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# Farm TB Risk Assessment

| Risk Factors for increased risk of introduction/spread of bTB | Yes / No | Protective measures to reduce the risk of introduction/spread of bTB | Yes / No |
|---|---|---|---|
| **Herd size** | | | |
| Is the herd size >150 [1] | | Separate management groups are used to reduce the risk of spread | |
| Is the herd size >300 [2] | | | |
| **Type of herd** | | | |
| Dairy herd [3] | | | |
| Are there other co-located species such as goats, deer, camelids which might also be at risk? | | Non bovines are farmed in separate epidemiological groups | |
| **Animal risks** | | | |
| Are there cattle movements onto the farm through purchase or letting grazing/buildings? [4] | | Closed herd with all replacements homebred | |
| Replacement cattle are sourced from<br>a) high risk area<br>b) herd that has had a bTB breakdown in the last 5 years and or CHeCS level 2<br>c) herd with unknown bTB history | | All cattle pre-movement tested before movement into the herd | |
| Are purchased cattle introduced directly into the resident herd? | | Cattle isolated and post movement tested before introduction | |
| Use of hire bulls? | | | |

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| **Management system** | | | |
| The farm is over 2 or more premises and/or multiple land parcels grazed by animals | | The farm is of a Single holding with no nose to nose contact with neighbours | |
| Use of common/shared grazing | | | |
| **Feeding practices** | | | |
| These feedstuffs have been shown to be of higher risk by the margins shown, compared to not using them<br>a) Rough pasture (7% per 10ha)<br>b) Grass silage (50%) | | | |
| Mineral licks, feed and water troughs are accessible to wildlife | | Mineral licks, feed and water troughs [5] at pasture are raised off the ground in sheer sided and possibly roll top facilities | |
| Concentrates, Maize Silage and/or TMR fed from the ground or in low level feeders | | Feed fed in such a way that it can't be accessed by badgers | |
| Waste milk or pooled colostrum fed to calves | | Calves fed proprietary milk substitute or low risk, pasteurised milk | |
| Maize is grown on farm or by close neighbours and /or maize silage is fed to cattle [6] | | | |
| **Farm boundary maintenance** | | | |
| Direct contact is possible with neighbouring cattle across boundaries | | Double fencing and gating is in place to prevent nose to nose contact – 3m exclusion | |

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| Boundaries not secured - break in or out is possible | | Boundaries secure and fields at perimeter of farm not used to graze cattle if neighbours cattle are present across the boundary | |
| **General biosecurity** | | | |
| Slurry or manure is spread on land used for grazing cattle | | Manure is stored before spreading and then spread on arable land | |
| Is there effluent run off from neighbours and/or spreading slurry or manure from other farms onto grazing land? | | | |
| Is there use of shared equipment without adequate cleansing and disinfection – including contractors and livestock transport? | | | |
| Visitors and/or farm staff are allowed onto the farm without adequate disinfection | | There is provision of boot dips and protective clothing for visitors and farm staff<br>Personnel undertake cleansing and disinfection of protective clothing / equipment between different management groups | |
| Do any of the following offer an attraction to badgers?<br>a) Feed trough areas accessible to badgers<br>b) Spilled feed around feed bins<br>c) Silage clamp management | | | |
| Badgers can gain access to the cattle buildings [7] | | | |
| Badgers can potentially access the cattle feed stores | | | |

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| Cattle can come into contact with wildlife by direct or indirect contact at pasture [8] | | Measures put in place to avoid direct contact at pasture e.g. fencing off setts and latrine areas. Cattle do not graze areas of the farm where there is known badger activity. | |
| **General herd health** | | | |
| Is there a known presence of<br>a) concurrent immunosuppressive disease – e.g. BVD or Johnes disease<br>b) nutritional deficiencies [9] | | Is there an active herd health plan in operation which includes an up to date vaccination policy, which is adhered to, based on the needs of the farm? [10] | |
| Are the cattle, buildings and equipment maintained in a state of good cleanliness? | | | |
| **TB History and testing** | | | |
| Has the herd experienced a TB breakdown within the last 2 years? | | The herd has tested TB free for 10 or more years | |
| Is there evidence to support previous recrudescence or repeated incursions of bTB? [11] | | The farm has been TB free for greater than 2 years | |
| Are there animals who have previously tested as Inconclusive reactors (IR) still present on the farm? [12] | | There are no previous IRs on the farm | |
| Are TB tests<br>a) Overdue [13]<br>b) Completed as part tests [14] | | Testing is completed on time and if it is done in more than one part these are not over a prolonged time period. | |
| Reactors and IRs are left in the herd following disclosure | | Reactors and IRs are always kept in isolation | |

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| **Local area** | | | |
| There is at least one current herd under OTFW within 10km of the farm boundaries including any remote grazing | | | |
| There is a risk of cattle-cattle contact with neighbours who have a history of TB within the last 5 years | | | |
| Genotypes of *M.Bovis* in previous reactors or Slaughterhouse cases (SLH) match those of the local area [15] | | | |
| A wildlife population is known to be present<br>a) Badger setts within 2km of the farm boundaries [16]<br>b) Wild Deer known to access the farm | | | |
| Has there been previous evidence of diseased badgers observed on the farm? | | | |

# Farm TB Risk Assessment

## Endnotes:

1. In high risk areas, farms with herds of >150 cattle are 50% more likely to suffer a bTB outbreak than those with 50 or fewer
2. In herds with endemic bTB, herd sizes >300 are likely to circulate disease at a level which may be missed at individual TT test.
3. Dairy herds tend to undertake higher risk practices including feeding. They also tend to be larger.
4. The risk level can be assessed as highest when groups of cattle are purchased regularly and can be reduced by reducing the frequency of purchase and the size of the groups purchased.
5. A small scale survey is ongoing to investigate whether reducing the water level in water troughs makes them less attractive to badgers who may not be able to reach in for the water level. This remains an experimental hypothesis at this time.
6. This leads to a 20% increase in TB risk per 10ha of maize grown.
7. Building access by badgers is recognised as a greater risk than occasional pasture contact
8. Badger tracks are recognised as a lower risk than latrine and shared feeding areas at pasture
9. This may increase susceptibility to TB
10. This should include Johnes disease vaccination if utilised. Using a Johnes vaccine may increase the chances of not detecting infected animals? Work is underway to investigate if the gamma interferon test may be of use in this situation.
11. This will need to be looked at in conjunction with the genotype results from infection in SICCT positive cattle.
12. There is an odds ratio of 3.1 times greater risk of lifetime risk of becoming a reactor if an individual has at any time tested as an inconclusive reactor.
13. Even relatively short extensions in the testing interval are associated with an increased risk of disclosing disease in the high risk area.
14. If the period of time during the test is prolonged, this can exacerbate the impact of any spread within the herd.
15. If this is the case, then local spread from either wildlife or locally purchased stock is suggested. If this is not the case, then purchase from outside the area is suggested.
16. Byrne et al identified in 2012 that the average maximum distance a badger would roam was 2km. However, under exceptional circumstances hungry animals were found to roam up to 7.5km from their sett, possibly over a couple of days. The risk level can be assessed as highest when groups of cattle are purchased regularly and can be reduced by reducing the frequency of purchase and the size of the groups purchased.