SCOTTISH BADGERS
FACT SHEET - BOVINE TB. August 2017

Bovine TB is a disease of cattle.

The problem will stop when an effective means of treating cattle has been found.

Killing badgers is not an effective way of treating cattle.

Vaccinating cattle is an effective way of treating cattle.

The BCG vaccination is effective in preventing cattle from contracting and spreading the infection.

BCG vaccinated cattle can be distinguished from infected cattle, which enables trade to carry on.

DEFRA National Statistics for Great Britain

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/629981/bovinetb-statsnotice-quarterly-19jul17.pdf

Scotland has had officially TB-free (OTF) status since 2009. The herd incidence is very low (0.2%)and stable and is largely driven by sporadic introductions of infected cattle into Scotland.

In the recent two years there have been 9 and 11 NHI (new herd incidents) in Scotland, due to imported cattle.

Scotland uses a high sensitivity test (the interferon-gamma test) to ensure that the disease is eliminated quickly before it can spread. The IFNG test detects 90% of infected cattle.

In Scotland 57% of herds are exempt from routine bTB testing. Others are tested every four years and at shorter intervals if risk is suggested.

Scotland's OTF status wil l not be lost unless shortcuts are taken or mistakes made by traders of cattle who import animals.

In **Wales** all herds are tested at least annually.

In Intensive Action Areas in Wales there is 6-monthly testing, the high sensitivity interferon-gamma test is used, and cattle movement controls and farm biosecurity have been tightened.

In 2016 new bTB incidents were at a ten-year low with 95% of cattle herds bTB free in Wales.

https://www.theguardian.com/uk-news/2015/sep/09/frequent-tb-testing-for-cattle-more-effective-than-badger-culls

In **England** a regional approach is now being taken to enable the right approach for the different areas – high risk areas (HRA), edge areas and low risk areas (LRA).

Routine testing for bTB broke down following the foot and mouth disease (FMD) outbreak in 2001.

The skin reactor test leaves a quarter to a fifth of infected cattle in the herds, which spread the infection.

Pre-movement testing of cattle was made compulsory in 2006.

Around 2012 it was discovered that some infected cattle were being deliberately kept in the herds and healthy cattle sent for slaughter as substitutes

Since around 2012 when cattle-based measures were tightened up, including improved biosecurity, pre- and post-movement testing of cattle, backup use of the more sensitive interferon-gamma test and surveillance of abattoir procedures, there is evidence of a slowing down in both the incidence and prevalence rates in the HRA's.

The Krebs trial confirmed by subsequent scientific surveillance led by Professor Rosie Woodroffe proved that bTB in cattle is made worse as a result of killing badgers. This is caused by perturbation.

http://www.bbc.co.uk/news/science-environment-29889067?dm_i=1NFN,2YA3U,906C5Y,ANCQS,1

Territory and social structure are central to badgers' well-being; culling wrecks the structure and cull survivors are more likely to wander; *if* they are carrying the infection they will carry it further.

85% of badgers don't carry bTB infection even in HRA's of cattle infection.

Only 1.6% of culled badgers are likely to have been capable of passing on bTB.

> Jenkins, HE, Woodroffe, R and CA Donnelly (2010) *The duration of the effects of repeated widespread badger culling on cattle tuberculosis following the cessation of culling*. PLoS ONE, February, 5 (2).

The government has refused to test shot badgers for bTB at a time when science says that almost all the badgers shot are likely to have been bTB-free.

Facts have not been disclosed about the gunshot injuries, the time taken to die, or orphan cubs.

Polls show at least 70% of the public are opposed to culling of badgers.

Cumbria has 3,500 cattle herds.

Some cattle dealers have been bringing in cattle from high risk areas to be sold through local markets in high numbers.

Four to five hundred live cattle movements from other parts of England into Cumbria take place every month

A substantial number of imports from NI and the Republic of Ireland come through the county i.e. from high risks areas.

There are significant cattle movements from Cumbria into Scotland.

Each year sees approximately 6 new herd incidents of bTB in Cumbria from imported cattle.

In 2015 farmers were warned by DEFRA to get a grip on the cattle movements into Cumbria if they wanted to prevent bTB from coming into their herds.

http://www.cumberlandnews.co.uk/farmer/Warning-over-bovine-TB-return-to-Cumbria-0cf1b8f7-d1b4-4e82-bf98-2ef31d93f7f4-ds

http://www.newsandstar.co.uk/news/Dont-kill-badgers-farmers-are-warned-c97d4e17-defc-4365-a4fa-aa31981ff4ee-ds

Despite this the introduction of cattle by some dealers from high risk areas carries on.

In 2017 a strain of bTB in a cow in Cumbria was shown to have come from NI.

The discovery of a road killed badger carrying bTB is a distraction from the real problem which is the import of cattle from high risk areas.

Culling badgers would not only be pointless but would make matters worse by displacing local wildlife.

Apart from making the bTB problem in cattle worse, any person interfering with a badger sett, disturbing a badger or in possession of a badger (or going prepared to do so) is carrying out a criminal act.

EU Finance for fighting bTB in cattle.

The UK receives £23 million a year from the EU for disease control including bTB. Based on scientific evidence the EU budget is to develop *cattle* centred measures. Badger vaccination is included but not culling.

The Science of bTB transmission

A computer modelling study by the Queen Mary University of London has shown that reducing the length of time between cattle tests by one month is 26 times more effective than badger culling.

https://www.theguardian.com/environment/2015/jan/14/testing-cattle-better-than-culling-badgers-control-bovine-tb-study-suggests

Evans, Matthew & Moustakas, Aristides (2015) *Coupling models of cattle and farms with models of badgers for predicting the dynamics of bovine tuberculosis* Stochastic Environmental Research and Risk Assessment https://doi.org/10.1007/s00477-014-1016-y

Further computer modelling by the Boyd Orr Centre for Population and Ecosystem Health, University of Glasgow, shows that the control of bTB in cattle could be most improved by increased frequency of cattle tests and improved farm biosecurity.

Wright, D. M. et al. Herd-level bovine tuberculosis risk factors: assessing the role of low-level badger population disturbance. Sci. Rep. 5, 13062; doi: 10.1038/srep13062 (2015)
http://www.gla.ac.uk/research/az/boydorr/meetingsevents/2015-bovinetuberculosis/

Other diseases of cattle result in vastly more massive slaughter than bTB

75,000 cattle are killed annually through not being in calf

51,00 cattle are killed annually because they have mastitis

11,000 cattle are killed annually because of bTB

Acronyms

OTF: Officially TB Free status.

OTFW: Officially TB Free status Withdrawn.

IFNG: Interferon Gamma test.

NHI: New herd Incidents.

APHA: Animal & Plant Health Agency

Sam: IT system used for administration of bTB testing in GB.

IFNG test information – DEFRA Definition

"The standard IFNG blood test is a comparative test, like the tuberculin skin test used in the UK and Ireland.

It uses bovine (PPDB) and avian (PPDA) tuberculin as antigens to 'challenge' live blood cells. Blood cells from infected cattle produce IFNG in response to this stimulation and the IFNG so produced is measured using the BOVIGAM™ ELISA test. A test-positive result is recorded where the IFNG response to PPDB is greater than the IFNG response to PPDA.

The IFNG blood test cannot be used on its own to maintain or regain OTF status for a particular cattle herd."

http://www.bovinetb.info/docs/gamma%20interferon%20test.pdf

http://ahvla.defra.gov.uk/vet-gateway/ifng-testing/index.htm