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04 - Veterinary control programmes

**SANCO/12487/2010**

**REPORT OF THE**

**"BOVINE TUBERCULOSIS"**

**SUB-GROUP TASK FORCE**

Meeting held in **BRESCIA**

**ITALY**

**21-22 June 1 2010**

**REPORT OF THE MEETING OF BOVINE TUBERCULOSIS SUB-GROUP  
OF THE TASK FORCE FOR MONITORING ANIMAL DISEASE ERADICATION  
HELD IN BRESCIA, ITALY, 21-2 JUNE 2010**

**Participants:** see Annex I

**Agenda:** see Annex II.

**Welcome**

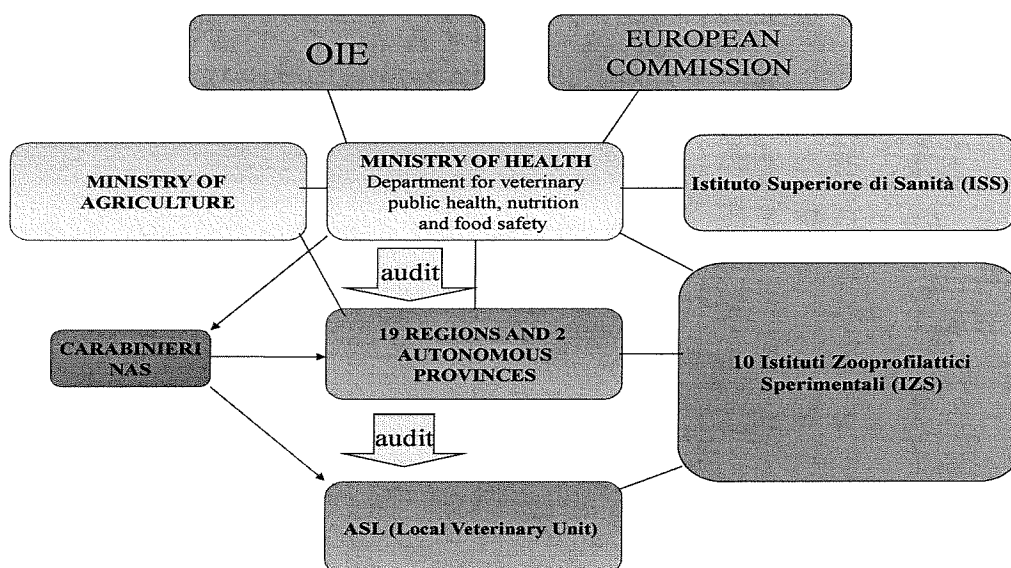
**Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER)**

A short presentation of the hosting Institute was given by the President, **Prof Cinotti**. This Institute is responsible for two autonomous regions and a network of 17 provincial laboratories. It is the national reference laboratory for several diseases including bovine tuberculosis (TB).

**Presentations**

**Control of bovine tuberculosis in Italy**

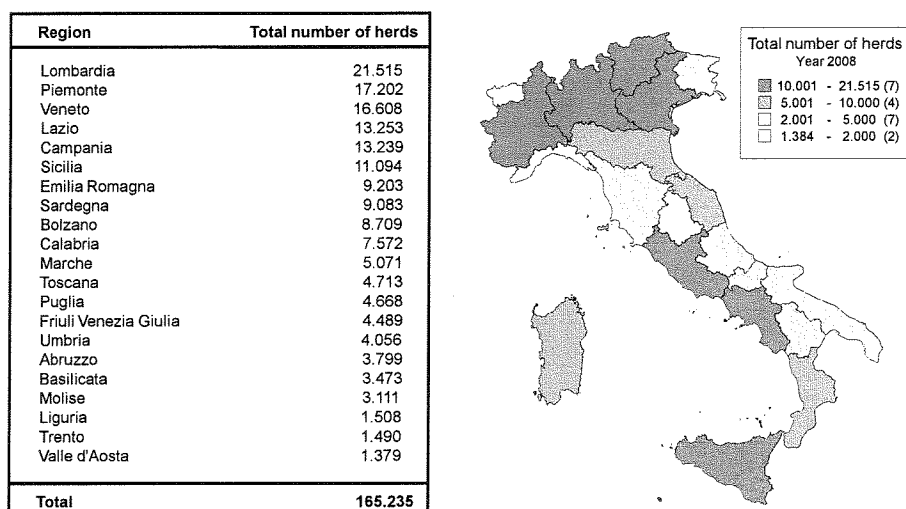
**Dr Avetta** from the Ministry outlined the background for TB control in Italy. The Veterinary Services is part of the Ministry of Health, while the Ministry of Agriculture is responsible for other activities in animal production. There are 19 regions and 2 autonomous provinces, all with their local veterinary units. Audits are performed from the central level to the local level. Moreover, there are 10 Institutes (IZS's), and a food safety police (Carabinieri per la tutela della Salute-NAS). The structure of the system is shown in Figure 1.



**Figure 1.**

The Italian cattle population consists of approximately 165 200 herds with 6 090 700 animals. The majority of the population is in the North, the South-West and Sicily (see figure 2). Lombardia, Piemonte, Veneto and Emilia Romagna have 50% of the approximately 6 million cattle while the rest of the country has mainly small and medium-sized herds. Most of the buffaloes are in Campania, with some 100 animals/herd. Most of the officially free (OTF) provinces are in the North.

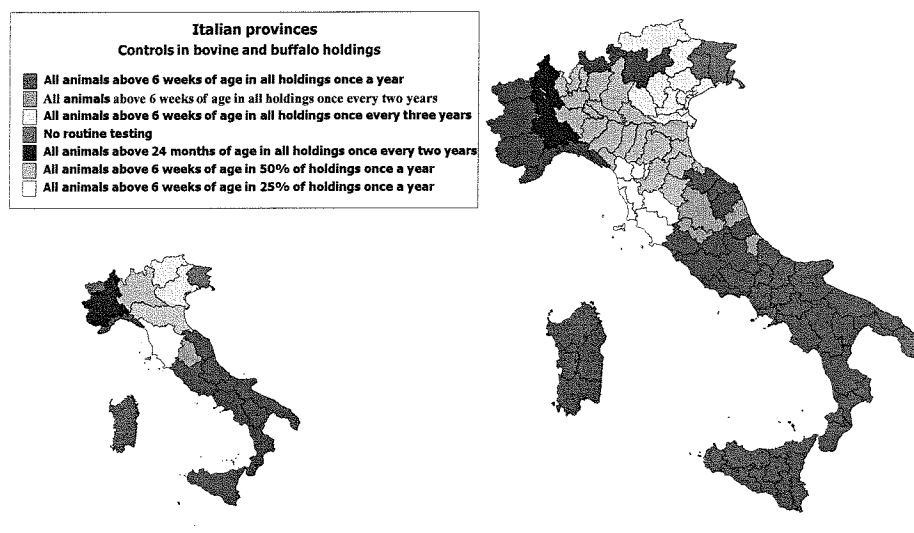
## Cattle population (herds)



**Figure 2.**

There are large variations in testing interval between the autonomous provinces, depending on the regional TB prevalence and regional policies. Most regions test all bovine animals (cattle and buffalo) >6 weeks old every year, but region Friuli-Venezia-Giulia is limiting the surveillance to slaughter-houses according to the directive 64/432/EEC and some only test 25-50% of the population each year (see Figure 3).

## Frequency of routine testing applied in 2009



**Figure 3.**

There have been discussions on whether to test all herds with some years' interval or to test a proportion of herds every year. It is more practical from the perspective of staffing to test every year.

According to a Ministry the Ministry Ordinance of 2006, in four Regions with particular problems with eradication of tuberculosis and brucellosis (i.e. Calabria, Campania, Puglia and Sicilia), all positive animals must be identified with electronic boluses and/or special ear tags

which guarantee further genetic control from the laboratory in order to check the identity of positive animals at their arrival at slaughterhouse.

The same order states that: tuberculin reactors must be slaughtered within 15 days of notification, all reactors and animals with lesions must be sampled at the slaughterhouse, non compliant farmers have to be cut off from other funding, anyone breaking the rules may be fined.

Furthermore the order is establishing a standard format for the epidemiological enquiry carried out in positive holdings and whenever suspect cases are identified at the slaughterhouse.

Transhumance is only allowed for OTF herds. Some further issues for discussion was presented regarding the control in fattening herds, how to calculate prevalence, whether to use the comparative test and the use of  $\gamma$ -interferon, and if buffaloes should be handled differently from cattle instead of the current system where they are treated the same way. Moreover, *Mycobacterium caprae* could complicate the management of some outbreaks in cattle.

The Ministry will change the legislation on TB, with the intention of covering the entire country in one plan and avoid the regional differences in legislation. Instead there will be different "risk levels".

In response to a question from the audience it was explained that the situation of *M. bovis* in humans is to some extent unknown. The Ministry can obtain data but there is no regular data flow between the public health and veterinary services. There is a recent initiative to improve the collaboration, as well as a project for collection of hospital samples for *M. bovis* isolation. The number of human cases is, however, estimated to be very low. Four epidemiologically linked cases (Goria et al. 2009, *Medicina Veterinaria Preventiva* No. 30, pg. 50-52 ) have been described in cattle and people in Piedmont, with identical genotypes isolated from both humans and animals.

### **Compensation scheme**

**Dr Avetta** also described the system for compensation to farmers. The farmer submits an application together with a certificate from the slaughterhouse that the animal has been slaughtered within the correct time. If the farmer has <10 animals, the compensation is 50% higher. A ministerial decree states a fixed compensation for culled animals. The compensation is not paid if the animal dies, is emergency culled, slaughtered >30 days after notification, or was bought without the correct certification. Buffaloes are more valuable than cattle and thus the compensation is slightly higher for such animals. The value of the meat is included in the calculations for compensation. For example, cows are compensated with €428.66+meat value (€786.19 if destroyed). Young animals are more valuable, and this is also taken into account. There is no profit in culling cows, farmers are not compensated to the full value of the animals.

The Ministry Ordinance of 2006 for the Southern provinces, among other things, states a shorter time period between notification and slaughter. The extraordinary measures stated in this legislation are expected to aid the authorities in the region to increase the effectiveness of their control policies.

## **Animal identification system**

The animal identification system was outlined by **Dr Ruocco** from the Ministry. The Ministry of Health has a national Database for animal registration. The database is centralised at national level with input feeds from the local levels. Some regions have independent databases but all feed data into the national database according to specific rules. All animal holdings are registered and all bovine animals are individually marked with two eartags. There used to be some problems with data quality and structural weaknesses. For example, data transmission was conducted in a batchwise manner instead of a continuous flow. The system will be reviewed to improve data quality and thus facilitate more efficient controls. Farmers can either supply data directly to the Ministry or via the regional services. Not all regions have a regional database, but they can load data into the national database that is password protected. Farmers and slaughterhouses are obliged to feed data directly into the system. Farmers can also feed the data with the support of farmer associations. Efforts (including sanctions) have been made to ensure that the number of animals on each holding that are registered in the database are the same as the animals present on that holding at any point in time. All cattle and buffalo holdings are registered with individual holding codes. The data in the national database are checked for irregularities both upon entering (acceptance criteria) and after.

There are discussions about connecting information systems to the demographic database, where regional offices could register all activities, such as testing, on every farm. All provinces and all types of data would ideally be included.

## **Epidemiology and recent perspectives**

**Dr Zanardi** from IZSLER presented some epidemiological data. There is a national trend of decreasing prevalence. The difference between the figures for prevalence and incidence is gradually decreasing, indicating that infected herds are cleared more quickly. However, Sicily, Calabria, Campania and Puglia are still endemic and in these regions the Special Order was launched. The number of TB infected herds in Italy were 815 in 2008 (500 new infections during the year) and 676 during 2009 (527 new cases during the year). The figures for prevalence in non-OTF regions were 1.03% 2008 and 0.89% 2009, while incidence was 0.64% 2008 and 0.55% 2009. There were 10 infected herds in OTF regions in 2009. In these regions, TB surveillance consists mainly of slaughterhouse monitoring.

Buffalo herds are mainly located in Campania and Lazio regions. Approximately 2000 herds are controlled every year. The prevalence (1.63%) and incidence (1.58%) of TB were higher than in cattle herds.

In recent years the coverage has been close to 100% of all herds. Some 2.8 million animals are tested yearly in non-OTF regions, with some 6000 positive reactors. In some regions the slaughterhouse submission rate is low and there is underreporting in some regions. The rate of confirmation of suspect lesions is quite high. From some herds there were more than one positive animal at slaughter. The data is somewhat skewed, as large slaughterhouses receive animals from many regions, but the slaughterhouse reports are sometimes registered as coming from the region where the slaughterhouse is located. In any case, the veterinary authorities can extract lists of TB suspected farms from the National Register database, with full information about their geographical origin.

An example from Sardinia was presented, where there were problems in the in Sassari province, situated in the north-central part of the Island. In this area (named Goceano) there are mountain pastures where animals are mixed. Sardinia is OTF since 1998. In 2000, pre-

movement tests were conducted, as well as testing in dairy herds and risk herds. During 2001-2003, testing was done every second year while from 2004, testing was performed every third year. In 2007-2008, 75 outbreaks were detected by skin testing. By the end of the period, 50 of these were still unresolved. In 2009 there were 11 outbreaks (9 revealed by skin testing and 2 at slaughter, involving a total of 21 cattle) and in 2010 there has been 2 outbreaks (involving 3 cattle). The epidemiological situation of TB seems to be under control after the timely application of an extraordinary eradication program realised in collaboration with the National Reference Centre for TB and carried out by the veterinary regional authorities during the last three years.

There has probably been persistence of the infection since 1998. The same strains are isolated, there are uncontrolled risk factors and lack of surveillance. Slaughterhouse surveillance was not effective in Sassari province, in fact the slaughterhouse cases were detected in slaughterhouses in other provinces in the same region. A lot of suckler herds with animals of high longevity, as well as common pastures not under the control of the veterinary services, difficulties to muster animals for testing, presence of the infection in wild boar (so far not demonstrated as a reservoir of infection) and some other factors all contribute to the TB problems.

Generally, critical points for the TB control are: collaboration between authorities, maximum coverage of herd tests, frequency of tuberculin testing, effective slaughterhouse inspection. Moreover, the performance of the skin test, managing of inconclusive reactors, epidemiology of the infection, information flow and sanitary controls were mentioned as important for a successful control.

In the endemic areas, the most common origin of the TB outbreaks are illegal movement of infected animals, mixing of animals for reproduction and fattening at dealers' farms, common pastures, while in OTF regions or provinces the most frequent risk factors are latency (one case had a latency period of 10 years), persistence of *M. bovis* in the environment, possible introduction from other countries, mixing with goats (a possible reservoir of infection?) and common pastures.

The national reference centre (IZSLER) has, in cooperation with the Ministry, organised training courses and meetings for slaughterhouse inspectors and field staff doing tuberculin tests. There are two different sources of tuberculin in Italy but the quality of both tuberculin productions are controlled by another independent institute (Istituto Superiore di Sanità, Rome). Both tuberculins are used in all areas of the country.

### **National reference laboratory (NRC, national reference centre)**

**Dr Pacciarini** from IZSLER described the network of the 10 IZS's and many diagnostic divisions located all over the country. The NRC has several reference labs: histopathology, bacteriology, molecular typing, immunology, as well as an epidemiology unit, a strain collection and a national database of molecular profiles. They also conduct research. Among the responsibilities were mentioned the development and standardisation of diagnostic test, organising ring trials, giving technical advice to the authorities and technical support to members of the network. The diagnostic flow chart was described briefly. Histopathology is performed mainly on samples with macroscopic lesions while all samples are processed for bacteriology, culture is performed on both liquid and solid media. Identification of isolates is performed by microbiological and molecular methods. Molecular typing is done by several methods (DVR-spiligotyping, VNTR typing). Between 2000 and 2009, over 3200 isolates from 1800 herds have been analysed; these cluster into more than 110 profiles. 10% of the isolates were identified as *M. caprae*. The geographical distribution of the most common

genotypes was shown. The most common types are present in the entire country, one is responsible for some 53% of all outbreaks. The aim is to include more data into the database on genotypes, e.g. herd information, why the sample was taken and epidemiological information. The database would then be made available for authorities at local as well as central level and integrated with other databases for optimal use.

### **TB in wildlife in Lombardia**

Wildlife monitoring in Lombardia was described by **Dr Gaffuri** from IZSLER. The monitoring of wildlife is performed to assess the presence of tuberculosis in wildlife and to evaluate the potential risk to inter species transmission. There are some 26 000 roe deer, 7 300 red deer, 19 500 alpine chamois, 2 600 alpine ibex and 3 300 wild boar in Lombardia. The first control programmes were in wild boar, samples were taken from hunted animals. Monitoring has then been extended to deer and foxes. The same diagnostic methods as for domestic species are used, but cultures are kept for longer, to detect other mycobacteria as well. Out of 5060 wild boar, 325 had visible lesions, 158 yielded *M. microti* and 7 *M. bovis*. No deer had visible lesions but *M. microti* was isolated from 3 animals and *M. bovis* from 3 animals. More samples were positive by PCR than by culture, this was probably due to the handling of the samples (freezing, thawing etc) and the difficulties to isolate of *M. microti*.

The lymph nodes of the head were used for most studies, as this was the only practical option. However, lesions from other organs were rarely reported by either vets or hunters so it was regarded that the sample material was adequately representative. In conclusion, wild boar does not seem to be a reservoir for *M. bovis* (or play a role in the epidemiology of TB).

The results from other regions in Italy are similar, the samples from wild boar yield more *M. microti* than *M. bovis*. The exception to this has been in areas where cattle on pasture are heavily infected with *M. bovis*, but after clearing the infection in cattle the prevalence of *M. bovis* decreased in wild boar.

### **TB situation in Lombardia**

**Dr Farioli** from the autonomous region of Lombardia presented the situation in this region. The cattle population in the region consists of some 23 100 herds with 1 565 100 animals. The number of herds as well as animals are slowly decreasing. In 2003 there was a change in the control plan, with frequency of testing adjusted to relative risk. Half of the breeding farms (both dairy and beef) are tested every year. In fattening herds, monitoring relies on slaughterhouse inspections. In addition, pre-movement tests are performed in both breeding and fattening herds. All positive reactors are culled, slaughter and post mortem sampling is recommended for inconclusive reactors. Suspect lesions at slaughter prompt investigations including testing of the herd of origin. The bulk milk is occasionally tested for the presence of isoniazide. The  $\gamma$ -interferon test is used as an ancillary test in herds where samples have been culture positive, in order to clear them more quickly, but not in any other situation. The selling of raw milk is prohibited from restricted farms. If the prevalence in a herd is 20% or more, all animals are culled. This is also done if the epidemiological situation motivates drastic measures. More cases are identified at slaughter than by herd tests. Between 2004 and 2009, outbreaks have been localised in different areas. In 2009, TB was suspected in 7 animals (of some 100 000 slaughtered animals) at slaughter but confirmed only in one case. One more positive herd was identified by tuberculin testing in 2009. Both 2009 cases were in dairy herds. Some of the cases in recent years have been associated with animal imports from OTF countries. Lombardia received OTF status in 2010.

## TB situation in Valle D'aosta

**Dr Ragionieri** gave a presentation on the situation in the autonomous region of Valle d'Aosta. The region is located in the northwest of Italy, bordering with Switzerland, France and Piemonte. It is an alpine region with mountains at above 2 000 m altitude. Only 12% of the area is located at an altitude below 1 200 m. The density of the human population is low and the population is ageing, especially in the zootechnical sector. The agricultural sector is small. The cattle population is also decreasing, in 2009 there were 37 000 animals in 1 250 farms. The herd size has increased from about 20 animals/farm in 2007 to some 30 animals/farm in 2009. The small ruminant population is increasing, there are some 400 farms with a total of 5 000 goats and 3 000 sheep. The cattle breeds are adapted to the region, with high capability of moving on mountain pastures. They live long and produce both meat and milk. Some are bred to be more muscular, as the practice of 'fighting cows' is a particularity to the region. Fontine cheese is the main dairy product. The animals are stabled in winter (November-January), when 90% of the calvings take place. Calves are sometimes sold before "diagnostic age", there is a seasonality in trade, matching the seasonal production. Most trade takes place in winter, pre-movement test are performed (but not on calves <6 weeks) Animals are mixed, on mountain pastures as well as in some cases where young animals are kept on other farms during winter. On low pastures, close to the farms, the animals are usually not mixed, but later in the season they are usually mixed on the mountain pastures. There are also a lot of exhibitions, fairs and cow-fights, where animals are mixed. In conclusion, many different animal movements and contacts occur, some herds have regular contact with 4-5 other herds.

There are 16 official veterinarians in the Animal Health Services. They are responsible for the 16 geographical zones of the Department of Health. The regional database is managed by the Ministry of Agriculture. All animals are ear-tagged and electronically marked.

There was a peak in TB prevalence in 2008, perhaps associated with increased testing frequency. All cattle above 6 weeks of age are tuberculin tested every year. There are some problems with farmers applying illegal "preventive treatments".

In 2005-2006, an epidemiological study was conducted. Tuberculin and  $\gamma$ -interferon tests were used in all suspect cases and epidemiologically linked herds. The  $\gamma$ -interferon was used after the farmer's consent. In 2007-2008 the  $\gamma$ -interferon was made mandatory (in addition to tuberculin) for testing of herds where TB was suspected (not for routine testing). Epidemiological expertise was sought from the IZS in Turin. All reactors were slaughtered within 15 days. In 2009, in-depth epidemiological investigations were initiated. Subsequently, farmers' lobbying resulted in  $\gamma$ -interferon only being used in herds where the infection had been confirmed, and only one tuberculin testing of epidemiologically linked herds. Intensified testing and tracing of the infection during the years 2007-2009 was probably the reason for the increased number of reactors and decrease in animals with visible lesions at slaughter during this period.

The TB cases are usually linked to purchased animals, reactivation, or pasture contacts. The regional database holds information on what cattle graze different pastures every year.

There have been problems with farmers using private labs for  $\gamma$ -interferon testing and selling positive reactors or sending them to slaughter before a scheduled testing of the herd. The veterinary authorities are worried that farmers and politicians are happy with the apparently low prevalence, which is suspected to be caused by ineffective surveillance rather than a true decrease in prevalence. The failure to grasp that circulating infection may go undetected leads to reallocation of resources and lack of funding for TB control.



## **TB situation in Trento**

**Dr Costanzi** gave a presentation of the TB situation in the autonomous province of Trento. In the late 1990's no TB cases were detected in this region, and OTF status was acquired. Since 2005, monitoring has consisted of slaughterhouse inspection and pre-movement testing. In 2007, a total of 4 497 pre-movement tests were conducted, 8 392 animals were slaughtered and inspected in the region while 6 780 animals were slaughtered and inspected in other regions. Of the latter, 3 positive cases were identified and in one, a further 19 positive animals were identified on the same farm, by tuberculin testing. In 2008, all farms were tested.

Tracings from infected farms revealed a likely origin of the infection via imported animals, from Austria and Germany and, maybe, from other regions in Italy. The infection had also spread to several other farms in Trento, via contacts on alpine pastures. The imported cases had been sold via animal dealers, some had also been transported via the same collection centre in Austria and from these animals the same subtype of *M. caprae* was isolated. In 2010 a farm with inconclusive reactors was further investigated and re-tested and one animal, originating from Austria, was found positive. This animal had come from a shipment that had also delivered animals to other farms, which are being investigated. In conclusion, slaughterhouse monitoring is not sufficient if there is a risk of introduction of TB, the detection of infected animals will be too late. A problem is that imported animals from OTF countries are not tested and OTF status does not guarantee that no infected animals can be found in the country.

## **TB situation in Sicily**

**Dr Schembri** presented the situation in Sicily. Sicily has about 5 million inhabitants, and many health problems. The cattle population consists of some 10 000 herds with nearly 370 000 cattle. The veterinary services lost their independence in 2008 and were included in the Department of Public Health and Epidemiology in 2009. There are 9 provincial health care units, each with their own veterinary service. These are further divided into 59 districts. The herd coverage of the TB programme is close to 99%. There is a decreasing prevalence of TB, in 2009 the herd prevalence was 3.72% and herd incidence 2.52%, 92.76% of all herds are OTF. There were 393 outbreaks in 2009, of which 266 were new, and 42 notifications at slaughter.

There have been problems with animal identification, which has led to the use of an electronic identification system. There has also been systematic monitoring activities and an evaluation of field operations, in response to what was perceived as a lack of monitoring. Regulation and monitoring of transhumance has also been initiated, due to lack of control of animal movements. Some critical issues that remain may be linked to data problems or illegal trade, e.g. infected animals that are "lost", cattle rustling, some herds registering no calvings while others register an abnormally high number. No compensation is paid if animals are lost, only if all positive animals are reported as slaughtered. Some suspicions of fraud need to be further investigated and the underlying systemic drivers identified.

Compared to other diseases, the same regions come up as "problem regions". The plans for 2011-2012 include measures to improve monitoring (reports and follow-up), regional controls of field activities, auditing and use of the  $\gamma$ -interferon test. The aim is to increase the proportion of OTF farms.

## **TB situation in Calabria**

**Dr Piraino** presented the situation in the region of Calabria. There are 5 provinces in the region, with 11 local health divisions. The region is small and has many small farms, high mountains and extensive farming systems. Thus, there are problems with mustering animals for testing. The herd prevalence in 2007 was about 0.04%, in 2008 0.87% and in 2009 0.50%. Many cases were detected at slaughter, in imported animals. The positive herds are in the parts where animal dealers are located. Training activities have been undertaken for veterinarians.

### **Recommendations of the subgroup**

First, the group would like to compliment the Italian authorities for the vast improvement since the last meeting in 2002. The prevalence of TB has decreased and there are several regions that are now officially free. A lot of excellent epidemiological work is being carried out, an animal identification system is in place and computerisation has improved. Moreover, the streamlining of the compensation system and the shortening of the period for removal of reactors is commendable as is the food safety police.

The initiation of a national control and eradication plan for TB, with regionalisation based on risk categorisation is encouraged.

The project on a national database is also promising. In the future, a national database including data on molecular epidemiology, field epidemiology, test and slaughterhouse surveillance results and actions taken in all herds is a necessary tool.

The network of the IZS's and the appointment of one as the reference centre for TB appear to work well.

The use of independent vet with official training is encouraged and should be applied in all regions.

The group recognised that there are large regional differences, with particular problems in some of the southern regions with "missing" animals, movement controls, testing intervals, testing audits and suspected frauds. Therefore, the renewal of the Special Ordinance that has been applied to those regions is recommended.

The data on slaughterhouse submission rates should be collected in all regions. A national approach to the collection of such data is necessary as many animals are slaughtered in regions other than their herd of origin. The submission rate is a necessary indicator of the efficacy of slaughterhouse surveillance, particularly in OTF regions where regular testing of all herds has been discontinued and monitoring relies entirely on slaughterhouse inspections. Even in the absence of TB, a certain number of macroscopic lesions is to be expected and all such lesions should be investigated at least histologically to ensure that they are not caused by mycobacteria. An evaluation of the relative submission rates from slaughterhouses should be considered and if necessary a target submission rate should be set. Continuous training of inspectors is important to ensure awareness and technical skills among staff.

Data on follow-up in herds where TB is detected at slaughter is also important, to know if there are more positive animals in these herds, i.e. whether the lesioned animal is only an indicator of an old 'latent' infection or of a TB problem that has gone undetected.

It is recommended to keep testing all herds in OTF regions. The testing interval should be based on regular epidemiological assessments. If all herds are not tested yearly, a sample of herds should be tested every year and full coverage of all herds planned for a certain period (2, 3 or 4 years depending on the assessment of the situation).

The baseline testing of all herds should be based on a random yearly sample calculated to cover all herds in the predetermined time period. Specialised fattening herds with no animal trade (i.e. that only send animals to slaughter) may be exempted from such testing. The annual sample of tested herds should be distributed over the entire region. In addition, risk based testing should be performed more frequently in herds where there is a higher risk of TB: In addition to tracing initiated by detection of an infected animal/herd and movements of the infected animal or animals from the infected herd such risk based testing could include post movement tests in dealer herds, or herds that practise transhumance, or other forms of regular mixing of animals from different herds, or fattening herds that buy animals from many other herds or herds that buy from dealers. Other potential schemes for risk based testing include yearly testing of herds with a history of TB, or herds with a history of many inconclusive reactors/unconfirmed reactors/single positive animals detected at slaughter.

The calculation of prevalence figures depends on what they will be used for. For example, for the reporting under the EU Directive, fattening herds that are not tested regularly can be excluded from the herd/animal population figure (with an explanation that they are only monitored at slaughter) and only the tested population reported. If full herd coverage is achieved in a three-year period, the test results for the entire period are used, divided by the number of animals tested during that period and the three-year prevalence figure stated. If the figures are needed for yearly estimates of the situation, statistical methods to obtain a prevalence estimate from the number of herds/animals tested (i.e. the population sample) may be preferable. Data from regular screening tuberculin testing should also be calculated separately from risk based testing, and slaughterhouse monitoring results to assess efficacy of slaughterhouse screening and risk based selection methodologies. When comparing regions or assessing the national situation, raw data must be used, or the calculations performed in the same way for all regions, to avoid misinterpretation.

The use of the single test (i.e. only bovine tuberculin) as a primary test is supported, as this has a higher sensitivity than the comparative test. The comparative test may be used in situations where particular problems with specificity are anticipated, but this does not appear to be a major issue at present.

The present use of the  $\gamma$ -interferon test, as an ancillary test in herds with a high prevalence of infection to clear these herds more quickly, is also supported. It was mentioned that some farmers use private labs for this test, in order to avoid detection of infected animals that are then sold or otherwise disposed of. Such practise may be discouraged by legal measures. It may be made illegal to conduct TB tests ( $\gamma$ -interferon or tuberculin) other than by official order and mandatory for all laboratories to report  $\gamma$ -interferon test results possibly in combination with reporting of distribution of test kits by manufacturers.

The work conducted in wildlife is encouraged and wildlife monitoring should be continued.

The prevalence of *M. bovis* infections in humans appears to be to some extent unknown. The initiative for an exchange of data and other information between the veterinary and public health authorities is supported. It is important that detection methods used in humans also detect *M. bovis*, so that such infections don't remain undetected and unreported. They may be indicators as well as sources of the infection in animals.

## **Finally**

**The members of the subgroup** would like to thank the Italian hosts for all their work with the meeting, the presentations and the warm welcome in such a nice venue, and wish them the best of success in their eradication programme.

## ANNEX I

### Participants:

#### TB subgroup members

**Dr Susanna Sternberg Lewerin (Chairwoman)**, National Veterinary Institute, SE (Chair)

**Dr Linda Evans** , Veterinary Business Partner (England), Exter Animal Health Office and Worcester Animals Health HQ, UK

**Dr Gabriela Fonseca**, National Coordination of the Eradication Programme from Centre Services (DGV), PT

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

**Dr Cesare Fernandez**  
General Subdirection of Animal Health, M.A.R.M, ES

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

**Dr Maria Pacciarini**, Istituto Zooprofilattico Sperimentale Lombardia e Emilia, Brescia, IT

**Dr. Alicia Aranaz**, TB CRL Madrid, ES

#### EU Commission (DG SANCO-Unit 04- Veterinary control programmes):

**Dr. Valentina Piazza**

**Dr. James Moynagh**

#### HOST:

**Dr Morgan Avetta**, from the Ministry of Health

**Dr Ruocco**, from the Ministry of Health

**Dr Zanardi**, from IZSLER

**Dr Pacciarini** from IZSLER

**Dr Gaffuri** from IZSLER.

**Dr Farioli**, Veterinary service of the autonomous region of Lombardia

**Dr Ragionieri**, Veterinary service of the autonomous region of Valle d'Aosta

**Dr Costanzi**, Veterinary service of the autonomous province of Trento

**Dr Schembri**, Veterinary service of Sicily

**Dr D'Orazi**, IZS Sicilia

**Dr Piraino**, Veterinary service of Calabria

## ANNEX II

### **AGENDA OF THE BOVINE TUBERCULOSIS TASK FORCE SUB-GROUP BRESCIA, 21-22 JUNE 2010**

#### **Monday, 21 June 2010**

**14,00 – 14,15** Welcome and introduction.

**14,15 - 15,00** Short presentation of the structure and organisation of the Italian veterinary service. Legislation related to the control of bovine tuberculosis in Italy. Compensation system. National bovine identification and database.

**15,30 - 16,00** Epidemiology of bovine tuberculosis in Italy. Current situation and perspectives.

**16,00 - 16,30** Duties and activities of the National Reference Laboratory.

**16,30 - 16,45** Discussion

**16,45 - 17,00** Tea break

**17,00 - 17,30** Monitoring of tuberculosis in wildlife in Region Lombardia.

**17,30 - 18,15** Region Lombardia – Evolution (from at least 2007), current situation and perspective of bovine tuberculosis. Main epidemiological indicators and special actions.

**18,15 – 18,45** General discussion

#### **Tuesday, 22 June 2010**

**9,00 - 9,45** Provincia Autonoma of Trento – Description of the TB outbreaks of 2007-2008. Special actions and present situation.

**9,45 - 10,00** Discussion

**10,00 - 10,45** Region Valle d'Aosta- Evolution (from at least 2007), current situation and perspective of bovine tuberculosis. Main epidemiological indicators and special actions.

**10,45 - 11,00** Discussion

**11,00 - 11,15** Coffee break

**11,15 - 12,00** Region Calabria - Evolution (from at least 2007), current situation and perspective of bovine tuberculosis. Main epidemiological indicators and special actions.

**12,00 - 12,15** Discussion

**12,15 - 13,00** Region Sicily- Evolution (from at least 2007), current situation and perspective of bovine tuberculosis. Main epidemiological indicators and special actions.

**13,00 - 13,15** Discussion

**13,15 - 14,15** Lunch

**14,15-15,30** Discussion of the subgroup

**15,30-16,00** General discussion, Recommendations and Closing meeting