



EUROPEAN COMMISSION
HEALTH & CONSUMER PROTECTION DIRECTORATE-GENERAL

04 - Veterinary control programmes

SANCO/10584/2007

REPORT OF THE
"BOVINE TUBERCULOSIS"
SUB-GROUP TASK FORCE

Meeting held in **Seville**
Spain
14-15 November 2007

**REPORT OF THE MEETING OF BOVINE TUBERCULOSIS SUB-GROUP OF THE TASK FORCE FOR
MONITORING ANIMAL DISEASE ERADICATION HELD IN SEVILLE, SPAIN , 14-15 NOVEMBER
2007**

Participants: see Annex I

Agenda: see Annex II.

Introduction.

The following is a short summary of the various informative presentations given. Altogether an overview of the background and the most important aspects of the Spanish eradication programme for bovine tuberculosis (BTB) was presented as well as more detailed presentations on the situation in Andalucía and Extremadura.

1. First day

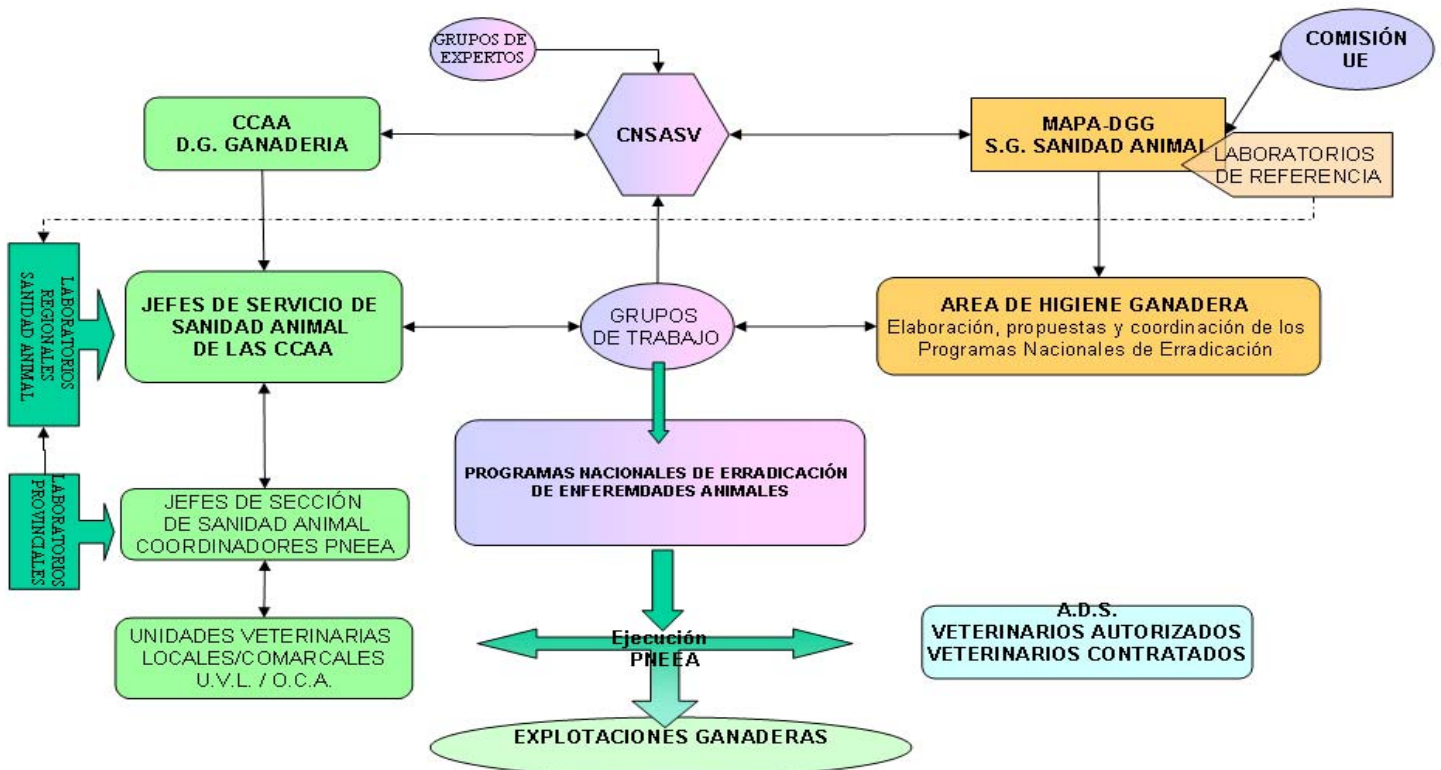
After welcoming words from the Spanish hosts and a brief introduction of the subgroup, **the structure and organisation of the Spanish Veterinary Services and other organisations involved in the control of BTB in Spain were explained.** At the central (national) level, there is the Ministry of Agriculture, Fisheries and Food (M.A.P.A.) and the general Sub-directorate on Animal Health. On the regional level (autonomous communities) there are Official Veterinary Services with provincial and district offices. The Sub-directorate on Animal Health has the national responsibility for animal health issues. This involves developing the competencies in animal health and safety of animal products, animal health legislation and supervision and co-ordination of national eradication and control programmes.

The complex administrative system, involving many authorities and organisations, requires a good co-ordination of efforts.

An overview of the organisation of the Veterinary Services is given in Figure 1.

Figure 1.

AUTORIDADES COMPETENTES: DISTRIBUCIÓN DE RESPONSABILIDADES Y RELACIONES EN EL ÁMBITO DE LOS PROGRAMAS NACIONALES DE ERRADICACIÓN DE ENFERMEDADES DE LOS ANIMALES



Following this presentation, **the evolution of the BTB eradication programme was outlined.** An apparent decrease in herd prevalence and animal incidence figures has been seen from 1986 to 2005, with an increase in herd prevalence from 2005 to 2006, although the incidence continued to decrease. The increase was explained as probably due to the reinforced measures included in the control programme from the beginning of 2006, resulting in a better detection of infected herds and a prolonged process of obtaining free status. About 97% of the herds are officially free of BTB (status T3). The positive herds are mainly located in the dry regions of the country where there are more extensive beef herds, but perhaps also differences in animal movement practices or animal density. The prevalence is higher in beef herds and herds breeding fighting bulls than in dairy herds. This may be due to several factors. The initial programme focussed on dairy herds, and geographical and production related differences exist between these types of herds. Beef herds are kept under more extensive conditions, and contacts with other herds (via communal pasture), wildlife (especially during dry periods) and other animal species (goats, pigs) are risk factors that are rarer in dairy herds.

The current eradication programme for BTB is designed to address almost all of the short term measures mentioned in the working document on eradication of BTB in the EU (SANCO/102000/2006). The testing regimens vary depending on the prevalence in the region and the details are given in the programme for 2008 that has been submitted to the Commission. The primary epidemiological unit is defined as the UVL (local veterinary unit), and depending on the prevalence in the unit and the status of the herd, different tests (simple or comparative tuberculin test, IFN γ) are employed at different frequencies (1-3 times per year) and with different interpretations (severe, i.e. all reactors >2 mm regarded as positive if more than 1 animal is a reactor, or strict, i.e. all reactors >2mm regarded as positive, regardless of number of reactors in the herd). The IFN γ test is used in addition to the

tuberculin test in all high prevalence (>3%) areas. If no IFN γ test has been performed, the period between the final two tests to clear the herd is extended to 9 months. The strategic use of the IFN γ test increases detection capability, despite some practical problems related to testing in remote areas, testing during hot seasons etc.

Pre-movement testing is also performed on all animals leaving herds in high prevalence areas (except directly to slaughter), as well as for animal movements regarded as presenting a high risk of spread (e.g. transhumance, communal pastures, animals sold to breeding units).

Several protocols and specific instructions have been developed, e.g. on the use of communal pasture, sanitary measures and inspection procedures. Compensations systems have been reviewed. It was mentioned that efforts were made to integrate data and information from slaughterhouse monitoring in the system, but this point was not elaborated. Legislation has been reviewed to support the programme and wildlife-related issues are being investigated. A working group has been established to develop proposals for the BTB programme 2008-2010, and guidelines on hygiene practices for different production systems are produced. Regular controls of field veterinarians that carry out tuberculin testing have improved the confidence in the test.

The recommendation on developing specific epidemiological indicators for monitoring the progress of the programme was discussed as there was some confusion about the inclusion of such indicators in EU legislation.

The subgroup members took the view that the indicators should be developed specifically for national use based on local conditions and to be suitable for each programme.

The development and current status of the programme in the autonomic regions of Andalusia and Extremadura were also presented. The prevalence figures and trends were similar to the figures presented earlier. These two regions represent high prevalence areas with special problems as regards periods of drought and wildlife issues. Moreover, the majority of the herds infected are extensive beef herds. From the presentations it became clear that a lot of very valuable data are collected and stored, that could be put to use in evaluating the progress of the programme and the efficiency of various measures taken. Some developments are of relevance to BTB control in these regions and this may be applicable to other areas in the country. There has been a decrease in the total number of livestock farms, especially dairy, and game-related activities are becoming financially important. Climatic conditions, with periods of severe drought, have caused increased contacts between animals both of the same and different species, including wildlife.

The laboratory techniques used for the diagnosis of BTB were presented, along with details of how the interpretation and combination of tests can be optimised for the situation in the particular herd or area. The need for a Community Reference Laboratory for TB diagnostics was emphasised, a recommendation that has already been put forward by the subgroup.

Some problems with lack of sensitivity and/or specificity of the tuberculin test were discussed in detail. In the current situation, false negative results are regarded as more problematic. For example, concurrent paratuberculosis infection may cause false negative results if the comparative skin test is used, but also if avian tuberculin is used for comparison in the IFN γ test. Extended investigations are made in herds with suspected test failure (i.e. unusual lack of sensitivity or specificity).

The national database on *M. bovis* and *M. caprae* isolates was presented. This database contains 36 900 samples from 1996-2007, including 264 distinct spoligotypes of the two

species *M. bovis* and *M. caprae*. The database will be extended to include more data as well as a GIS function so that spoligotypes can be displayed on country maps. Currently, information about the location, identity and species of the sampled animal, as well as the bacterial species, spoligotype and date of receipt of the sample is stored.

Wildlife issues were also described in more detail. As BTB prevalence has dropped in livestock, the relative importance of a potential wildlife reservoir may increase. There are few studies in wildlife but those available indicate a rise in prevalence of tuberculosis.

Tuberculosis in wildlife is important not only as a potential reservoir for infection in livestock and humans but also from the aspect of wildlife preservation. Changes in production systems, and new industries involving game animals have created more contact points between livestock and wildlife. In the North, no feeding of wildlife takes place and there is no fencing or translocation that would affect wildlife populations. In the South, the density of wildlife is high, there is supplementary feeding and translocation of wildlife, but no fencing. Nevertheless, wildlife populations are increasing in both parts of the country.

Some conflicts of interest exist between farmers, veterinarians, hunters, conservationists, authorities and the general public. There are organisations for some of these stakeholder groups, that the authorities can discuss problems with, and negotiate solutions.

Several potential reservoirs for BTB are present in Spain. Studies have shown that deer and wild boar can serve as reservoirs for BTB in Spain, and that both species are capable of maintaining circulation of the infection in the absence of livestock contacts. Studies on risk factors for BTB in Spanish wildlife have also been conducted. Contact opportunities with other wildlife species as well as domestic species have been identified as risk factors, as well as increased population density.

Census studies on wild boar are particularly difficult to carry out. However, “presence indicators” can be used. An association between such indicators and the apparent prevalence of tuberculosis in wildlife has been shown.

Development of control strategies for tuberculosis in wildlife include some work that is already underway, namely sampling of wildlife, molecular epidemiology, census studies, control of game farms that move animals and evaluation of diagnostic techniques in wildlife. Other efforts that are planned or discussed are legislation on removal of waste (e.g. offal) from hunting, interventions to decrease wildlife populations, control of feeding and water points and future vaccination studies.

The following discussion emphasised that methods for the identification and control of tuberculosis in wildlife are badly needed and scientific studies should form the basis for such methods.

Conclusions and recommendations of the subgroup

Firstly, it was concluded that the Spanish authorities have made commendable efforts to strengthen and improve the programme and the results are very promising. The group members who were present during the last meeting of the group in Spain, 5 years ago, noted evident improvement in many areas such as national coverage, testing regimens, co-ordination and communication between the different authorities involved. The progress made in the dairy herds is admirable and shows the determination and skill of the people involved in the eradication programme. For various reasons, the situation in beef herds and herds producing fighting bulls is less clear, but the development will become more obvious in the following years.

1. Epidemiology, data collection and analysis

The data collection efforts are also laudable and it is obvious that a lot of quality data are collected and stored. However, these data are not put to full use. This may be due to a lack of experience in epidemiology and if so, advice should be sought in this particular area. Nevertheless, some simple actions to structure and organise the data so that it can be presented more clearly, should be taken as soon as possible, along with efforts to explain better some background details relating to the figures presented in the programme, so as to avoid confusion (e.g. about herd coverage).

Moreover, the group recommends that a co-ordinating facility or unit be created, at least on a national level that should focus on data collection, evaluation, validation and analysis. The unit would include epidemiologists but also other expertise. This unit would provide the necessary feedback to allow for monitoring the progress of the programme, co-ordinate information and research activities as well as data collection and analysis and so provide a scientific basis for decision-making. Basic epidemiology courses for the veterinarians involved in the eradication programme could also be designed by the unit, in order to ensure the quality of field data.

A better and continuous analysis of all collected data will provide an overview of the progress of the programme and allow for the follow-up of slaughterhouse surveillance, the detection of herds with particular testing problems, the development of specific epidemiological indicators for monitoring the programme, and the further investigation of positive herds in order to detect chains of infection and the possible involvement of wildlife.

2. Wildlife

The wildlife issue should be pursued and the efforts made in this area are encouraged. Even though it may be that wildlife does not pose a risk for the control programme at the moment, this may change in the future and if so, then strategies must be ready and available. Moreover, a management strategy should be developed for those herds that are exposed to potentially infected wildlife and where a problem with spread of BTB between wildlife and livestock is already evident. Such a strategy may include a ban on animal movements from the premises except for direct slaughter, the creation of barriers between livestock and wildlife, and efforts to decrease the local population densities in both wildlife and domestic animals.

3. Slaughterhouse monitoring

Slaughterhouse monitoring is an important issue that was only touched on briefly during the meeting, and no data were presented. The efforts that have been made as regards co-ordination and co-operation with the authorities responsible for meat hygiene in the slaughterhouses with the objective of improving monitoring for BTB at slaughter should be continued and intensified as the current situation is not yet satisfactory.

Slaughterhouse monitoring is the only surveillance available in the specialised fattening herds that are excluded from the tuberculin testing programme. It also provides an opportunity to evaluate the testing performance in beef herds, that are difficult to test.

Moreover, the baseline submission rate for suspect lesions must be determined and recorded so that when in the future the programme has reached the point when testing frequency can be decreased, this rate (i.e. the rate of TB negative submissions) can be used as a basis to ensure proper slaughterhouse monitoring.

4. Herds with particular problems

The detection and investigation of herds with testing problems (i.e. lack of sensitivity and/or specificity) should continue. This helps to maintain the overall confidence in the programme and the diagnostic methods and provides valuable information for future actions in such herds. As the prevalence of BTB drops, these herds may become a relatively larger problem that must be addressed.

5. Communication between authorities

Because of the complex nature of the administrative system in Spain, efficient communication and co-ordination between the different authorities involved in the programme is required. A lot of work has been done in this area, and this must continue so as to ensure the efficiency of the programme.

Finally, the group wishes to thank the Spanish hosts for the informative discussions and wish them every success with the progress of the programme.

Annex I

Participants:

Subgroup members:

Susanna Sternberg Lewerin (Chairwoman), National Veterinary Institute, SE

Darrell Abernethy, Belfast, UK (NI)

Alice Amado, National veterinary Institute, Lisbon, PT

Dan Collins, University College Dublin, Belfield Campus, Dublin 4, IE

Lucas Dominguez, Veterinary Faculty, Madrid, ES

Margaret Good, Dept. of Agriculture, Food & Rural Development, Dublin, IE

Emilia Los, General Veterinary Inspectorate Warsaw, PL

Giorgio Zanardi, Istituto Zooprofilattico Sperimentale Lombardia e Emilia, Brescia, IT

EU Commission (DG SANCO-Unit 04):

Valentina Piazza

James Moynagh

Hosts

Representatives from the Ministry of Agriculture, central and regional Spanish Veterinary Services, National Reference Laboratory (Santa Fe), Veterinary Faculty in Madrid (Laboratorio VISAVET) and Research Institute of Hunting Resources (IREC)

ANNEX II

AGENDA

14 November : first day

9.30 h Welcome and introduction

D. Lucio I. Carbajo Goñi. Subdirector General de Sanidad Animal. M.A.P.A.

D. Juan Luís Maldonado. Jefe del Servicio de Sanidad Animal. Comunidad Autónoma de Andalucía

D^o Cristina Sanz Jimenez. Jefe del Servicio de Sanidad Animal. Comunidad Autónoma de Extremadura.

Presentation of the Subgroup and Introduction by the **Chairwoman of the Subgroup on Bovine Tuberculosis of the Task Force**

10.00 h Structure and organization of the Official Veterinary Services in Spain. Other veterinary services in the implementation of the bovine tuberculosis programme.

D. Lucio I. Carbajo Goñi. General Subdirector of Animal Health. M.A.P.A.

10.30 h Evolution of the National Eradication Programme on Bovine Tuberculosis in Spain. Epidemiological situation. Evaluation of the reinforced measures implemented in 2006.

D. José Luís Paramio Lucas. Head of the Department of Livestock Hygiene. General Subdirection of Animal Health. M.A.P.A.

11.30 h Coffee break

11.45 h The National Eradication Programme on Bovine Tuberculosis in Spain for 2007. Reinforced measures in place in high prevalence regions and zones and preview for 2008.

D. José Luís Sáez Llorente. General Subdirection of Animal Health. M.A.P.A.

13.00 h Lunch

15.00 h. The Eradication Programme on Bovine Tuberculosis in the Autonomous Communities of Andalucía and Extremadura. Evaluation of the epidemiological situation and implementing measures.

D. Juan Luís Maldonado/Alberto Pacios. Animal Health Service. Autonomous Community of Andalucía.

D^a Cristina Sanz or Aurelia Reyes. Animal Health Service. Autonomous Community of Extremadura.

17.00 h Coffee break

17.15 h General discussion: all participants

18.30 h End of the first day meeting.

15 November: second day.

9.00 h The laboratory diagnosis for bovine tuberculosis. The importance of tuberculin contrasting. The gamma-interferon assay and its interpretation in Spain.

D. Fulgencio Garrido Abellán. Head of National Reference Laboratory on Bovine Tuberculosis. M.A.P.A.

9.45 h The scientific assessment in the National Eradication Programme on Bovine Tuberculosis. Diagnostic problems. The culture and molecular assays.

Prof. D^a. Lucía de Juan. VISAVET. Department of Animal Health. Faculty of Veterinary. U.C.M.

10.15 h The National Database of Spoligotypes of *Mycobacterium bovis*. Use in epidemiological surveys.

Prof. D^a Sabrina Rodríguez. VISAVET, Department of Animal Health. Faculty of Veterinary. U.C.M.

10.45 Coffee break

11.00 h The scientific assessment in the National Eradication Programme on Bovine Tuberculosis. The Sanitary Surveillance Programme in wildlife. Results. Abundance studies.

D. Christian Gortázar. Institute of Investigation of Cynegetic Resources. C.S.I.C-U.C.L.M.

11.45 h General discussion: all participants

13.00 h Lunch

15.00 h Meeting of TF-TB Subgroup

16.30 h Final meeting: conclusions and recommendations

17.30 h End of the TF meeting.