to 2025, with the lowest value of 9 in 2016 and a peak of 136 in 2024, although with noticeable fluctuations over time. The number of IFN- $\gamma$  test reactors also showed an overall increase, from 4 in 2016 to 88 in 2025, again with some fluctuation over time.

In response to evidence of endemic disease within 2 areas of Lincolnshire, Hotspots 23 and 28 were established within the county during this time period (2018 and 2020 respectively). Enhanced cattle TB surveillance and control measures were adopted in each area, including increased frequency of skin herd testing, mandatory pre-movement skin testing and APHA discretion to use the supplementary IFN- $\gamma$  test in TB incident herds that did not automatically qualify for mandatory blood herd testing. Therefore, as a result of both an increase in disease incidence and testing frequency in these areas, an upward trend in reactors disclosed has been observed between 2016 and 2025.



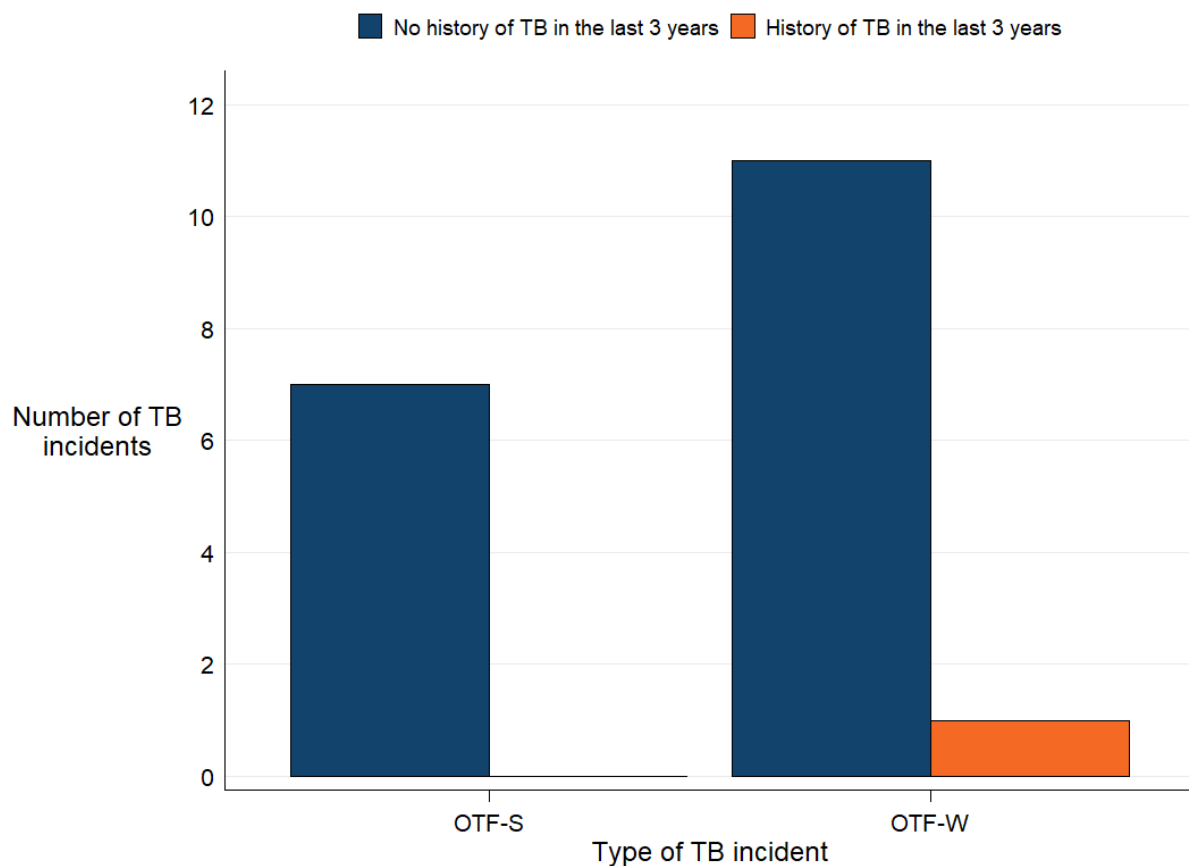
**Figure 5:** Number of skin test reactors, IFN- $\gamma$  test positive cattle removed by APHA for TB control reasons in Lincolnshire from 2016 to 2025.

# Recurrent TB incidents

## Three-year recurrence

Of the 12 herds with an OTF-W incident in 2025, one (8%) had experienced another TB incident in the previous 3 years (Figure 6). None of the herds with a new OTF-S TB incident had experienced another TB incident in the same period. The overall 3-year recurrence in 2025 (5%) was much lower than 2024 (44%).

Lincolnshire had the second lowest percentage of recurrent herd incidents in the LRA (5%), where the overall percentage was 19%. The lowest percentage of recurrent herd incidents in the LRA was in the North East of England (0%), followed by Lincolnshire (5%), Yorkshire and Humberside (13%), the North West (14%), Cumbria (21%) and the South East (34%).



**Figure 6:** Number of herds with a TB incident (by OTF-W and OTF-S) in Lincolnshire in 2025, with and without a history of any TB incident in the previous 3 years of the disclosing test.

## Geographical distribution of TB incidents

As in previous years, the new TB incidents in Lincolnshire were predominantly clustered into 2 areas in the southwest and north-east of the county that correspond with Hotspot 23 (HS23), Enhanced Surveillance Area (ESA) of South Kesteven and Hotspot 28 (HS28) (Figure 7).

Eleven of the new OTF-W incidents in 2025 were in HS28, compared to 9 in 2024, and the same number of OTF-S incidents (3) were recorded in this hotspot in both years.

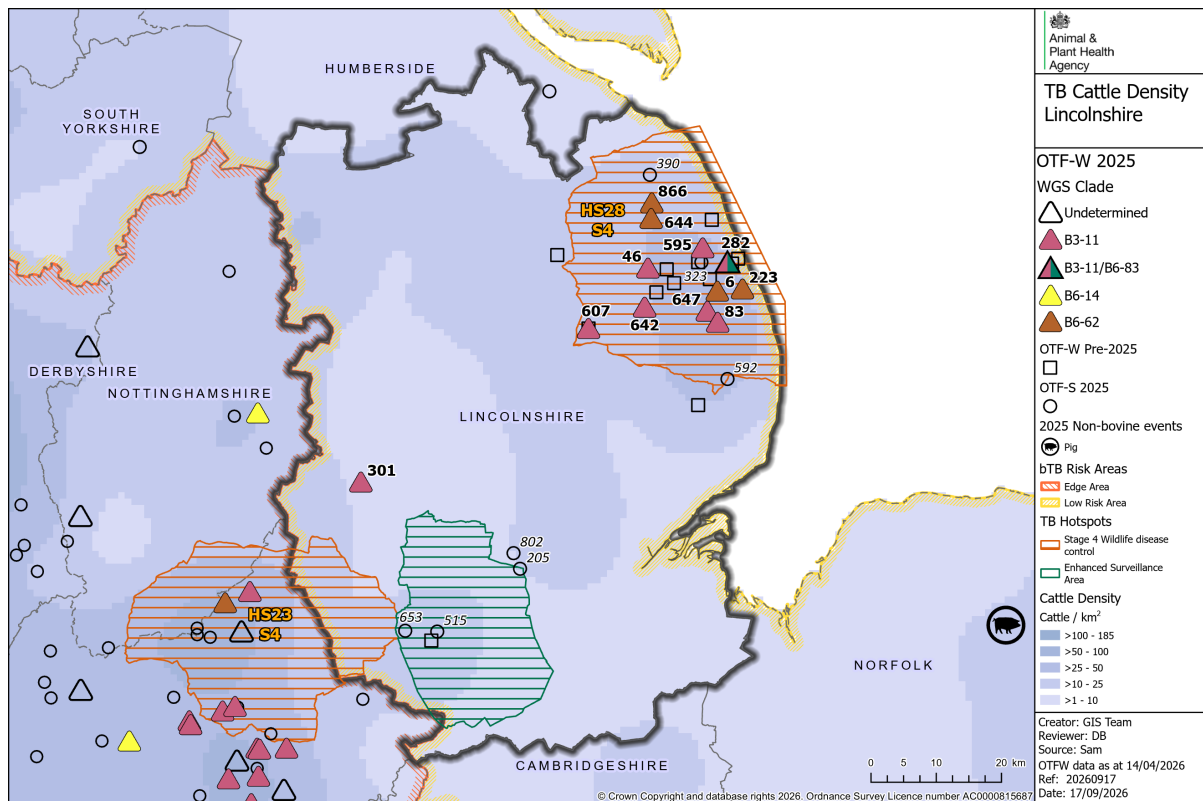
There were no OTF-W incidents in the Lincolnshire portion of HS23 in 2025. There was one OTF-W in this area in 2024 (not ongoing hence not shown in Figure 7).

Of the 12 new OTF-W incidents in Lincolnshire in 2025, 7 (incidents 301, 607, 642, 647, 595, 83 and 46, Figure 7) were due to infections with the whole genome sequencing (WGS) clade B3-11 of *M. bovis*, the most common strain of the bacterium isolated in Lincolnshire. These cattle infections were genetically related to both each other and local badger isolates, and to an incident of dual B3-11/B6-83 clade infection (incident 282, Figure 7). Seven B3-11 incidents (including the dual infection) were in HS28 and the other was north-east of HS23 (incident 301, Figure 7). The source of this incident was the movement of an animal from HS28 and WGS analysis supported this conclusion.

The homorange for clade B3-11 spans through most of Staffordshire, Derbyshire, Cheshire, north-east of Shropshire and parts of Greater Manchester, Leicestershire, Lincolnshire and Nottinghamshire.

Four of the OTF-W incidents (incidents 866, 644, 6 and 223) in 2025 were caused by infections with the WGS clade B6-62 and were all located within HS28. Clade B6-62 has a homorange spanning the southern Edge Area regions, from Hampshire to south Leicestershire, as well as northern Staffordshire, Gloucestershire and Wiltshire in the High Risk Area (HRA).

Of the 7 OTF-S incidents in 2025 in Lincolnshire: 3 were located within HS28 (incidents 390, 323 and 592, Figure 7) and the remaining 4 were in or around the enhanced surveillance area (incidents 205, 515, 653 and 802, Figure 7).

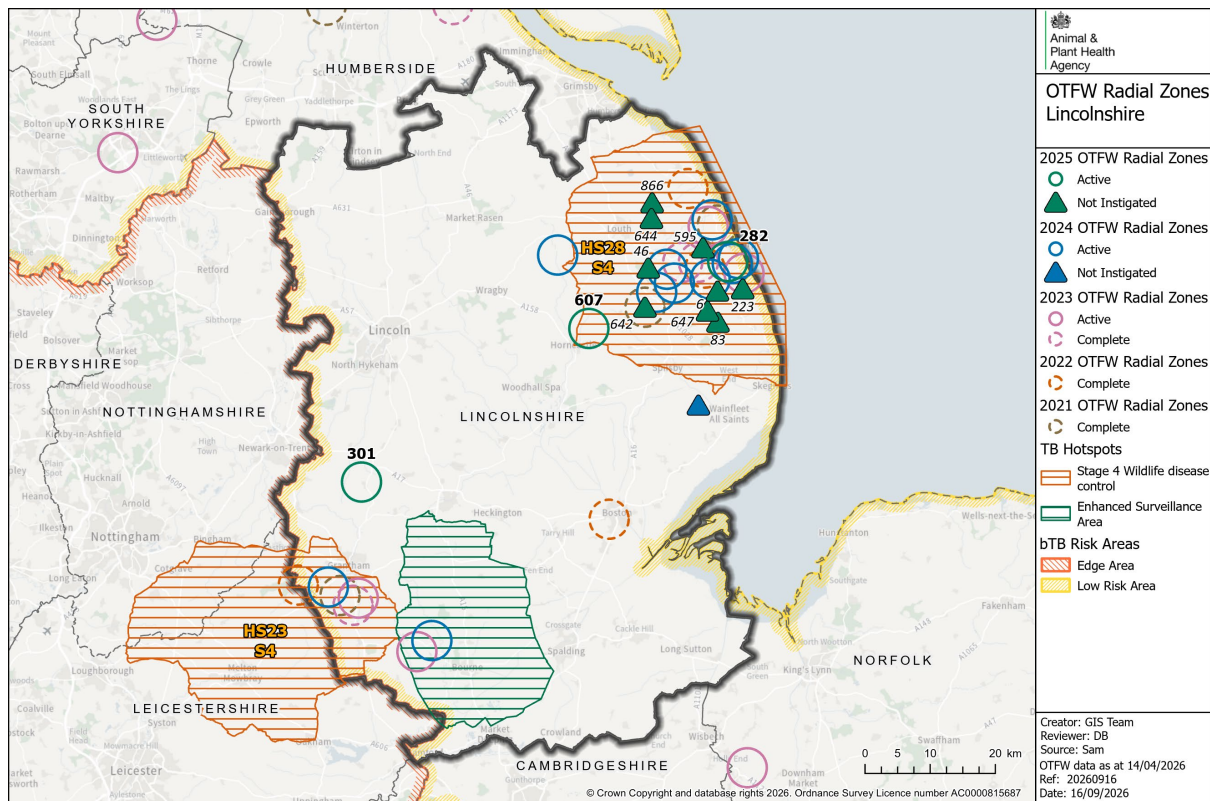


**Figure 7:** Location of cattle holdings in Lincolnshire with new TB incidents (OTF-W and OTF-S) in 2025, and cattle incident holdings with pre-2025 OTF-W incidents still ongoing at the beginning of 2025, overlaid on a cattle density map (as in 2024).

**Figure 7 description:** A map of Lincolnshire and adjoining areas showing the cattle density (as in 2024), the geographical location of cattle holdings with new TB incidents (OTF-W shown as triangles and OTF-S shown as circles) in 2025, and cattle holdings with OTF-W incidents still ongoing at the beginning of 2025, shown as squares. The 2025 OTF-W incidents are coloured by WGS clade. Dusky pink represents clade B3-11, half dusky pink and half dark green represents clade B3-11/B6-83, bright yellow represents B6-14, light brown represents clade B6-62, and transparent triangles represent incidents where the WGS clade was undetermined. Dark blue areas represent higher cattle density and light blue represent lower cattle density. TB hotspot areas are shown with hashed lines. The colour of the hotspot, along with its suffix, indicates the stage of controls in place in 2025: dark orange is stage 4 (S4 is wildlife disease control). The Enhanced Surveillance Area (ESA) of South Kesteven in the south of the county (east of HS23) is represented in hashed green lines. The locations of new TB incidents are described in the main text.

Figure 8 provides an overview of the radial surveillance zones (both active and completed) set up by APHA around OTF-W incidents in Lincolnshire and colour coded according to the year in which they were established. OTF-W incidents which qualified for radial testing, but where radial zones were not setup are also shown as 'not instigated'. In exceptional circumstances, APHA may not trigger radial testing around a new TB breakdown herd if it is not considered necessary following the outcome of a veterinary risk assessment. Radial testing is also not instigated around TB breakdown herds located in Hotspot areas subject to six-monthly testing

frequency, such as HS28. Most radial zones still active in 2025 were located within the boundaries of HS23 and HS28, similarly to 2024. There were 2 new active radial zones located within the boundary of HS28 and one located north-east of HS23 in 2025.



**Figure 8:** Hotspot areas and radial surveillance zones around OTF-W incidents that were active, completed or not instigated in Lincolnshire during 2025, by year of initiation.

**Figure 8 description:** A map of Lincolnshire and adjoining areas showing the geographical location of hotspots and radial surveillance zones around OTF-W incidents in 2025. The active radial zones are shown as solid line circles, completed radial zones are shown as dotted line circles. The colour of the circles represents the year in which the radial zone was instigated: 2025 is green, 2024 is blue, 2023 is pink, 2022 is orange, and 2021 is brown. TB hotspot areas are shown with hashed lines. The colour of the hotspot, along with its suffix, indicates the stage of controls in place in 2025: dark orange is stage 4 (S4 is wildlife disease control). The ESA of South Kesteven in the south of the county (east of HS23) is represented in hashed green lines. Incidents in the adjacent Edge Area counties are not shown on this map.

## Main risk pathways and key drivers for TB infection

In 2025, all (100%) new TB incidents in Lincolnshire received a preliminary or final APHA veterinary investigation (Disease Report Form or 'DRF') to identify the likely source of infection. The top 3 possible drivers of TB incidents are listed below, and the tabulated summary of identified risk pathways from these investigations and the subsequent calculated weighted contribution are given in Appendix 3.

Details of the protocol used for these investigations, and the subsequent methodology used to calculate the weighted contribution of the different suspected sources of *M. bovis* infection can be found in the [explanatory supplement for the annual reports 2025](#).

The top 3 possible drivers of the occurrence of TB in cattle in Lincolnshire during 2025 were:

- potential exposure to infected badgers
- movement of undetected infected cattle
- exposure to other wildlife

The infection risk pathway for cattle herds in 2025 with the highest calculated weighted contribution from APHA veterinary investigations is potential exposure to infected badgers (31.7%, Appendix 3). This was similar to 2024 (31.9%) Incidents within HS28 contribute significantly this due to most of the Lincolnshire incidents being located within the HS and 7 of the 11 incidents within HS reporting badger and other wildlife risk pathways with the highest level of certainty (Figure 9).

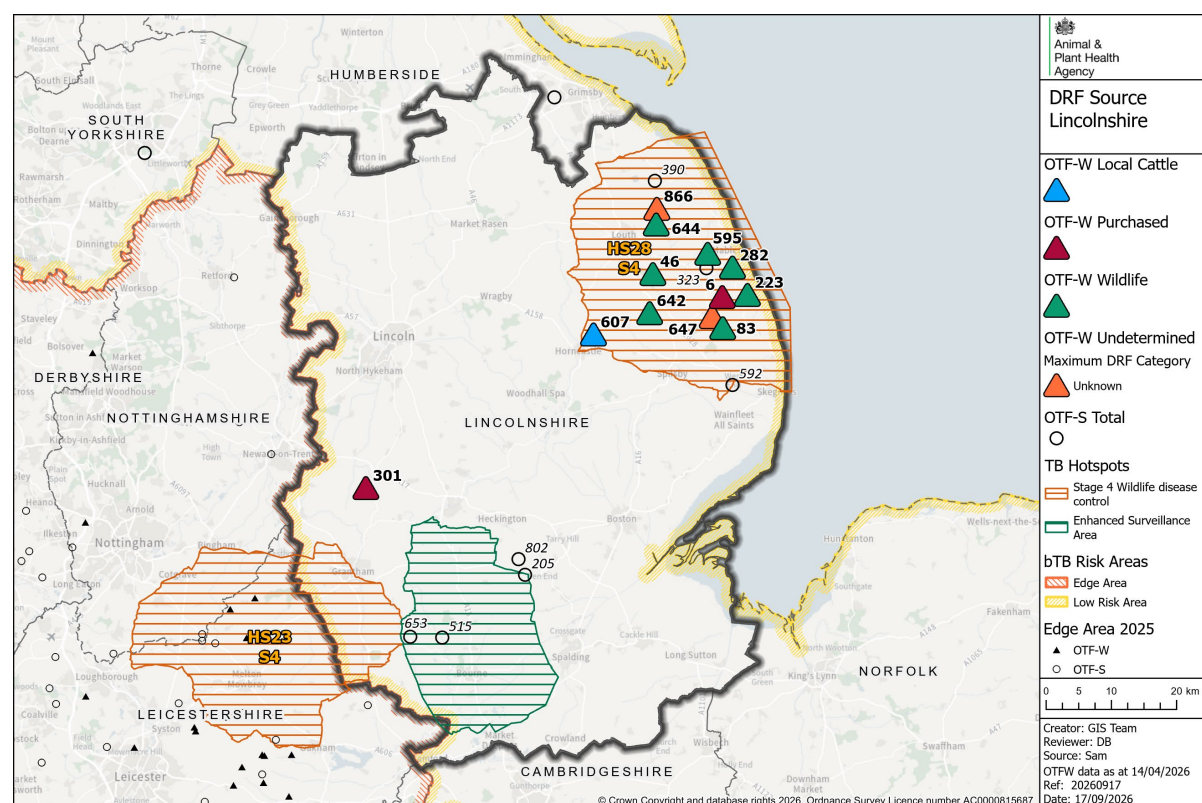
Movement of undetected infected cattle into (and within) Lincolnshire had a calculated weighted contribution of 25.1% (Appendix 3), which was lower than previous years (29.9% in 2024).

Other infected wildlife (mostly deer) had a calculated weighted contribution of 8.3%, lower than in the previous year (8.9% in 2024).

There was a degree of uncertainty around the source of some new incidents. Other or unknown sources had a weighted contribution of 25.9%. For the purpose of reflecting uncertainty in the overall picture, this pathway may be ascribed additional weighting where there is low certainty (such as 'possible' or 'likely') within other pathways. This was higher than in previous years, 13.0% in 2024 and 22.5% in 2023. With regards to Lincolnshire, this weighted contribution is indicative of having one or more 'possible' source pathways identified at the start of the investigation rather than an indication that there was an increase in the source being 'other or unknown'.

As can be seen from Figure 9 and Appendix 3 (Table 5), OTF-W incidents in Lincolnshire in 2025 were attributed to different likely sources of infection. In 2025, wildlife reservoirs (deer and badgers) of infection were recorded as the most likely source of infection for cattle in 3 incidents in the north-east of the county, all within

HS28. Three OTF-W incidents, 2 of which were located within HS28, were most likely attributed to introductions of undetected *M. bovis*-infected cattle. One OTF-W incident, located within HS28, was most likely attributed to contact with local *M. bovis*-infected cattle. Two incidents in HS28, did not have an identifiable most likely source.



**Figure 9:** Map of the source of infection pathway recorded with the highest level of certainty, for OTF-W incidents, and the location of OTF-S incidents in Lincolnshire which started in 2025.

**Figure 9 description:** A map of Lincolnshire and adjoining areas showing the geographical location of cattle holdings with new OTF-W incidents in 2025 and the most likely source of infection. OTF-W incidents are shown as triangles in different colours which represent the source of infection with the highest level of certainty. Local cattle refer to residual infection and contiguous cattle risk pathways (shown as blue triangles). Purchased refers to cattle movement risk pathways (shown as red triangles). Wildlife refers to both badger and other wildlife risk pathways (shown as green triangles). Incidents with an undetermined pathway (shown as orange triangles) refer to incidents where a likely source of infection could not be ascertained. New OTF-S incidents in 2025 are shown as circles. TB hotspot areas are shown with hashed lines. The colour of the hotspot, along with its suffix, indicates the stage of controls in place in 2025: dark orange is stage 4 (S4 is wildlife disease control). The Enhanced Surveillance Area (ESA) of South Kesteven in the south of the county (east of HS23) is represented in hashed green lines. OTF-W incidents in the adjacent Edge Area counties are shown as small black triangles and OTF-S incidents as small white circles.

## TB hotspots

In this report the number of incidents per year in each Hotspot has been gathered using field veterinarian data. Previously, spatial GIS data was used to inform whether an incident was inside of a designated Hotspot. This change may create discrepancies between the number of incidents per year reported here, compared to previous reports.

Furthermore, incidents shown on the maps (Figures 7 to 9) are point located at the centre of their County Parish Holding number (CPH). Incidents discussed in this section may also include holdings which are point located outside the boundary, but with land inside the hotspot boundary.

Further details on TB hotspots in the [Low Risk Area of England](#) can be found following the link.

There were 2 active hotspots in Lincolnshire during 2025: Hotspot 23 (HS23, spanning the counties of Leicestershire, Nottinghamshire and Lincolnshire) and Hotspot 28 (HS28, Lincolnshire only).

There was also one Enhanced Surveillance Area (ESA) around South Kesteven, just east of HS23 in the south-west of the county.

## Hotspot 28

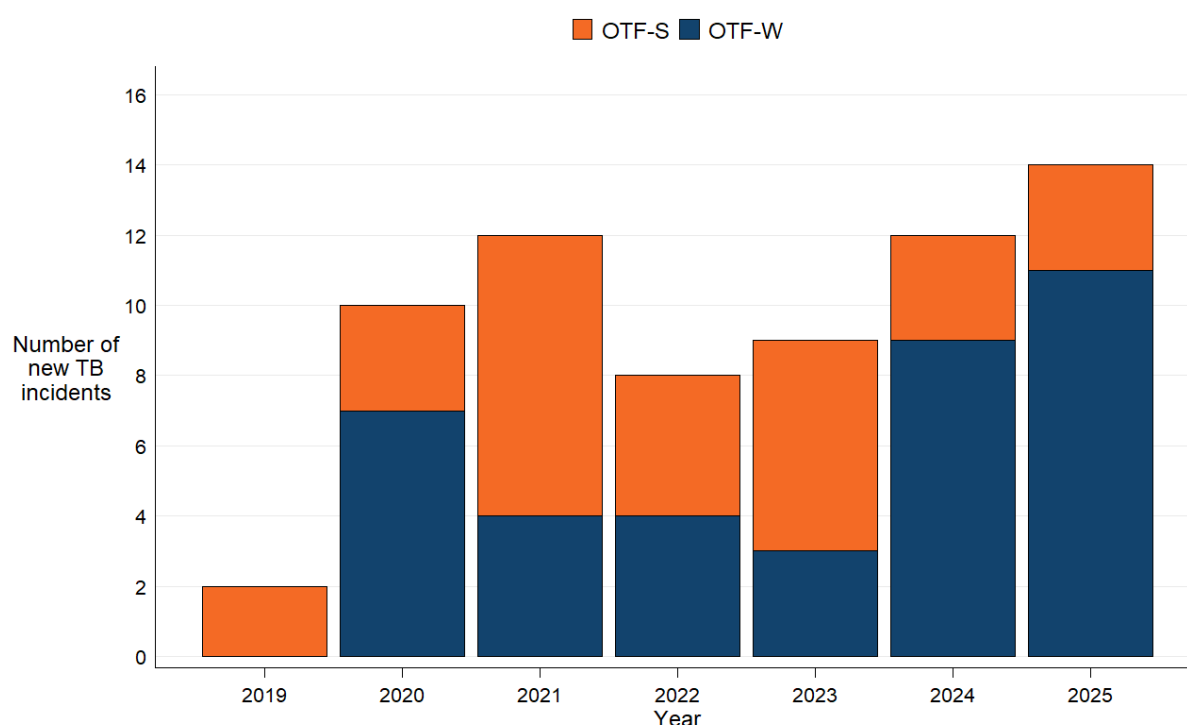
HS28 was established in 2020 following detection of a cluster of cattle TB incidents associated with clade B3-11 (formerly genotype 25:a) of *M. bovis*. Herds in this hotspot have been subject to 6-monthly testing since the summer of 2025, prior to which they were subject to annual testing (from October 2023).

There were 14 new TB incidents detected within HS28 in 2025 (Figure 10). This comprised of 11 new OTF-W incidents and 3 new OTF-S incidents. In comparison to 2024, there has been an increase in new OTF-W incidents from 9 to 11, but the same number of new OTF-S incidents as in 2024. Prior to establishment of the hotspot, there were 2 OTF-S incidents and 0 OTF-W incidents. There was a steady increase to 8 OTF-W incidents in 2021, a slight decrease to 4 in 2022 then another increase to 6 in 2023. The number of OTF-S incidents halved thereafter to 3 in both 2024 and 2025. The number of OTF-W incidents increased from 0 in 2019 to 7 in 2020, decreased to 4 in both 2021 and 2022, then to 3 in 2024, before increasing to 11 in 2025.

Badger disease control operations in the form of badger vaccination began in 2024 within HS28. Vaccination was supplemented by serological testing of a sample of trapped badgers, using the APHA-developed 'restraint cage'.

In 2025, 464 vaccinations were administered to badgers trapped by APHA staff. Collection and testing of 'found dead' badger and wild deer carcasses for TB also takes place within HS28.

A Defra-funded Local Ownership Group has been established in the area with the aim of improving knowledge of disease and uptake of biosecurity measures. It comprises of local stakeholder including cattle keepers, private vets and the National Farmers' Union (NFU).



**Figure 10:** Annual number of new TB incidents detected in HS28, from 2019 to 2025.

## Hotspot 23

HS23 spans the counties of Leicestershire, Nottinghamshire and Lincolnshire (Figures 7 to 9). This hotspot was first established in 2018 (as Potential Hotspot Area 23) following detection of a cluster of cattle TB incidents associated with clade B3-11 (formerly genotype 25.a) of *M. bovis* in 2017.

In 2020, this became the confirmed HS23 and a boundary change took place (making the area larger) as well as the introduction of 12 monthly testing. Herds in this hotspot have been subject to 6-monthly testing since September 2024, when the boundary was also changed in geographic shape and location to better reflect the linked epidemiology of TB incidents in the area. 2025 was the first complete year for which this area was subjected to 6-monthly testing within the new boundary. (The ESA in South Kesteven was established at this time – see section below.)

Enhanced TB surveillance measures have been implemented in cattle and wildlife across the whole hotspot area, including the collection of 'found dead' badger and wild deer carcasses. HS23 is in management Stage 4 (licensed badger disease control).

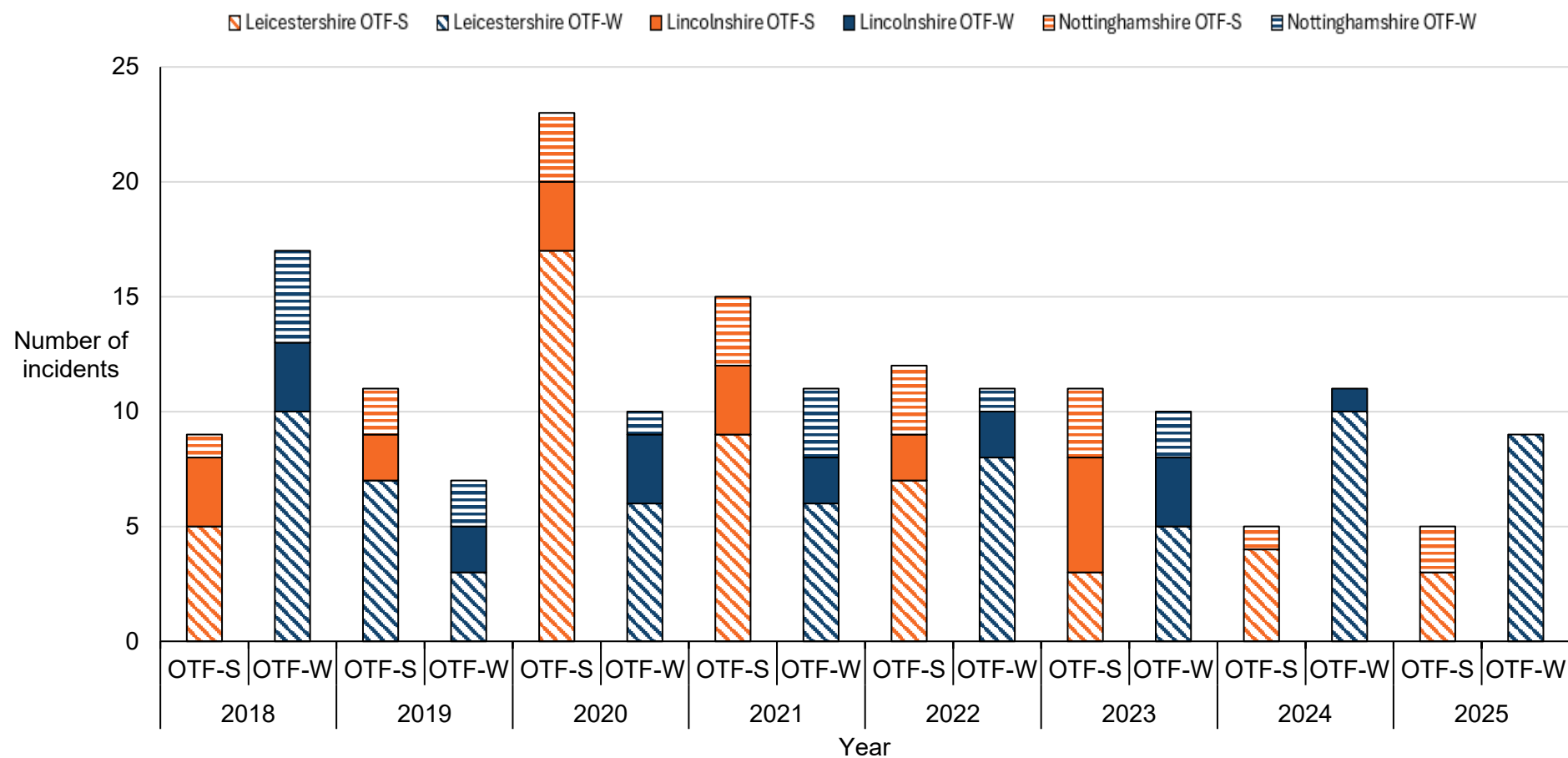
In 2025, there were 9 new OTF-W incidents detected within HS23 (compared to 11 in 2024), and 6 new OTF-S incidents detected (5 in 2024). One of the OTF-S incident herds (653) had grazing land in both the Lincolnshire portion of the hotspot and the ESA and there were no new OTF-W incidents detected in the Lincolnshire portion (Figure 11). The annual number of OTF-W incidents in this part of HS23 fluctuated between 2 and 3 since establishment of the hotspot until 2023. The number of OTF-S incidents also ranged between 2 and 3 from 2018 to 2022, then increased to 5 in 2023. In 2024, there was one OTF-W and no OTF-S incidents.

All 9 of the new OTF-W incidents and 3 of the six new OTF-S incidents detected in HS23 in 2025 involved herds in the Leicestershire portion of the hotspot, compared to 10 OTF-W and 4 OTF-S incidents in 2024. The annual number of OTF-W incidents in the Leicestershire part of HS23 has fluctuated between 3 and 10 since the hotspot was established in 2018. By contrast, the number of OTF-S incidents gradually increased from 5 in 2018 to 17 in 2020, followed by a decrease thereafter.

In 2025, there were 2 new TB incidents in the Nottinghamshire portion of HS23, both OTF-S. The annual number of OTF-W incidents in this part of HS23 has mostly ranged between 1 and 3, except in 2018 when there were 4 incidents. The number of OTF-S incidents increased from one in 2018 to 3 in 2020. Three new OTF-S incidents were detected each year thereafter, except for one in 2024 and 2 in 2025.

The 9 OTF-W incidents had the following WGS clades isolated: 7 B3-11, 1 B6-14, 1 B6-62, and 1 B6-84 (one incident had 2 different WGS clades isolated: B3-11 and B6-84). All non-B3-11 clades were purchased animals from outside the HS and Lincolnshire.

A Defra-funded Local Ownership Group has been established in the area with the aim of improving knowledge of disease and uptake of biosecurity measures. It comprises of local stakeholder including cattle keepers, private vets and NFU.



**Figure 11:** Annual number of new TB incidents detected in HS23, from 2018 to 2025.

## Enhanced Surveillance Area (ESA) in South Kesteven

The ESA was established directly to the east of HS23 in September 2024 due to this area having a higher number of TB incidents (almost exclusively OTF-S) than the surrounding Low Risk Area but with no convincing epidemiological links to the incidents in HS23. This coincided with a modification of HS23 boundary and the introduction of 6-monthly testing for cattle herds in HS23 during 2024. Cattle herds in the ESA have been on annual whole-herd testing since September 2024.

There were 3 OTF-S (515, 205, 802) and no OTF-W incidents in 2025 in the ESA (0 and 1, respectively, in 2024). However, as referenced above, one of the HS23 OTF-S Lincolnshire incidents did have land in the ESA and HS23 (653).

## Forward look

As in recent years, the majority of new TB incidents in Lincolnshire continued to be disclosed primarily within HS28. However, current control measures, alongside good engagement from stakeholders and local ownership groups has prevented disease moving out of the current Hotspot boundaries. The effect of the introduction of 6-monthly testing on disease incidence will take longer to become fully apparent. However, it is encouraging that in 2025 there were fewer explosive breakdowns and a lower number and proportion of animals (test reactors and direct contacts) exhibiting visible lesions of TB during post-mortem examinations (PME) than in 2024. There was also a marked reduction in the number of recurrent TB incidents within this hotspot during 2025 compared to the previous year. Of concern was the emergence of 3 different WGS clades of *M. bovis* within HS28 during 2025, not all of which could be conclusively attributed to cattle movements.

Given that there were no new OTF-W incidents within the Lincolnshire portion of HS23 or the ESA during 2025 the current disease control measures in place within these areas appear to be effective and will continue to be reviewed to ensure they remain proportionate.

Only one (301) of the 18 new TB incidents in 2025 was disclosed outside of the 2 TB hotspot areas and the ESA of Lincolnshire (incident 301, Figure 7). Therefore, if this trend continues, it is possible that the area of the county out with HS28 may achieve OTF status by 2038.

Recommendations:

- continued stakeholder engagement within the Hotspots is vital, including the continuation of and participation within Local ownership groups (LOG)
- increased uptake of government-funded TB Advisory Service (TBAS) advisory visits to cattle farms, including biosecurity improvements, should be encouraged within HS28

- increased awareness of the risk of infection posed by cattle moved into the county from higher risk areas would be beneficial, particularly within HS28
- the use of supplementary interferon-gamma and IDEXX testing needs to be continued within the TB hotspots to increase the diagnostic sensitivity in herds affected by TB incidents
- continued submission of carcasses of badgers found dead and wild deer with suspected lesions of TB during dressing is vital to inform wildlife TB controls and epidemiology of the disease within the hotspots
- increased coverage of badger vaccination within the county would be beneficial
- farmers purchasing from England and Wales should also be encouraged to use the [ibTB](#) tool, which is now searchable by ear tag

## Appendix 1: cattle industry demographics

**Table 1:** Number (and percentage of total) of active cattle herds on the last day of the reporting year by herd type in Lincolnshire.

Source: Sam

| Breed purpose | 2023       | 2024       | 2025       |
|---------------|------------|------------|------------|
| Beef          | 751 (89%)  | 741 (90%)  | 724 (90%)  |
| Dairy         | 35 (4%)    | 36 (4%)    | 36 (4%)    |
| Other         | 31 (4%)    | 30 (4%)    | 28 (3%)    |
| Undetermined* | 26 (3%)    | 18 (2%)    | 18 (2%)    |
| <b>Total</b>  | <b>843</b> | <b>825</b> | <b>806</b> |

\* Undetermined herd type herds are those are for which a herd type record is not available in Sam.

**Table 2:** Number of active herds on the last day of the reporting year in Lincolnshire by herd size and herd type (dairy, beef, other and undetermined), between 2023 and 2025. Sources: Herds and herd type data from Sam, herd size data from RADAR (as of 31 December each year).

| Year        | Herd size        | Beef       | Dairy     | Other     | Undetermined | Total      |
|-------------|------------------|------------|-----------|-----------|--------------|------------|
| 2023        | 0                | 164        | 3         | 15        | 3            | 185        |
| 2023        | 1 to 50          | 287        | 8         | 14        | 11           | 320        |
| 2023        | 51 to 100        | 108        | 2         | 0         | 3            | 113        |
| 2023        | 101 to 200       | 111        | 2         | 0         | 0            | 113        |
| 2023        | 201 to 350       | 52         | 7         | 2         | 4            | 65         |
| 2023        | 351 to 500       | 11         | 7         | 0         | 3            | 21         |
| 2023        | Greater than 500 | 18         | 6         | 0         | 2            | 26         |
| <b>2023</b> | <b>Total</b>     | <b>751</b> | <b>35</b> | <b>31</b> | <b>26</b>    | <b>843</b> |
| 2024        | 0                | 167        | 5         | 15        | 3            | 190        |
| 2024        | 1 to 50          | 282        | 8         | 13        | 5            | 308        |
| 2024        | 51 to 100        | 111        | 2         | 0         | 2            | 115        |
| 2024        | 101 to 200       | 100        | 1         | 0         | 0            | 101        |
| 2024        | 201 to 350       | 54         | 6         | 1         | 3            | 64         |
| 2024        | 351 to 500       | 12         | 7         | 0         | 2            | 21         |
| 2024        | Greater than 500 | 15         | 7         | 1         | 3            | 26         |
| <b>2024</b> | <b>Total</b>     | <b>741</b> | <b>36</b> | <b>30</b> | <b>18</b>    | <b>825</b> |
| 2025        | 0                | 171        | 8         | 14        | 3            | 196        |
| 2025        | 1 to 50          | 267        | 9         | 12        | 6            | 294        |
| 2025        | 51 to 100        | 112        | 1         | 0         | 1            | 114        |
| 2025        | 101 to 200       | 95         | 1         | 0         | 1            | 97         |
| 2025        | 201 to 350       | 45         | 4         | 1         | 2            | 52         |
| 2025        | 351 to 500       | 18         | 6         | 0         | 2            | 26         |
| 2025        | Greater than 500 | 16         | 7         | 1         | 3            | 27         |
| <b>2025</b> | <b>Total</b>     | <b>724</b> | <b>36</b> | <b>28</b> | <b>18</b>    | <b>806</b> |

## Appendix 2: summary of headline cattle TB statistics

**Table 3:** Herd-level summary statistics for TB in cattle in Lincolnshire between 2023 and 2025.

Source: Sam

| <b>Herd-level statistics</b>                                                                                                     | <b>2023</b> | <b>2024</b> | <b>2025</b> |
|----------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| (a) Total number of cattle herds live on Sam at the end of the reporting period                                                  | 843         | 825         | 806         |
| (b) Total number of cattle herds subject to annual TB testing (or more frequent) at the end of the reporting period (any reason) | 304         | 285         | 287         |
| (c) Total number of whole herd skin tests carried out at any time in the period                                                  | 387         | 371         | 434         |
| (d) Total number of OTF cattle herds having TB whole-herd tests during the period for any reason                                 | 296         | 306         | 291         |
| (e) Total number of OTF cattle herds at the end of the report period (herds not under any type of TB movement restrictions)      | 780         | 751         | 731         |
| (f) Total number of cattle herds that were not under restrictions due to an ongoing TB incident at the end of the report period  | 804         | 789         | 771         |
| (g.1) Total number of new OTF-S TB incidents detected in cattle herds during the report period                                   | 13          | 6           | 7           |
| (g.2) Total number of new OTF-W TB incidents detected in cattle herds during the report period                                   | 6           | 12          | 11          |

| <b>Herd-level statistics</b>                                                                                                                                                       | <b>2023</b> | <b>2024</b> | <b>2025</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| (g.3) Total number of new TB incidents detected in cattle herds during the report period                                                                                           | 19          | 18          | 18          |
| (h.1) Of the new OTF-W herd incidents, how many occurred in a holding affected by another OTF-W incident in the previous 3 years?                                                  | 3           | 6           | 1           |
| (h.2) Of the new OTF-W herd incidents, how many could be considered secondary to a primary incident based on current evidence?                                                     | 0           | 1           | 0           |
| (h.3) Of the new OTF-W herd incidents, how many were triggered by skin test reactors or twice-inconclusive reactors (2xIRs) at routine herd tests?                                 | 0           | 0           | 0           |
| (h.4) Of the new OTF-W herd incidents, how many were triggered by skin test reactors or 2xIRs at other TB test types (such as forward and back-tracings, contiguous, check tests)? | 6           | 12          | 11          |
| (h.5) Of the new OTF-W herd incidents, how many were first detected through routine slaughterhouse TB surveillance?                                                                | 0           | 1           | 2           |
| (i.1) Number of new OTF-S incidents revealed by enhanced TB surveillance (radial testing) conducted around those OTF-W herds                                                       | 4           | 3           | 1           |
| (i.2) Number of new OTF-W incidents revealed by enhanced TB surveillance (radial testing) conducted around those OTF-W herds                                                       | 4           | 8           | 3           |

| <b>Herd-level statistics</b>                                                                                                                                                   | <b>2023</b> | <b>2024</b> | <b>2025</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| (j) Number of OTF-W herds still open at the end of the period (including any ongoing OTF-W incidents that began in a previous reporting period)                                | 5           | 12          | 13          |
| (k) Number of OTF-W herds still open at the end of the period that were on a finishing unit                                                                                    | 2           | 2           | 3           |
| (l) New laboratory-confirmed incidents of M. bovis infection in non-bovine domestic species or captive deer detected during the report period (indicate host species involved) | 0           | 0           | 0           |

**Table 4:** Animal-level summary statistics for TB in cattle in Lincolnshire between 2023 and 2025.

Source: Sam

| <b>Animal-level statistics (cattle)</b>                                                                                             | <b>2023</b> | <b>2024</b> | <b>2025</b> |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| (a.1) Number of cattle tested with tuberculin skin tests in the period                                                              | 57,911      | 57,419      | 66,362      |
| (a.2) Number of cattle tested with additional IFN- $\gamma$ blood tests in the period                                               | 1,497       | 1,579       | 3,314       |
| (a.3) Total number of cattle tested with tuberculin skin tests or additional IFN- $\gamma$ blood tests in the period (animal tests) | 59,408      | 58,998      | 69,676      |
| (b.1) Reactors detected by tuberculin skin tests during the year                                                                    | 59          | 136         | 94          |
| (b.2) Reactors detected by additional IFN- $\gamma$ blood tests (skin-test negative or IR animals) during the year                  | 31          | 38          | 88          |
| (c) Reactors detected during year per incidents disclosed during year                                                               | 4.74        | 9.67        | 9.78        |
| (d) Reactors per 1,000 animal tests                                                                                                 | 1.51        | 2.95        | 2.53        |
| (e.1) Additional animals slaughtered during the year for TB control reasons (dangerous contacts, including any first time IRs)      | 4           | 0           | 4           |
| (e.2) Additional animals slaughtered during the year for TB control reasons (private slaughters)                                    | 0           | 6           | 1           |
| (f) Slaughterhouse (SLH) cases (tuberculous carcasses) reported by the Food Standards Agency (FSA) during routine meat inspection   | 1           | 1           | 2           |

| <b>Animal-level statistics (cattle)</b>                                    | <b>2023</b> | <b>2024</b> | <b>2025</b> |
|----------------------------------------------------------------------------|-------------|-------------|-------------|
| (g) SLH cases confirmed by M. bovis PCR testing or bacteriological culture | 0           | 1           | 2           |

Note (a.3) The total number of cattle tested may be lower than the sum of the numbers reported in (a.1) and (a.2), as some cattle may have undergone both a tuberculin skin test and an additional IFN- $\gamma$  blood test and are counted only once in (a.3).

Note (c) Reactors detected during year per incidents disclosed during year, reactors may be from incidents disclosed in earlier years, as any found through testing during the report year count in the table above.

Note (g) SLH cases confirmed by culture of M. bovis, not all cases reported are submitted for laboratory analysis. All cases reported are from any period prior to or during restrictions.

## Appendix 3: suspected sources of M. bovis infection for all the new OTF-W and OTF-S incidents identified in the report period

In 2025, 19 (100%) new TB incidents in Lincolnshire received a preliminary or final APHA veterinary investigation to identify the source of infection.

Each TB incident could have up to 3 potential risk pathways identified. Each risk pathway is given a score that reflects the likelihood of that pathway bringing TB into the herd. The score is recorded as either:

- definite (score 8)
- most likely (score 6)
- likely (score 4)
- possible (score 1)

The sources for each incident are weighted by the certainty ascribed. Any combination of definite, most likely, likely, or possible can contribute towards the overall picture for possible routes of introduction into a herd. If the overall score for a herd is less than 6, then the score is made up to 6 using the 'Other or unknown source' option. Buffering up to 6 in this way helps to reflect the uncertainty in assessments where only 'likely' or 'possible' sources are identified.

Table 6 combines the data from multiple herds and provides the proportion of pathways in which each source was identified, weighted by the certainty that each source caused the introduction of TB. The output does not show the proportion of herds where each pathway was identified (this is skewed by the certainty calculation). WGS of M. bovis isolates can be a powerful tool in identifying a likely source of infection, however WGS clades are not determined for OTF-S herds. As a result of varying levels of uncertainty, only broad generalisations should be made from these data. A more detailed description of this methodology is provided in the [explanatory supplement for the annual reports 2025](#).

**Table 6:** Suspected sources of M. bovis infection for the 19 incidents with a preliminary or a final veterinary assessment in Lincolnshire, in 2025.

| Source of infection        | Possible<br>(1) | Likely<br>(4) | Most<br>likely<br>(6) | Definite<br>(8) | Weighted<br>contribution |
|----------------------------|-----------------|---------------|-----------------------|-----------------|--------------------------|
| Badgers                    | 6               | 9             | 4                     | 0               | 31.7%                    |
| Cattle movements           | 6               | 3             | 1                     | 2               | 25.1%                    |
| Contiguous                 | 0               | 1             | 0                     | 0               | 1.9%                     |
| Residual cattle infection  | 4               | 0             | 1                     | 0               | 6.6%                     |
| Domestic animals           | 0               | 0             | 0                     | 0               | 0.0%                     |
| Non-specific reactor (NRS) | 0               | 0             | 0                     | 0               | 0.0%                     |
| Fomites                    | 0               | 0             | 0                     | 0               | 0.4%                     |
| Other wildlife             | 6               | 1             | 0                     | 0               | 8.3%                     |
| Other or unknown source*   | 3               | 0             | 0                     | 0               | 25.9%                    |

Please note that each TB incident could have up to 3 potential pathways so totals may not equate to the number of actual incidents that have occurred.

\* For the purpose of reflecting uncertainty in the overall picture, this pathway may be ascribed additional weighting where there is low certainty (such as 'possible' or 'likely') within other pathways.



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