



EUROPEAN COMMISSION
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

Director General

SANCO/10333/2013

*Programmes for the eradication, control and monitoring of certain
animal diseases and zoonoses*

Eradication programme for Bovine Brucellosis

United Kingdom

Approved* for 2013 by Commission Decision 2012/761/EU

* in accordance with Council Decision 2009/470/EC

ANNEX I

Standard requirements for the submission of national programmes for the eradication, control and monitoring of the animal diseases or zoonoses referred to in Article 1(a)⁶

1. Identification of the programme

Member State: United Kingdom (Northern Ireland)

Disease(s)⁷: Bovine Brucellosis

Request of Union co-financing for⁸: 2013

Reference of this document: BR submission 2013

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Date of submission to the Commission: 20 April 2012

2. Historical data on the epidemiological evolution of the disease(s)⁹:

1.1.1. Surveillance system:

The Department of Agriculture and Rural Development for Northern Ireland (DARD) carries out a programme of blood and milk testing of all herds containing breeding stock ($n \cong 20,080$). Routine brucellosis (BR) blood sampling is carried out on cattle herds in Northern Ireland (NI) on an annual basis, with the exception of some dairy herds ($n = 525$), which are routinely blood sampled on a biennial basis (with associated monthly bulk milk ELISA testing). The blood samples are tested by means of a serum agglutination test (SAT) in accordance with Annex C of Council Directive 64/432/EEC. If any SAT reading > 30 iu is detected at this test, the sample is again tested by means of an SAT (EDTA) test and complement fixation test (CFT). Any animal giving an SAT test result of >30 iu of agglutination per ml or any CFT reading of <20 iu is classified as an inconclusive reactor and is required to be isolated and retested. A risk analysis is carried out and if significant risk factors exist, then an ELISA test is requested on subsequent tests. Derestriction of the animal's movements within the Member State (MS) may occur if the iELISA and CFT results are negative and SAT remains less than 102 iu. Animals with SAT readings of ≥ 102 iu may be taken as reactors, as may animals with CFT readings of ≥ 20 iu. Those with iELISA positive results may be removed, again depending on significant risk factors. Cattle being

⁶ In the case of the second and subsequent years of a multi-annual programme that has already been approved by a Commission Decision, only section 1, section 7 and section 8 need to be completed.

⁷ One document per disease is used unless all measures of the programme on the target population are used for the monitoring, control and eradication of different diseases.

⁸ Indicate the year(s) for which co-financing is requested.

⁹ A concise description is given including target population (species, number of herds and animals present and under the programme), the main measures (sampling and testing regimes, eradication measures used, qualification of herds and animals, vaccination schemes) and the main results (incidence, prevalence, qualification of herds and animals). The information is given for distinct periods if the measures were substantially modified. The information is documented by relevant summary epidemiological tables (in point 6) complemented by graphs or maps (to be attached).

slaughtered at O72MS (Over 72 Months Scheme) slaughter plants are routinely blood sampled. In addition, monthly bulk milk samples, which are collected by the dairies, are tested at the Veterinary Sciences Division (Stormont) laboratory using an ELISA kit (n = 37,471 bulk milk samples tested during 2011). Premovement testing of BR eligible cattle was introduced in December 2004. In 2011, there were 180,500 tests carried out under the premovement regulations, yielding one reactor animal. Further disease statistics on brucellosis are available from the DARD web site on a monthly and quarterly basis (<http://www.dardni.gov.uk/index/dard-statistics/animal-disease-statistics.htm>).

1.1.2. Notification of Abortions:

Herd keepers and veterinary surgeons are required under the Brucellosis Control Order (Northern Ireland) 2004 to notify a Divisional Veterinary Office if any bovine animal has had an abortion (this 2004 Control Order replaced the 1972 Control Order on 1st October, 2004). A restriction notice is issued for these animals, prohibiting their movement off the premises and requiring them to be isolated. The animals are tested by the DARD Veterinary Service using both SAT and CFT until a negative test at 21 days post-calving is obtained. During 2011, 2,382 cattle were blood sampled following the reporting of an abortion.

1.1.3. Measures in case of positive findings:

Herd restrictions, which stop the movement of animals onto and off the premises, except under the authority of a licence issued by DARD, are imposed once a reactor is identified. The reactor is required to be kept in isolation until slaughtered.

When the presence of *Brucella abortus* is confirmed by culture of tissue samples taken at point of slaughter either:

- all breeding and potential breeding animals (reactors, infected and contact) are valued and slaughtered; or
- the breeding animals in the herd are subject to further testing.

The OBF status of the herd is not restored until at least two clear herd tests have been completed, the last completed test being at least 21 days after any animals pregnant at the time of the outbreak have calved. In practice, this may mean the restriction and testing of all breeding cattle in a herd through an entire calving cycle.

Investigations into contact with contiguous herds are undertaken to assess the risk of spread of infection. Herds of origin, transit herds or other herds considered to be at risk are tested. Forward tracing is carried out and animals which have left the infected herd since the last negative herd test, are tested. All contiguous herds are tested as well as herds with cattle movements to and from the affected herd. Before restrictions can be lifted, the premises have to be cleansed and disinfected with an approved disinfectant and subjected to veterinary inspection.

1.1.4. Historical data on the epidemiological evolution of the disease:

There are currently 1.6 million cattle in NI, distributed among 20,500 farm businesses with cattle (June 2011). Dairy cows comprise 18% of the national herd while beef cows account for 17%. Based on cattle TB tested in herds, the mean herd size has increased from 56 cattle in 1990 to 78 in 2011, an increase of 39%. However, the data are strongly skewed to the right and the median was 38 for all TB herd tests in 2011. Over half of herds (58%) in NI have fewer than 50 cattle.

Herd and cattle density is highest in the south and west, with the highest concentration in County Armagh (Figure 1). Conversely, herds in the north and east tend to be larger than those in the south or west.

For veterinary administrative purposes, the province is divided into ten regions, each with a divisional veterinary office (Figure 2). The regions are sub-divided into "patches", each managed by a veterinary officer (VO) and team of technical officers. A centralised real-time animal health database ("APHIS"), incorporating an animal movement and test management system, is used for all aspects of brucellosis and tuberculosis testing. This is used to administer between-herd movement of cattle, captured in real-time using a licensing system and with terminals located in markets and abattoirs. This facilitates management of herd-level and animal-level tests, with results recorded at animal level.

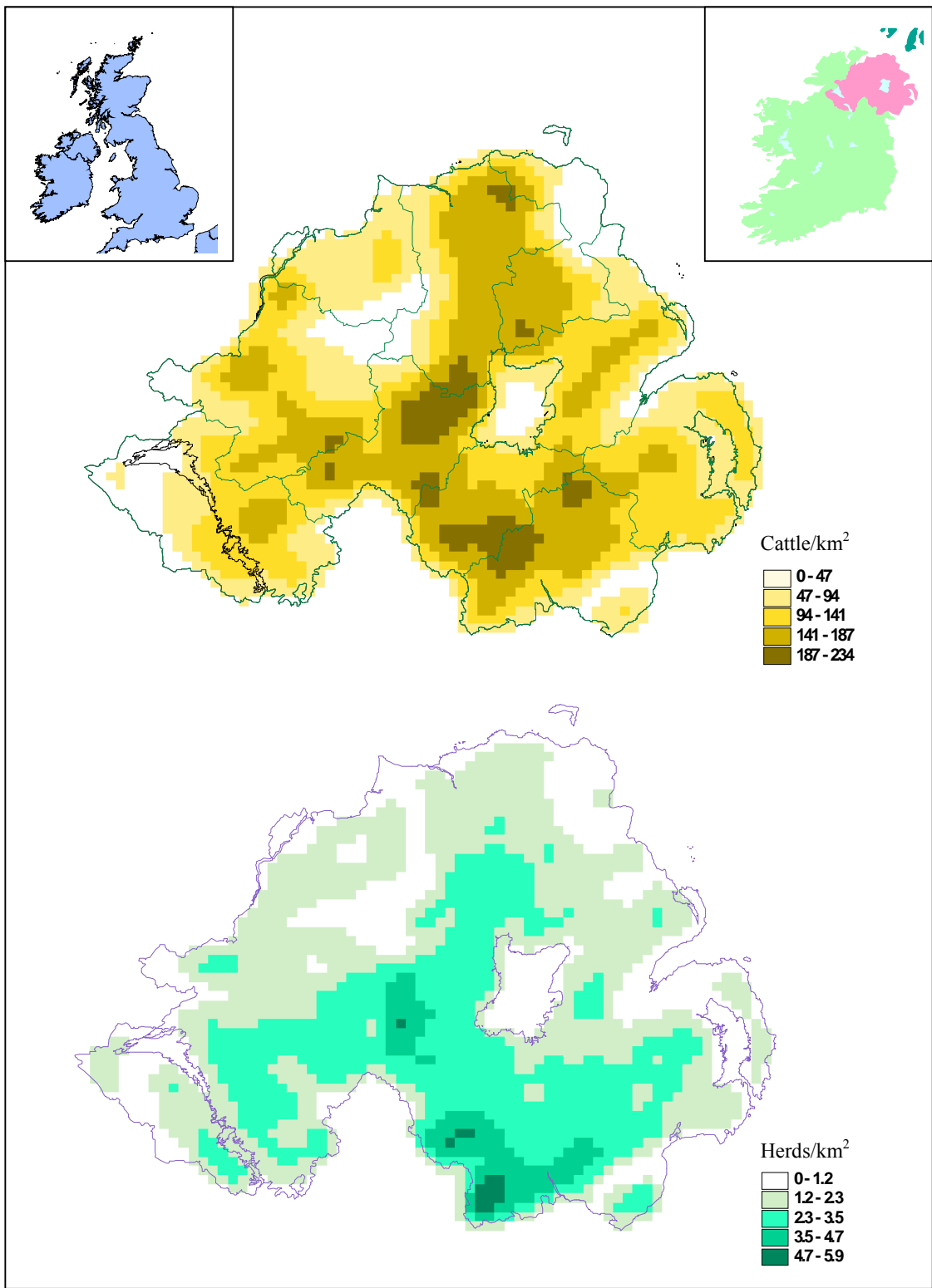


Figure 1. Cattle and herd densities, 1998 to 2003.

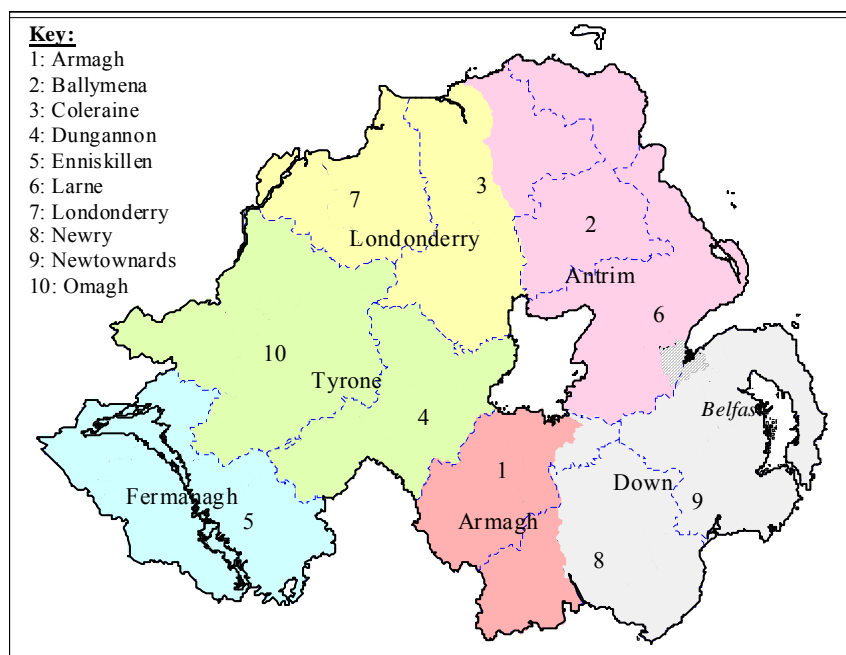


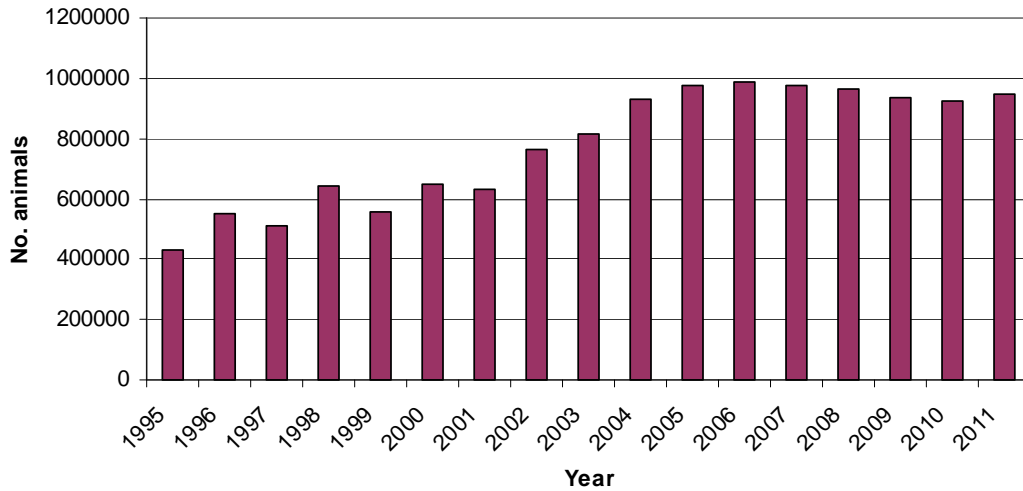
Figure 2. Counties (coloured and annotated) and Divisional Veterinary Office regions (numbered) in Northern Ireland.

Screening for brucellosis comprises of serological testing of eligible cattle (hereafter referred to as on-farm sampling), iELISA testing of bulk milk tank samples from dairy herds and sampling at slaughter of cattle older than 72 months. Serological samples are screened using the microtitre tray Serum Agglutination Test (MSAT) and non-negative results confirmed with the Complement Fixation Test (CFT) with the iELISA used in certain higher risk circumstances.

During the period 1995 to 2001, the mean annual number of animals tested for brucellosis was 568,000 but this increased to an annual mean of over 900,000 (945,600 in 2011) for the last seven years (Figure 3). This was due to the introduction of monthly bulk milk testing and also annual testing of herds that are not purely dairy herds.

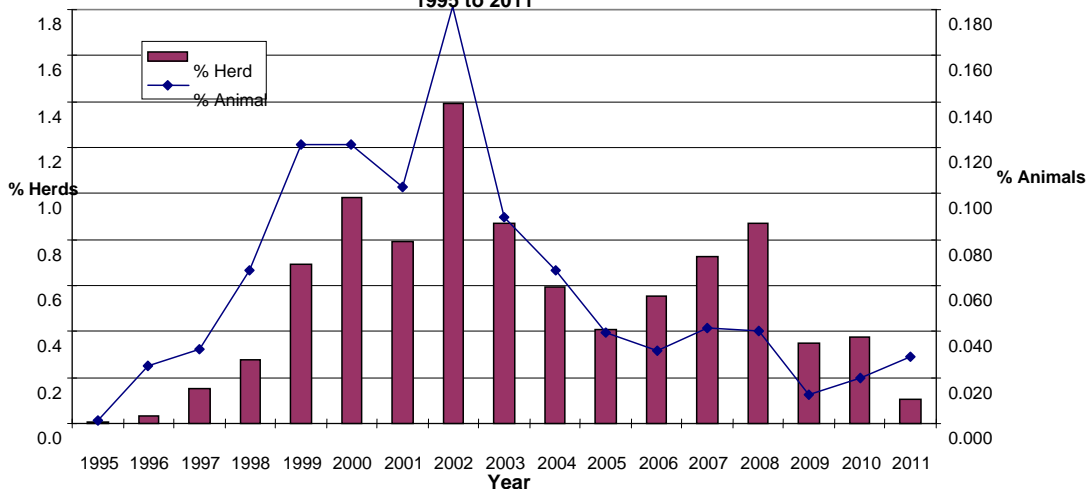
Monthly bulk milk sampling commenced in 2001 and all dairy herds were included in the screening programme within the following year (37,471 milk samples in 2011). Serological screening at slaughter of cattle older than 30 months also commenced in 2001 (under an Over Thirty Months Scheme). With the recent change in regulations allowing older cattle to enter the food chain, this scheme was replaced by an Older Cattle Disposal Scheme which decreased the numbers being monitored for brucellosis by this surveillance route, and then by an over 72 month sampling scheme (28,813 sampled in 2011).

Figure 3: Annual number of animals tested for brucellosis (blood or milk samples) 1995 - 2011



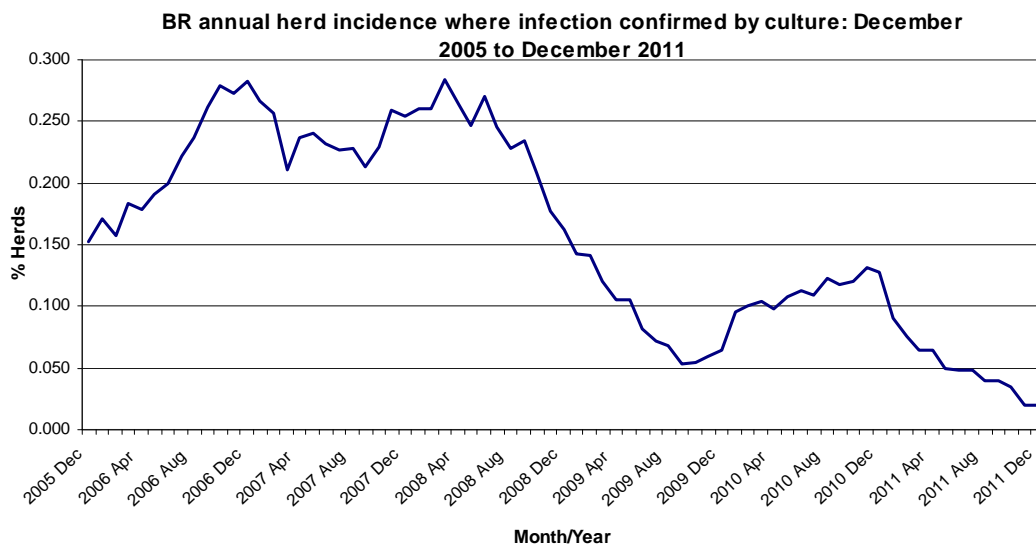
Bovine brucellosis was largely eradicated from NI by the 1980s but three primary outbreaks in the late 1990s, associated with cross-border activity, resulted in significant recrudescence. Herd and animal incidences increased until 2002 before declining (Figure 4). There was an apparent reduction in incidence in 2001 but this arose from significant reductions in testing that year, associated with a foot and mouth disease epidemic. In 2005, herd incidence increased due to a significant cluster of breakdowns associated with an outbreak in County Armagh, and to increased use of parallel testing and severe interpretation of serological tests (see later).

Figure 4: BR annual herd and animal incidence: 1995 to 2011



The annual herd incidence where BR infection is confirmed by bacteriological culture remained similar from October 2006 to June 2008 (Figure 5). There has been a steady decline in confirmed annual herd incidence (0.27% to 0.06% in November 2009) but there has been a slight rise during 2010 (0.13%). This was reversed in 2011 (0.02% in December 2011).

Figure 5



Most outbreaks are located in the south of the country, with 76% of outbreaks up to 2005 located in the three southern counties¹⁰ and 42% located in County Armagh. In more recent years, the vast majority of infection has been concentrated in two foci in the south of the country.

A study of outbreaks between 1995 and 2005 showed that 47% of first incidents were identified at contiguous testing, i.e. where infection is disclosed in herds in close proximity to outbreaks (Figure 6). However, some non-contiguous tests occurred in contiguous herds, for example, 40% of herds identified through post-abortion testing were tested within the previous six months due to contiguity with an infected herd. Adjusting for this resulted in 61% of incidents being first identified at such testing.

20% of incidents were disclosed at routine testing, mostly through the biennial or annual herd test. Excluding 1995, with only a single seropositive herd, the percentage of incidents identified at routine herd tests ranged from 7.4% (2003) to 40% (2005), with a 10-year mean of 16.6%. The percentage of routine test disclosures increased in 2004 (15.4%) and 2005 (40%), from a previous 5-year mean of 11.5%. This corresponded with a significant reduction in the proportion of incidents confirmed by bacteriological culture.

¹⁰ Abernethy D. (2008). Epidemiology and Management of Bovine Brucellosis in N. Ireland. PhD thesis. University of London.

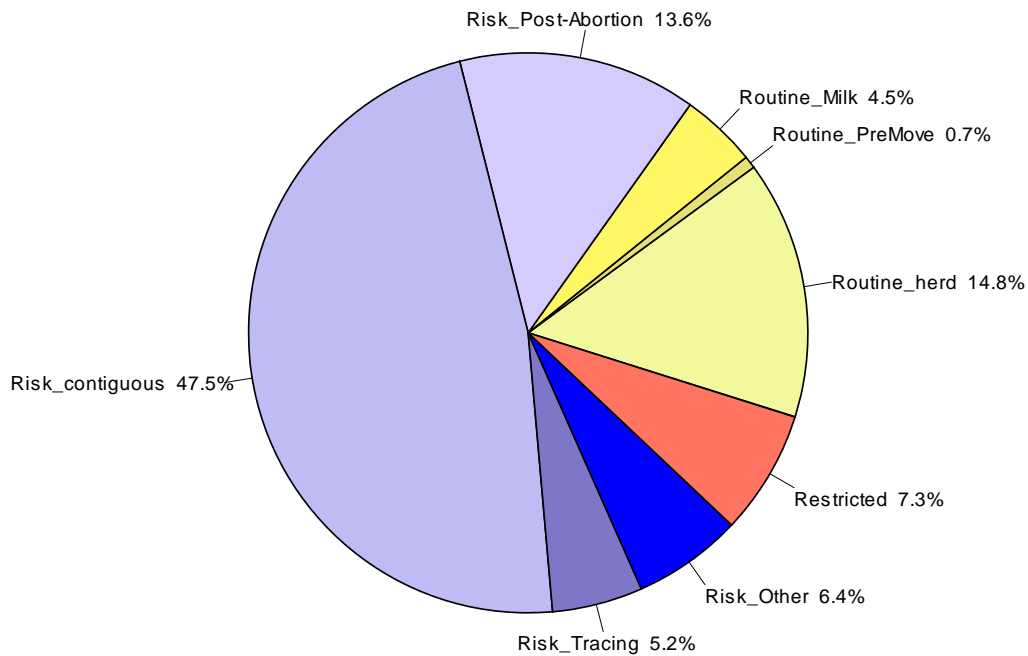


Figure 6: Proportion of outbreaks by test reason at disclosure
(n = 961).

A range of epidemiological studies have been undertaken to explore risk factors for brucellosis and to assess the efficacy of programme management. Some of these have been, or are being published, and further information can be provided if required. The following provides a brief synopsis of findings to date:

- The nature of farming in NI is highly conducive to the spread of brucellosis. Cattle density is the highest in the UK and farm fragmentation is extensive, exacerbated by relatively small farm sizes, an increase in herd size in the 1990s and renting of pasture. Approximately 60% percent of herds use multiple premises, with a mean of 31 contiguous herds per breakdown, 13 of which directly neighbour each herd. This increases the potential for widespread exposure to infected cows, particularly when many herds utilise outdoor or mixed calving systems. Trends within the cattle farming industry, in response to economic subsidies, have further increased the risk - the cattle population increased by 50% in the 40 years before 1989 and by approximately 6% thereafter. These increases preceded a significant rise in the incidence of both bovine tuberculosis and bovine brucellosis, suggesting an association with high stocking density¹¹.
- The lengthy incubation period and latency associated with brucellosis reduces the sensitivity and negative predictive value of serological tests. This allows latently infected cattle to potentially escape the multiple, short-interval test regime

¹¹ Robinson P (2006). Cattle Subsidies in Northern Ireland 1990 – 2005: Their Influence on Cattle Demography, and Consequent Significance for Bovine Tuberculosis and Brucellosis Incidence. Dissertation for Royal College of Veterinary Surgeons Diploma in State Veterinary Medicine.

surrounding outbreaks and may lead to an underestimate of the role of between-herd movement¹².

- A case control study identified herd size, herd density, between-herd movement and proximity to infection as significant risk factors for brucellosis.
- A field trial utilising six serological tests was undertaken to compare the diagnostic parameters of the tests. Over 31,000 samples were analysed as part of this trial and active consideration is being given to various changes in the brucellosis programme from the results of the trial. Amongst others, parallel testing by SAT and iELISA in risk and restricted herd and individual tests is being used widely.
- Surveillance measures for brucellosis were assessed: there was negligible increase in risk associated with biennial testing (compared with annual testing) and post-abortion testing was the most significant due to the increased within-herd prevalence associated with abortions. Bulk Milk Tank testing was the most effective surveillance measure but the low percentage of dairy herds in the country and relatively low sensitivity of the procedure precluded it replacing serological testing.
- Four, inter-related factors were assessed and identified as being crucial in determining the success of the eradication programme: management of exposed contiguous herds, the level of compensation paid, biosecurity measures employed by farmers and the level of government investment in the programme.

3. Description of the submitted programme¹³:

Current Programme

- (a) Routine annual herd tests are carried out in accordance with Council Directive 64/432. Routine Brucellosis blood sampling is carried out on cattle herds in NI on an annual basis, with the exception of dairy herds in 7 lower incidence DVOs, which are routinely blood sampled on a biennial basis (with associated monthly bulk milk ELISA testing). Breeding and potential breeding cattle (female and bull cattle greater than 12 months of age) are subjected to serological testing on farm. An exception to test is made for bull beef cattle provided that the herdkeeper signs an undertaking to send these cattle directly to slaughter and that the OBF status in the herd is maintained at the routine herd test (i.e. the status of the herd is not withdrawn).

¹² Stringer, L.A., Guitian, F.J., Abernethy, D.A., Honhold, N.H. and Menzies, F.D. (2008). Risk associated with animals moved from herds infected with brucellosis in Northern Ireland. *Preventive Veterinary Medicine*, 84:72-84.

¹³ A concise description of the programme is given with the main objective(s) (monitoring, control, eradication, qualification of herds and/or regions, reducing prevalence and incidence), the main measures (sampling and testing regimes, eradication measures to be applied, qualification of herds and animals, vaccination schemes), the target animal population and the area(s) of implementation and the definition of a positive case.

- (b) Compulsory Premovement testing of all female and bull cattle greater than 12 months of age. The requirement for cattle to have been premovement tested was introduced on 1st December 2004.
- (c) Cases of disease identified in the course of testing or notified to the Department result in the slaughter of affected and, in most cases where culture confirmation is obtained, all in-contact animals, the imposition of immediate movement restrictions on the holding and surrounding farms, tracing of cattle movements and an epidemiological investigation.
- (d) Tests are carried out for non-routine reasons - restricted herds which are not depopulated, backward and forward traced animals or herds and herds considered to be at risk and animals of uncertain disease status. In the case of at-risk herds, these are restricted until appropriate check testing has been carried out. In the case of herds immediately contiguous to the Brucellosis breakdown herd the restriction is maintained during the initial period following restriction until the at-risk herd has shown two negative herd tests at an interval of at least three months.
- (e) Monthly bulk milk sampling is carried out in conjunction with the milk processing industry. A sample from the bulk tank is collected by the industry and submitted to the Agri-Food and Biosciences Institute (AFBI) Veterinary Sciences Division (VSD) for ELISA testing.
- (f) DARD continues to undertake a publicity campaign programme promoting the prevention, detection and reporting of the disease. Activities have included a programme of direct mail shots, posters, leaflets, fliers, press articles, newspaper and journal advertisements.
- (g) The use of EC approved Brucellosis vaccine is prohibited in the NI cattle population currently. Thus all herds are OBF status or have the OBF status suspended or withdrawn.
- (h) Thick Lime Milk treatment of slurry of Brucellosis breakdown herds where there is a significant risk of spread of infection by slurry.
- (i) The feasibility of using Brucellin Skin Testing as a diagnostic tool in high risk circumstances will be evaluated.

4. Measures of the submitted programme

4.1. *Summary of measures under the programme*

Duration of the programme:

First Year

Brucellosis was eradicated in NI herds by 1982 with the herds attaining OBF status and biennial herd testing was introduced in 1988. The resurgence of Brucellosis started to occur in mid 1996. A Brucellosis Policy Review was completed during 2002, following which a number of new measures have been introduced.

First year:

- Control
- Testing
- Slaughter of animals tested positive
- Killing of animals tested positive
- Vaccination
- Treatment
- Disposal of products
- Eradication, control or monitoring.

Last year: Still current

- Eradication**
- Testing**
- Slaughter of animals tested positive**
- Killing of animals tested positive
- Extended slaughter or killing
- Disposal of products
- Other measures (*specify*):

4.2. *Organisation, supervision and role of all stakeholders¹⁴ involved in the programme:*

The Veterinary Service of the Department of Agriculture and Rural Development (DARD) is the designated Competent Authority for the control of Brucellosis in NI under Council Directive 64/432/EC.

Policy responsibility in DARD lies with the Animal Health and Welfare Policy Division which is part of the Central Policy Group. Delivery responsibility belongs to Veterinary Service, with Veterinary Service Headquarters managing compensation payments and contract management.

¹⁴ Describe the authorities in charge of supervising and coordinating the departments responsible for implementing the programme and the different operators involved. Describe the responsibilities of all involved

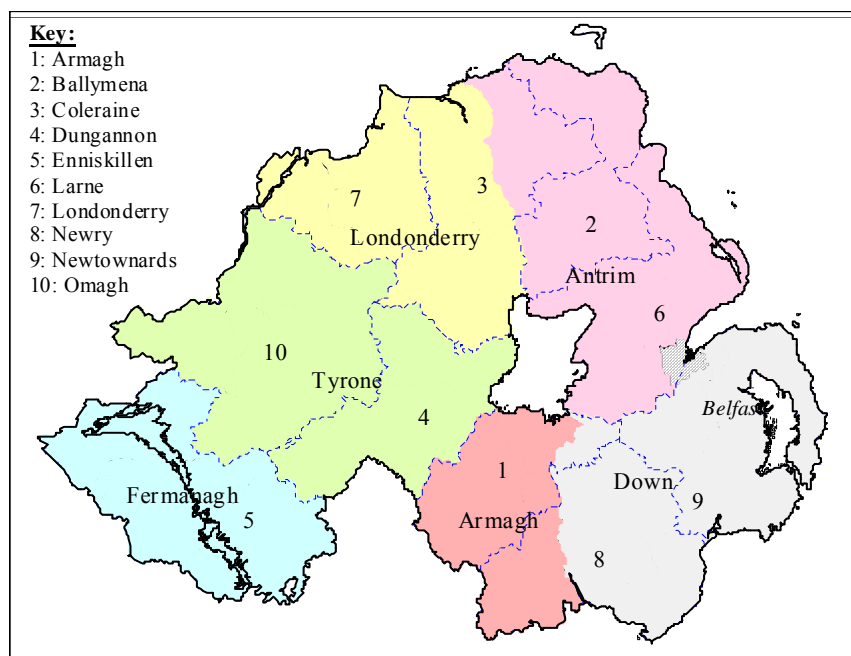
A Brucellosis Programme Management team, established in October 2008, has a range of functions including monitoring of the programme, project management, change management and the provision of veterinary advice. Veterinary Service Field side consists of 10 areas (see Section 4.3), divided into patches. Field staff involved in Brucellosis control are: administrative staff, Veterinary Officers, Animal Health and Welfare Inspectors (blood samplers) and Valuation Officers.

Private Veterinary Practitioners (PVPs) and private lay testers (working under the supervision of a PVP) may be approved by DARD to carry out blood sampling for pre-movement testing.

Laboratory testing for Brucellosis is currently carried out at Veterinary Sciences Division, part of the Agri-Food and Biosciences Institute (AFBI), NI.

4.3. Description and demarcation of the geographical and administrative areas in which the programme is to be implemented¹⁵:

For veterinary administrative purposes, NI is currently divided into 10 regions, each with a Divisional Veterinary Office (Figure 1). The regions are sub-divided into "patches", each managed by a veterinary officer (VO) and team of technical officers. A centralised animal health database ("APHIS"), incorporating an animal movement and test management system is used for all aspects of Brucellosis testing. This is used to administer between-herd movement of cattle, captured using a licensing system and available access to relevant parts of the database by market and abattoir operators. This facilitates management of herd-level and animal-level tests, with results recorded at animal level.



¹⁵ Describe the name and denomination, the administrative boundaries, and the surface of the administrative and geographical areas in which the programme is to be applied. Illustrate with maps.

Fig 1: Divisional Veterinary Office regions (numbered) in Northern Ireland.

4.4. Description of the measures of the programme¹⁶:

In 1982, Northern Ireland cattle herds were recognised as Officially Brucellosis Free (OBF) by the EEC. Since that date a monitoring programme has been carried out, in accordance with Annex B of 64/432/EC and is dependent on the percentage of herds which can be considered to be free from the disease over a given supervisory period.

Monitoring consists of:

- Annual testing of all herds in 3 ‘higher incidence’ DVOs
- Biennial testing in pure dairy herds (supplemented by Bulk Milk testing) and annual testing of all other herds in 7 ‘lower incidence’ DVOs
- Checks on aborted animals following notifications by farmers and veterinary surgeons
- Testing of diagnostic sample material submitted to the laboratory
- Re-test of inconclusive reactors
- Testing of animals forward traced from outbreaks of the disease
- Testing of herds identified by backward traces from outbreaks of disease
- Testing of herds inner and outer ring to a breakdown herd
- Monthly Brucellosis Bulk Milk ELISA testing in all dairy herds
- Compulsory Pre-movement testing of all female and bull cattle greater than 12 months of age
- Testing of Over Seventy Two Month cows and bulls
- Testing in Temporary Control Areas.

Other programme measures implemented include:

- Undertaking a publicity campaign programme promoting the prevention, detection and reporting of the disease
- Thick Lime Milk treatment of slurry of Brucellosis breakdown herds where there is a significant risk of spread of infection by slurry
- Regular staff training and communication updates
- On occasion, where circumstances warrant it, blood samples may be taken from other species for monitoring purposes
- The feasibility of using Brucellin Skin Testing as a diagnostic tool in high risk circumstances to enhance discrimination between false positive and true serological reactions will be evaluated.
- Liaison meetings with stakeholders

4.4.1. Notification of the disease:

¹⁶ A comprehensive description needs to be provided of all measures unless reference can be made to Union legislation. The national legislation in which the measures are laid down is also mentioned.

Notification of Abortions:

Herd keepers and veterinary surgeons are required under the Brucellosis Control Order (Northern Ireland) 2004 to notify a Divisional Veterinary Office if any bovine animal has had an abortion. A restriction notice is issued for these animals, prohibiting their movement off the premises and requiring them to be isolated. The animals are tested by DARD Veterinary Service until a negative test at 21 days post-calving is obtained.

4.4.2. Target animals and animal population:

All breeding cattle one year old and over are required to be presented for all classes of test.

There are approximately 20,500 farm businesses with cattle in NI with some 1.6 million cattle in total. Of these cattle, approximately 960,000 are eligible for testing under the Brucellosis Control Programme.

4.4.3. Identification of animals and registration of holdings:

All cattle herds in NI are registered with the competent authority and each has been allocated a unique herd number to facilitate tracing of animal movements. All registered premises are recorded on a central computer database. Full details of the testing programme are maintained on the database.

Under Council Regulation (EC) No 1760/2000 cattle are identified by means of a unique identification number authorised by the Department. All cattle born after 1 January 1998 are identified with an ear tag in each ear bearing the same unique identification number, which will remain with the animal throughout its life. All cattle born after 1 January 2000 must be tagged using the new all numeric tags.

Each animal's test results and movement details are held and are readily accessed on a computer database. Epidemiological investigation and full tracing procedures in compliance with Council Regulation 1760/2000 are instigated following the detection of a diseased animal.

4.4.4. Qualifications of animals and herds¹⁷:

Current legislation (Brucellosis (Examination and Testing) Scheme Order (Northern Ireland) 2004) permits the use of vaccination with Department approval. The Policy currently is to prohibit the use of vaccine (Vaccination has been prohibited since 1963). Thus herds can be OBF or have their status suspended or withdrawn. The qualification of holdings is fully in line with the provisions of Annex A, II, of 64/432/EEC.

¹⁷ To mention only if applicable.

4.4.5. Rules on the movement of animals:

In accordance with Council Regulation EC No 1760/2000 all calves born after 1 January 1998 must be identified with an ear tag in each ear within 20 days from the birth of the animal. All cattle identification numbers are authorised by DARD and recorded on the computer database so that no duplication should be possible. The birth of a calf must be notified to the Department within 27 days and in any case before the animal leaves the holding of birth. All herd keepers must maintain a register of cattle born or moved into the herd. The register must show the identification number of the animal and details of replacement/retags. Herd keepers must also record in their register the colour, breed, type, sex, date of birth and the dam's identification number (for animals born in their herd). Their register must also show the date and means of acquisition of stock, the date of movement off holding, the address of premises to which the animal moved, or if died, the date and manner of disposal. These records must be retained for 10 years. From 1 January 2000 the movement permit system was replaced by movement control documents requiring a producer to notify the Department on the same day that an animal either leaves or arrives on his/her farm. However, in the case of a restricted animal the producer is required to obtain a movement licence from the Department in advance of moving the animal out of his/her herd. All movements are recorded and can be traced on the computer database. Stock on farms are checked against official records at cattle identification inspections/and herd tests, which occur at least annually, and when presented at markets or slaughterhouses. Discrepancies between the description of the animal and the details recorded on APHIS are investigated. If the discrepancy is not satisfactorily resolved a status is placed against the animal on APHIS which restricts its movement. Where the identification and traceability of an animal cannot be established at point of slaughter, the carcass will be removed from the human food chain. In the field where the disease status of an animal cannot be clearly established from the database the animal will be isolated and tested.

4.4.6. Tests used and sampling schemes:

Surveillance testing is carried out for early detection and confirmation of disease outbreaks and to identify possible sources of infection. Targeted and parallel (high risk) testing of contiguous herds is carried out for the early warning of disease spread.

At present the Serum Agglutination Test is used as a screening test with the Complement Fixation Test (CFT) used for confirmation. Parallel testing with SAT and ELISA is carried out in contiguous herds in high incidence areas, reactor herd tests, forward and backward tracing herd tests and individual risk tests. Test results are electronically transmitted from the laboratory to the Divisional Veterinary Offices. Bulk Milk samples are also subjected to an ELISA test.

Culture of *Brucella* is carried out at Veterinary Sciences Division, AFBI.

4.4.7. Vaccines used and vaccination schemes:

Not applicable.

4.4.8. Information and assessment on bio-security measures management and infrastructure) in place in the holdings involved:

All herd owners in NI have been issued with the DARD publication “Biosecurity Code for Northern Ireland farmers and guidance for official visitors to farm properties and recreational users of farmland.” This book describes the reasons for having a code, legal requirements, notifiable disease and reducing risks of allowing disease on to premises.

Veterinary Service officials advise on movements and segregation of cattle in breakdown premises, particularly in relation to preventing spread of disease to contiguous herds. Movements of personnel and equipment that have the potential to carry disease are investigated and appropriate biosecurity advice given. Herds contiguous to breakdowns also receive biosecurity advice.

The Diseases of Animals Act (NI) 2010 provides DARD with powers to introduce specific biosecurity guidance for specified diseases which is binding on all herdkeepers.

4.4.9. Measures in case of a positive result¹⁸:

All breeding and potential breeding stock may be slaughtered depending on the epidemiological disease assessment carried out in any breakdown herd. While almost all confirmed herds are depopulated, DARD reserves the right to undertake a programme of testing where it believes it is uneconomic to do otherwise. Factors that may be taken into account are possible previous breakdowns, the herd size, previous depopulations or the presence of high value animals. Adjoining farmers are alerted and their herds are restricted. These herds are restricted and tested immediately and at least every 3 months until all infected contiguous herds have been cleared. In inner ring herds, restrictions are lifted once there have been 2 negative herd tests. In outer ring herds restrictions are lifted following 1 clear herd test. Animals which have left a herd prior to infection being found are traced, placed under movement restriction and tested until calved or slaughtered. Where relevant, herds of origin are tested. A notice requiring cleansing and disinfection is served when the herd is restricted, and on completion, an inspection of the premises is carried out by an approved officer. Progeny of reactor cattle are traced and removed to slaughter as appropriate. In the case of total herd depopulations the herdkeeper is prohibited from restocking the herd with cattle until a period of six months has elapsed from the date of depopulation. The

¹⁸ A description is provided of the measures as regards positive animals (description of the slaughter policy, destination of carcasses, use or treatment of animal products, the destruction of all products which could transmit the disease or the treatment of such products to avoid any possible contamination, a procedure for the disinfection of infected holdings, the therapeutic or preventive treatment chosen, a procedure for the restocking with healthy animals of holdings which have been depopulated by slaughter and the creation of a surveillance zone around the infected holding.).

competent authority has the power to require slurry on breakdown premises to be treated using Thick Lime Milk.

4.4.10. Compensation scheme for owners of slaughtered and killed animals:

Reactor animals and any relevant in- contact animals are valued on farm prior to slaughter. The amount of compensation varies depending on whether the animal is a reactor or an in-contact. In the case of reactors compensation is paid to a limit of 75% of the valuation or 75% of the average market value whichever is less. In the case of in-contact animals 100% of the market value is paid. Salvage value is paid to the competent authority. If that salvage is higher than compensation paid by the authority to the farmer, then the balance is paid to the farmer.

A public consultation on proposals for a cap and a 75% rate of compensation for all animals removed for brucellosis took place in late 2011. DARD is currently considering the responses to the consultation and the views of the NI Assembly's Agriculture and Rural Development Committee before deciding on the way forward.

4.4.11. Control on the implementation of the programme and reporting¹⁹:

The implementation of the Brucellosis Control Programme in NI is currently overseen by a Brucellosis Programme Management Team. This team is led by a Senior Principal Veterinary Officer and is made up of both field and policy veterinarians. One of the roles of the team is to conduct remote auditing of work carried out, to assess the work completed with expected delivery targets and compliance with procedures. Much of the monitoring may be done using the Animal and Public Health Information System (APHIS), for example in checking completion of test cycles.

Further reporting is achieved through a traffic light Key Performance Indicator system that monitors, on a monthly basis, progress against targets in the Veterinary Service Business Plan.

5. **Benefits of the programme**²⁰:

Compensation for an in-contact animal is paid at the animal's market value. Compensation for a reactor animal is paid at the lesser of either 75% of the animal's market value or 75% of an average price calculated from market returns from a 4-week period (plus £300 for a pedigree animal).

Payment to hauliers to transport cattle to abattoirs for slaughter.

¹⁹ Describe the process and control that will be carried out in order to ensure the proper monitoring of the implementation of the programme.

²⁰ A description is provided of the benefits for farmers and society in general from the public and animal health and economical point of view.

Cost of laboratory analysis of blood and milk samples.

General staff costs relating to the programme.

Payments to abattoirs in relation to slaughter of cattle.

Disposal of sharps and clinical waste.

Use of thick lime milk in slurry.

Monies received from the abattoir contracted to the Department for slaughter of cattle born after 31 July 96 – meat goes into food chain.

Possible cost of Brucellin and testing equipment

Other Costs and Benefits

Note:- *The following has been extracted from the 2002 Control of Bovine Brucellosis Policy Review*

The 1993 NIAO report identifies the following potential benefits from the Department's disease control programme objectives, which have, in essence, not changed:

- i) protecting a valuable live animal trade;
- ii) maintaining an important "health status" for exports;
- iii) avoiding trade restrictions prohibiting export of animals or meat from infected herds;
- iv) avoiding the economic losses associated with the disease;
- v) reducing risk to human health; and
- vi) producing animal welfare benefits.

For illustrative purposes, the following details the level of impact required by the brucellosis eradication programme to achieve a breakeven (in terms of economic costs and benefits) in relation to human health and cattle output.

Human Health

The United Kingdom's Department of Environment, Transport and the regions (1997) provided a cost of a 'slight' casualty to a human (representing loss of earnings, welfare costs etc.) When this is adjusted to reflect 2000/01 prices it equates to approximately £8,000. If the 2000/01 cost of the brucellosis eradication programme were measured solely against this indicator, the programme would have to prevent over 1,340 people from becoming infected by brucellosis through contact with cattle (i.e. 4% of the number of those working on farms) to be judged cost effective in purely economic terms.

Output – Cattle

The DARD Statistical Review of NI Agriculture (2001) identifies the total value of output of finished cattle and calves and milk in 2001 as £683.7 million. The 2000/01 cost of the brucellosis eradication programme represents 1.6 percent of this level of this output. Therefore, for the brucellosis eradication programme to be cost effective, it should protect its equivalent amount in cattle output.

Although the above broad-brush analysis has its limitations, it demonstrates that the brucellosis programme requires a relatively low level of economic benefit (1.6 per cent of the sector's output) to justify its existence. However, this level of benefit produced by the programme cannot be accurately quantified, as it is difficult to predict the value of costs that would occur in the absence of such a programme.

6. Data on the epidemiological evolution during the last five years²¹

6.1. Evolution of the disease²²

6.1.1. Data on herds^(a) (one table per year)

Year: 2011

Region ^(b)	Animal species	Total number of herds ^(c)	Total number of herds under the programme	Number of herds checked ^(d)	Number of positive herds ^(e)	Number of new positive herds ^(f)	Number of herds depopulated	% positive herds depopulated	INDICATORS		
									% herd coverage	% positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9 = (/)x100	10= (5/4)x100	11 = (6/5)x100	12 = (7/5)x100
N.Ireland	Bovine	25,677	25,677	22,978	25	21	7	28.0	89.5	0.12	0.10
Total		25,677	25,677	22,978	25	21	7	28.0	89.5	0.12	0.10

- (a) Herds or flocks or holdings as appropriate.
 (b) Region as defined in the programme of the Member State.
 (c) Total number of herds existing in the region including eligible herds and non-eligible herds for the programme.
 (d) Check means to perform a herd level test under the programme for the respective disease with the purpose of maintaining or upgrading, the health status of the herd. In this column a herd must not be counted twice even if has been checked more than once.
 (e) Herds with at least one positive animal during the period independent of the number of times the herd has been checked.
 (f) Herds which status in the previous period was *Unknown, Not free-negative, Free, Officially Free* or *Suspended* and have at least one animal tested positive in this period.

²¹ The data on the evolution of the disease are provided according to the tables below where appropriate.

²² No data to provide in case of rabies.

6.1.1. Data on herds^(a) (one table per year)

Year: 2010

Region ^(b)	Animal species	Total number of herds ^(c)	Total number of herds under the programme	Number of herds checked ^(d)	Number of positive herds ^(e)	Number of new positive herds ^(f)	Number of herds depopulated	% positive herds depopulated	INDICATORS		
									% herd coverage	% positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9 = (/)x100	10= (5/4)x100	11 = (6/5)x100	12 = (7/5)x100
N.Ireland	Bovine	25,933	25,933	22,531	77	74	30	39.0	86.9	0.39	0.38
Total		25,933	25,933	22,531	77	74	30	39.0	86.9	0.39	0.38

- (a) Herds or flocks or holdings as appropriate.
- (b) Region as defined in the programme of the Member State.
- (c) Total number of herds existing in the region including eligible herds and non-eligible herds for the programme.
- (d) Check means to perform a herd level test under the programme for the respective disease with the purpose of maintaining or upgrading, the health status of the herd. In this column a herd must not be counted twice even if has been checked more than once.
- (e) Herds with at least one positive animal during the period independent of the number of times the herd has been checked.
- (f) Herds which status in the previous period was *Unknown, Not free-negative, Free, Officially Free* or *Suspended* and have at least one animal tested positive in this period.

To note, on 31/12/10, 37 herds were restricted for disease reasons, which had reactors in their herds, (excluding herds associated to herds with reactors). There were 22,303 herds under surveillance, excluding associated herds. Thus 99.83% herds were 'OBF' at this point.

6.1.1. Data on herds^(a) (one table per year)

Year: 2009

Region ^(b)	Animal species	Total number of herds ^(c)	Total number of herds under the programme	Number of herds checked ^(d)	Number of positive herds ^(e)	Number of new positive herds ^(f)	Number of herds depopulated	% positive herds depopulated	INDICATORS		
									% herd coverage	% positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9 = (/)x100	10= (5/4)x100	11 = (6/5)x100	12 = (7/5)x100
N.Ireland	Bovine	26,287	26,287	23,135	76	71	20	26.3	88	0.38	0.35
Total		26,287	26,287	23,135	76	71	20	26.3	88	0.38	0.35

- (a) Herds or flocks or holdings as appropriate.
 (b) Region as defined in the programme of the Member State.
 (c) Total number of herds existing in the region including eligible herds and non-eligible herds for the programme.
 (d) Check means to perform a herd level test under the programme for the respective disease with the purpose of maintaining or upgrading, the health status of the herd. In this column a herd must not be counted twice even if has been checked more than once.
 (e) Herds with at least one positive animal during the period independent of the number of times the herd has been checked.
 (f) Herds which status in the previous period was *Unknown, Not free-negative, Free, Officially Free* or *Suspended* and have at least one animal tested positive in this period.

To note, on 31/12/09, 32 herds were restricted for disease reasons, which had reactors in their herds, (excluding herds associated to herds with reactors.) There were 22,607 herds under surveillance, excluding associated herds. Thus 99.86% herds were 'OBF' at this point.

6.1.1. Data on herds^(a) (one table per year)

Year: 2008

Region ^(b)	Animal species	Total number of herds ^(c)	Total number of herds under the programme	Number of herds checked ^(d)	Number of positive herds ^(e)	Number of new positive herds ^(f)	Number of herds depopulated	% positive herds depopulated	INDICATORS		
									% herd coverage	% positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9 = (/)x100	10= (5/4)x100	11 = (6/5)x100	12 = (7/5)x100
N.Ireland	Bovine	26,780	26,780	23,396	192	177	44	22.9	87.4	0.94	0.87
Total		26,780	26,780	23,396	192	177	44	22.9	87.4	0.94	0.87

- (a) Herds or flocks or holdings as appropriate.
- (b) Region as defined in the programme of the Member State.
- (c) Total number of herds existing in the region including eligible herds and non-eligible herds for the programme.
- (d) Check means to perform a herd level test under the programme for the respective disease with the purpose of maintaining or upgrading, the health status of the herd. In this column a herd must not be counted twice even if has been checked more than once.
- (e) Herds with at least one positive animal during the period independent of the number of times the herd has been checked.
- (f) Herds which status in the previous period was *Unknown, Not free-negative, Free, Officially Free* or *Suspended* and have at least one animal tested positive in this period.

6.1.1. Data on herds^(a) (one table per year)

Year: 2007

Region ^(b)	Animal species	Total number of herds ^(c)	Total number of herds under the programme	Number of herds checked ^(d)	Number of positive herds ^(e)	Number of new positive herds ^(f)	Number of herds depopulated	% positive herds depopulated	INDICATORS		
									% herd coverage	% positive herds Period herd prevalence	% new positive herds Herd incidence
1	2	3	4	5	6	7	8	9 = (/)x100	10= (5/4)x100	11 = (6/5)x100	12 = (7/5)x100
N.Ireland	Bovine	26,915	26,915	24,139	157	151	60	38.2	89.7	0.751	0.723
Total		26,915	26,915	24,139	157	151	60	38.2	89.7	0.751	0.723

- (a) Herds or flocks or holdings as appropriate.
- (b) Region as defined in the programme of the Member State.
- (c) Total number of herds existing in the region including eligible herds and non-eligible herds for the programme.
- (d) Check means to perform a herd level test under the programme for the respective disease with the purpose of maintaining or upgrading, the health status of the herd. In this column a herd must not be counted twice even if has been checked more than once.
- (e) Herds with at least one positive animal during the period independent of the number of times the herd has been checked.
- (f) Herds which status in the previous period was *Unknown, Not free-negative, Free, Officially Free* or *Suspended* and have at least one animal tested positive in this period.

6.1.2. Data on animals (one table per year and per disease/species)

Year: 2008

Region ^(a)	Animal species	Total number of animals ^(b)	Number of animals ^(d) to be tested under the programme	Number of animals ^(c) tested	Number of animals tested individually ^(d)	Number of positive animals	Slaughtering		INDICATORS	
							Number of animals with positive result slaughtered or culled	Total number of animals slaughtered ^(e)	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	10=(5/4)x100	11=(7/5)x100
N.Ireland	Bovine	1,622,541	960,549	961,894	908,811	384	384	5,372	100.1	0.04
Total		1,622,541	960,549	961,894	908,811	384	384	5,372	100.1	0.04

- (a) Region as defined in the programme of the Member State.
- (b) Total number of animals existing in the region including eligible herds and non-eligible herds for the programme.
- (c) Includes animals tested individually or under bulk level scheme.
- (d) Include only animals tested individually, do not include animals tested by bulk level samples (for instance: milk bulk tank tests).
- (e) Include all positive animal slaughtered and also the negative animals slaughtered under the programme.

6.1.2. Data on animals (one table per year and per disease/species)

Year: 2007

Region ^(a)	Animal species	Total number of animals ^(b)	Number of animals ^(d) to be tested under the programme	Number of animals ^(c) tested	Number of animals tested individually ^(d)	Number of positive animals	Slaughtering		INDICATORS	
							Number of animals with positive result slaughtered or culled	Total number of animals slaughtered ^(e)	% coverage at animal level	% positive animals Animal prevalence
1	2	3	4	5	6	7	8	9	$10=(5/4)\times 100$	$11=(7/5)\times 100$
N.Ireland	Bovine	1,643,458	945,318	973,529	911,394	402	402	6,585	103.0	0.041
Total		1,643,458	945,318	973,529	911,394	402	402	6,585	103.0	0.041

- (a) Region as defined in the programme of the Member State.
- (b) Total number of animals existing in the region including eligible herds and non-eligible herds for the programme.
- (c) Includes animals tested individually or under bulk level scheme.
- (d) Include only animals tested individually, do not include animals tested by bulk level samples (for instance: milk bulk tank tests).
- (e) Include all positive animal slaughtered and also the negative animals slaughtered under the programme.

6.2. Stratified data on surveillance and laboratory tests

6.2.1. Stratified data on surveillance and laboratory tests

Year: 2011

Region ^(a)	Animal species/ category	Test type ^(b)	Description of test	Number of samples tested	Number of positive samples
N.Ireland	Bovine	Serological	BLOOD – Serum Agglutination Test/ Complement Fixation Test/ Enzyme Linked Immunosorbent Assay	1,119,450	501
	Bovine	Serological	Milk – Enzyme Linked Immunosorbent Assay	37,741	11
	Bovine	Microbiological	Culture of lymph nodes and vaginal swabs	412	85
Total				1,157,603	597

(a) Region as defined in the programme of the Member State.

(b) Indicate whether the test is serological, virological etc.

6.2.1. *Stratified data on surveillance and laboratory tests*

Year: 2010

Region ^(a)	Animal species/ category	Test type ^(b)	Description of test	Number of samples tested	Number of positive samples
N.Ireland	Bovine	Serological	BLOOD – Serum Agglutination Test/ Complement Fixation Test/ Enzyme Linked Immunosorbent Assay	1,196,260	438
	Bovine	Serological	Milk – Enzyme Linked Immunosorbent Assay	38,318	27
	Bovine	Microbiological	Culture of lymph nodes and vaginal swabs	537	56
Total				1,235,115	521

- (a) Region as defined in the programme of the Member State.
 (b) Indicate whether the test is serological, virological etc.

6.2.1. *Stratified data on surveillance and laboratory tests*

Year: 2009

Region ^(a)	Animal species/ category	Test type ^(b)	Description of test	Number of samples tested	Number of positive samples
N.Ireland	Bovine	Serological	BLOOD – Serum Agglutination Test/ Complement Fixation Test/ Enzyme Linked Immunosorbent Assay	1,240,887	247
	Bovine	Serological	Milk – Enzyme Linked Immunosorbent Assay	38,945	17
	Bovine	Microbiological	Culture of lymph nodes and vaginal swabs	267	28
Total				1,280,099	292

- (a) Region as defined in the programme of the Member State.
 (b) Indicate whether the test is serological, virological etc.

6.2.1. *Stratified data on surveillance and laboratory tests*

Year: 2008

Region ^(a)	Animal species/ category	Test type ^(b)	Description of test	Number of samples tested	Number of positive samples
N.Ireland	Bovine	Serological	BLOOD – Serum Agglutination Test/ Complement Fixation Test/ Enzyme Linked Immunosorbent Assay	1,368,860	783
	Bovine	Serological	Milk – Enzyme Linked Immunosorbent Assay	31,664	20
	Bovine	Microbiological	Culture of lymph nodes and vaginal swabs	403	81
Total				1,400,927	884

- (a) Region as defined in the programme of the Member State.
 (b) Indicate whether the test is serological, virological etc.

6.2.1. *Stratified data on surveillance and laboratory tests*

Year: 2007

Region ^(a)	Animal species/ category	Test type ^(b)	Description of test	Number of samples tested	Number of positive samples
N.Ireland	Bovine	Serological	BLOOD – Serum Agglutination Test/ Complement Fixation Test/ Enzyme Linked Immunosorbent Assay	1,291,960	808
	Bovine	Serological	Milk – Enzyme Linked Immunosorbent Assay	31,280	22
	Bovine	Microbiological	Culture of lymph nodes and vaginal swabs	277	99
Total				1,323,517	929

- (a) Region as defined in the programme of the Member State.
 (b) Indicate whether the test is serological, virological etc.

6.3. Data on infection (one table per year)

Year: 2011

Region ^(a)	Animal species	Number of herds infected ^(b)	Number of animals infected
N.Ireland	Bovine	6	70
Total		6	70

(a) Region as defined in the programme of the Member State.

(b) Herds or flocks or holdings as appropriate.

6.3. Data on infection (one table per year)

Year: 2010

Region ^(a)	Animal species	Number of herds infected ^(b)	Number of animals infected
N.Ireland	Bovine	24	50
Total		24	50

(a) Region as defined in the programme of the Member State.

(b) Herds or flocks or holdings as appropriate.

6.3. Data on infection (one table per year)

Year: 2009

Region ^(a)	Animal species	Number of herds infected ^(b)	Number of animals infected
N.Ireland	Bovine	13	24
Total		13	24

(a) Region as defined in the programme of the Member State.

(b) Herds or flocks or holdings as appropriate.

6.3. Data on infection (one table per year)

Year: 2008

Region ^(a)	Animal species	Number of herds infected ^(b)	Number of animals infected
N.Ireland	Bovine	36	72
Total		36	72

(a) Region as defined in the programme of the Member State.

(b) Herds or flocks or holdings as appropriate.

6.3. Data on infection (one table per year)

Year: 2007

Region ^(a)	Animal species	Number of herds infected ^(b)	Number of animals infected
N.Ireland	Bovine	56	97
Total		56	97

(a) Region as defined in the programme of the Member State.

(b) Herds or flocks or holdings as appropriate.

To note, on 31/12/10, 37 herds were restricted for disease reasons, which had reactors in their herds, (excluding herds associated to herds with reactors). There were 22,303 herds under surveillance, excluding associated herds. Thus 99.83% herds were 'OBF' at this point.

6.4. Data on the status of herds at the end of each year²⁵

Year: 2009

Region ^(a)	Animal species	Status of herds and animals under the programme ^(b)													
		Total number of herds and animals under the programme		Unknown ^(c)		Not free or not officially free from disease				Free or officially free from disease status suspended ^(f)		Free from disease ^(g)		Officially free from disease ^(h)	
						Last check positive ^(d)		Last check negative ^(e)							
		Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾
N.Ireland	Bovine	26,287	946,438	0	0	10	1,196	63	3,218	841	36,358	n/a	n/a	25,373	905,666
Total		26,287	946,438	0	0	10	1,196	63	3,218	841	36,358	n/a	n/a	25,373	905,666

- (a) Region as defined in the programme of the Member State
(b) At the end of the year
(c) Unknown: No previous checking results available
(d) Not free and last check positive: Herd checked with at least one positive result in the latest check
(e) Not free and last check negative: Herd checked with negative results in the latest check but not being *Free* or *Officially Free*
(f) Suspended as defined in Union or national legislation for the respective disease at the end of the reporting period.
(g) Free herd as defined in Union or national legislation for the respective disease.
(h) Officially free herd as defined in Union or national legislation for the respective disease .
(i) Include animals under the programme in the herds with the referred status (left column).

²⁵ Only data to provide for bovine tuberculosis, bovine brucellosis, ovine and caprine brucellosis (B. melitensis).

To note, on 31/12/09, 32 herds were restricted for disease reasons, which had reactors in their herds, (excluding herds associated to herds with reactors.) There were 22,607 herds under surveillance, excluding associated herds. Thus 99.86% herds were 'OBF' at this point.

6.5. Data on vaccination or treatment programmes²⁸ NOT APPLICABLE

Year:

Region ^(a)	Animal species	Total number of herds ^(b)	Total number of animals	Information on vaccination or treatment programme					
				Number of herds ^(c) in vaccination or treatment programme	Number of herds ^(c) vaccinated or treated	Number of animals vaccinated or treated	Number of doses of vaccine or treatment administered	Number of adults vaccinated	Number of young animals vaccinated
Total									

- (a) Region as defined in the programme of the Member State
- (b) Herds or flocks or holdings as appropriate

²⁸ Data to provide only if vaccination has been carried out.

6.6. Data on wildlife²⁹ NOT APPLICABLE

6.6.1. Estimation of wildlife population

Year:

Regions ^(a)	Animal species	Method of estimation	Estimated population
Total			

(a) Region as defined in the programme of the Member State

²⁹ Data only to provide in case the programme comprises measures as regards wildlife or if the data are epidemiologically relevant for the disease.

6.6.2. *Disease surveillance and other tests in wildlife (one table per year) NOT APPLICABLE*

Year:.....

Region ^(a)	Animal Species	Test type ^(b)	Test description	Number of samples tested	Number of positive samples
Total					

- (a) Region as defined in the programme of the Member State
- (b) Indicate whether the test is serological, virological, biomarker detection etc.

6.6.3. *Data on vaccination or treatment of wildlife NOT APPLICABLE*

Year:

Region ^(a)	Square km	Vaccination or treatment programme		
		Number of doses of vaccine or treatment to be administered	Number of campaigns	Total number of doses of vaccine or treatment administered
Total				

(a) Region as defined in the programme of the Member State

7. Targets

7.1. Targets related to testing (one table for each year of implementation³⁰)

7.1.1. Targets on diagnostic tests

Region ^(a)	Type of the test ^(b)	Target population ^(c)	Type of sample ^(d)	Objective ^(e)	Number of planned tests
N.Ireland	SAT (EDTA) / CFT/ ELISA	Breeding cattle greater than 12 months old	Blood	Surveillance	1,419,000
	ELISA	Dairy Herds / Herds with a dairy component	Milk	Surveillance	39,000
	SAT (EDTA) / CFT	Breeding cattle (>12 months prior to movement)	Blood	Premovement test	170,000
	SAT (EDTA) / CFT	Cattle aged over 72 months	Blood	Surveillance	20,000
	BACTERIOLOGICAL	Reactor cattle	Tissue	Surveillance	596
Total					1,648,596

- (a) Region as defined in the programme of the Member State
 (b) Description of the test (for instance SN-test, AB-Elisa, RBT,)
 (c) Specification of the targeted species and the categories of targeted animals (for instance sex, age, breeding animal, slaughter animal, ...).
 (d) Description of the sample (for instance blood, serum, milk,)
 (e) Description of the objective (for instance qualification, surveillance, confirmation of suspected cases, monitoring of campaigns, seroconversion, control on deleted vaccines, testing of vaccine, control of vaccination,)

³⁰ For subsequent years of approved multiannual programmes only one table for the relevant year should be filled in.

7.1.2. Targets on testing herds and animals³¹

7.1.2.1 Targets on the testing of herds^(a)

Region ^(b)	Animal species	Total number of herds ^(c)	Total number of herds under the programme	Number of herds expected to be checked ^(d)	Number of expected positive herds ^(e)	Number of expected new positive herds ^(f)	Number of herds expected to be depopulated	% positive herds expected to be depopulated	TARGET INDICATORS		
									Expected % herd coverage	% positive herds Expected period herd prevalence	% new positive herds Expected herd incidence
1	2	3	4	5	6	7	8	9 = (8/6)x100	10 = (5/4)x100	11 = (6/5)x100	12 = (7/5)x100
N.Ireland	Bovine	25,500	25,500	22,800	21	20	0	n/a	89.4	0.09	0.09
Total		25,500	25,500	22,800	21	20	0	n/a	89.4	0.09	0.09

- (a) Herds or flocks, or holdings as appropriate.
 (b) Region as defined in the programme of the Member State.
 (c) Total number of herds existing in the region including eligible herds and non-eligible herds for the programme.
 (d) Check means to perform a herd level test under the programme for the respective disease with the purpose of maintaining, upgrading, etc., the health status of the herd. In this column a herd must not be counted twice even if it has been checked more than once.
 (e) Herds with at least one positive animal during the period independent of the number of times the herd has been checked.
 (f) Herds which status in the previous period was *Unknown*, *Not free-negative*, *Free*, *Officially Free* or *Suspended* and have at least one positive animal in this period.

³¹ Data not to provide in case of rabies.

7.1.2.2. Targets on the testing of animals

Region ^(a)	Animal species	Total number of animals ^(b)	Number of animals ^(c) under the programme	Number of animals ^(c) expected to be tested	Number of animals to be tested individually ^(d)	Number of expected positive animals	Slaughtering		TARGET INDICATORS	
							Number of animals with positive result expected to be slaughtered or culled	Total number of animals expected to be slaughtered ^(e)	Expected % coverage at animal level	% positive animals (Expected animal prevalence)
1	2	3	4	5	6	7	8	9	10=(5/4)x100	11=(7/5)x100
N.Ireland	Bovine	1,600,000	920,000	947,000	895,000	50	50	50	102.9	0.01
		1,600,000	920,000	947,000	895,000	50	50	50	102.9	0.01

- (a) Region as defined in the programme of the Member State.
- (b) Total number of animals existing in the region including eligible herds and non-eligible herds for the programme.
- (c) Includes animals tested individually or under bulk level scheme.
- (d) Include only animals tested individually, do not include animals tested by bulk level samples (for instance milk bulk tank tests).
- (e) Include all positive animals slaughtered and also the negative animals slaughtered under the programme.

7.2. Targets on qualification of herds and animals (one table for each year of implementation)

Region ^(a)	Animal species	Total number of herds and animals under the programme		Targets on the status of herds and animals under the programme ^(b)											
				Expected unknown ^(c)		Expected not free or not officially free from disease				Expected free or officially free from disease status suspended ^(f)		Expected free from disease ^(g)		Expected officially free from disease ^(h)	
						Last check positive ^(d)		Last check negative ^(e)							
				Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾	Herds	Animals ⁽ⁱ⁾
N.Ireland	Bovine	25,500	920,000	0	0	0	0	15	1,000	300	13,000	n/a	n/a	25,185	906,000
Total		25,500	920,000	0	0	0	0	15	1,000	300	13,000	n/a	n/a	25,185	906,000

- (a) Region as defined in the programme of the Member State
(b) At the end of the year
(c) Unknown: No previous checking results available
(d) Not free and last check positive: Herd checked with at least one positive result in the latest check
(e) Not free and last check negative: Herd checked with negative results in the latest check but not being *Free* or *Officially Free*
(f) Suspended as defined for the respective disease in Union or national legislation where appropriate or according national legislation.
(g) Free herd as defined for the respective disease where appropriate in Union or national legislation where appropriate or according national legislation
(h) Officially free herd as defined for the respective disease where appropriate in Union or national legislation where appropriate or according national legislation
(i) Include animals under the programme in the herds with the referred status (left column)

7.3. Targets on vaccination or treatment (one table for each year of implementation) NOT APPLICABLE

7.3.1. Targets on vaccination or treatment³²

Region ^(a)	Animal species	Total number of herds ^(b) in vaccination or treatment programme	Total number of animals in vaccination or treatment programme	Targets on vaccination or treatment programme					
				Number of herds ^(b) in vaccination or treatment programme	Number of herds ^(b) expected to be vaccinated or treated	Number of animals expected to be vaccinated or treated	Number of doses of vaccine or treatment expected to be administered	Number of adults ^(c) expected to be vaccinated	Number of young ^(c) animals expected to be vaccinated
Total									

- (a) Region as defined in the programme of the Member State
- (b) Herds or flocks or holdings as appropriate
- (c) Only for Bovine brucellosis and Ovine, Caprine brucellosis (*B. melitensis*) as defined in the programme

³² Data to provide only if appropriate .

7.3.2. *Targets on vaccination or treatment³³ of wildlife NOT APPLICABLE*

Region ^(a)	Animal species	Square km	Targets on the vaccination or treatment programme		
			Number of doses of vaccine or treatments expected to be administered in the campaign	Expected number of campaigns	Total number of doses of vaccine or treatment expected to be administered
Total					

(a) Region as defined in the programme of the Member State

³³ Data to provide only if appropriate.

8. Detailed analysis of the cost of the programme (one table per year of implementation³⁴)

<u>Costs related to</u>	<u>Specification/Unit</u>	<u>Unit³⁵</u>	<u>Number of units</u>	<u>Unitary cost in €</u>	<u>Total amount in €</u>	<u>Union funding requested (yes/no)</u>
<u>1. Testing</u>						
<u>1.1. Cost of sampling</u>						
	Domestic animals					
	Wild animals					
<u>1.2 Cost of the analysis</u>						
- Brucellosis and Tuberculosis programmes	Rose Bengal test					
	SAT	<u>Test</u>	<u>1,334,000</u>	Our labs cannot provide this breakdown	Our labs cannot provide this breakdown. Total cost for all SAT, Complement fixation and ELISA tests is estimated at £831,000 including staff costs and £625,000 excluding staff costs	<u>Yes</u>
	Complement fixation test	<u>Test</u>	<u>50,000</u>	Our labs cannot provide this breakdown	Our labs cannot provide this breakdown. Total cost for all SAT, Complement fixation and ELISA tests is estimated at £831,000	<u>Yes</u>

³⁴ For subsequent years of approved multiannual programmes only one table for the relevant year should be filled in.

³⁵ Specify the unit to which the data in the following two columns is referring to (e.g. sample, test, animal sampled etc).

					including staff costs and £625,000 excluding staff costs	
	ELISA test	<u>Test</u>	<u>264,000</u>	Our labs cannot provide this breakdown	Our labs cannot provide this breakdown. Total cost for all SAT, Complement fixation and ELISA tests is estimated at £831,000 including staff costs and £625,000 excluding staff costs	<u>Yes</u>
	Tuberculin test					
	Gamma-interferon test					
	Bacteriological test	<u>Test</u>	<u>596</u>	£226	<u>£134,696</u>	<u>Yes</u>
	<u>Other</u> (please <u>specify</u>)					
- ASF, CSF, SVD & Bluetongue programmes	ELISA test					
	PCR test					
	Virological test					
	Seroneutralisation test (only for SVD)					
	Entomological surveillance test (only for Bluetongue)					

	<u>Other</u> (please specify)					
- Rabies programmes	Serological test					
	Detection of Tetracycline in bone test					
	Fluorescent antibody test					
	<u>Other</u> (please specify)					

<u>1.3. Other costs</u>						
	Purchase of traps (for Bluetongue)					
	Other (please specify)					
<u>2. Vaccination or treatment</u>						
<u>2.1. Purchase of vaccine/treatment</u>						
- Brucellosis programmes	Domestic animal vaccinated					
- Bluetongue programmes	Domestic animal vaccinated					
- Rabies programmes	Oral vaccine dose +					

	bait					
	Parenteral vaccine dose					
<u>- Classical swine fever programmes</u>	Oral vaccine dose + bait					
<u>2.2. Administering/Distribution costs</u>						
Administering in domestic animals						
<u>- Distribution for wild animals (please specify the type of distribution)</u>						
<u>2.3. Control costs</u>						
<u>2.4. Others (please specify)</u>						
<u>3. Slaughter and destruction</u>						
<u>3.1. Compensation of animals</u>		<u>Compensation for animals valued and slaughtered</u>	<u>50</u>	<u>£1,118</u>	<u>£55,900</u>	<u>Yes</u>
<u>3.2. Transport costs</u>		<u>Animals transported to slaughter</u>	<u>50</u>	<u>£8.50</u>	<u>£425</u>	<u>Yes</u>

<u>3.3. Destruction costs</u>						
<u>3.4. Loss in case of slaughtering</u>						
<u>3.5 Costs from treatment of products (milk, or others –please specify)</u>						
<u>4. Cleaning and disinfection</u>						

<u>5. Salaries (staff contracted for the programme only)</u>		<u>Staff</u>	<u>Not applicable</u>	<u>Not applicable</u>	<u>£5,700,000</u>	<u>No</u>
<u>6. Consumables and specific equipment</u>						
<u>Use of thick lime milk in slurry</u>		<u>litres</u>	<u>71,000</u>	<u>£0.07</u>	<u>£4,970</u>	<u>No</u>
<u>Blood sampling kits</u>		<u>Kits of 50 tubes</u>	<u>27,000</u>	<u>£14.75</u>	<u>£398,250</u>	<u>Yes</u>
<u>7. Other costs</u>						
<u>Disposal of sharps and clinical waste</u>		<u>Different size and types of disposal units</u>	<u>n/a</u>	<u>n/a</u>	<u>£20,000</u>	<u>No</u>
<u>Salvage</u>		<u>Payment for animal carcasses</u>	<u>50</u>	<u>-£141.66</u>	<u>-£7,083</u>	<u>Yes</u>
	<u>TOTAL</u>				<u>£7,138,158</u>	