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Directorate F - Food and Veterinary Office

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FINAL REPORT OF A MISSION CARRIED OUT IN GREECE FROM 19 MAY TO 30 MAY 2008 IN ORDER TO EVALUATE THE OPERATION OF THE BOVINE TUBERCULOSIS AND BRUCELLOSIS AND THE OVINE AND CAPRINE BRUCELLOSIS ERADICATION PROGRAMMES

In response to information provided by the Competent Authority, any factual error noted in the draft report has been corrected;any clarification appears in the form of an endnote.

Executive Summary

The CA did not have the appropriate resources, personnel, facilities and equipment to implement the activities foreseen in the eradication programmes for 2006 and 2007, as required by Article 4(b) and (d) of Regulation (EC) No 882/2004.

Official controls were not always performed competently and in a consistent manner, as required by Article 6(a) of Regulation (EC) No 882/2004. The procedures in place to verify the effectiveness of the controls carried out, as foreseen by Article 4.2(a) of Regulation (EC) No 882/2004, could not identify and correct these shortcomings.

The procedures in place for coordination and cooperation between the DZ and the local authorities, as required by Article 4.3 of Regulation (EC) No 882/2004 do not ensure effective exchange of information.

The procedures in place for achieving and maintaining the status in the herds were not in line with chapters I and II of Annex A to Council Directive 64/432/EEC and with Annex A to Council Directive 91/68/EEC.

A combination of factors such as the large number of untested herds every year, the low frequency of testing in those covered and the inaccuracy and lack of harmonisation of the data available made it impossible to assess the progress made in the eradication of the three diseases during the implementation of the programme during 2006 and 2007. The prevalence and incidence rates presented in the official tables are not reliable.

The impossibility to identify vaccinated animals and the lack of a uniform approach for the vaccination of a large number of small flocks implies that many female sheep remain unvaccinated every year. This, together with the lack of data to assess the efficacy of the vaccination make it impossible to assess the level of protection in the population.

The NRL for brucellosis does not perform all the activities foreseen in Council Directive 64/432/EEC, Annex C, paragraph 4 and the NRL for TB does not perform the activities foreseen in Council Directive 64/432/EEC, Annex B, paragraph 4.

The procedure related to identification, isolation and removal of reactor animals, sanitary slaughter and disinfection and compensation were carried out in accordance with Council Directive 78/52/EEC (for cattle) and with the National Eradication Programmes (for sheep and goats).

Procedures are in place to prevent non eligible milk going for human consumption, as required by Regulation (EC) No 853/2004, Annex III, Section IX, Chapter I, point 3 (a) and (b).

The procedures for slaughter of reactors were in accordance with Regulation (EC) No 854/2004, Annex I, Section II, Chapter III, point 5.

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ABBREVIATIONS & SPECIAL TERMS USED IN THE REPORT

Abbreviation	Explanation
CA	Competent Authority
CCA	Central Competent Authority
CFT	Complement Fixation Test
DB	National Database
DESI	Department of Epidemiological Surveillance and Intervention of the Ministry of Health
DG(SANCO)	Health and Consumer Directorate General
DZ	Department of Zoonoses
EC	European Commission
ELISA	Enzyme-linked immunosorbent essay
EU	European Commission
FVO	Food and Veterinary Office
LVS	Local Veterinary Station
MRDF	Ministry of Rural Development and Food
OBF	Officially Brucellosis Free
OTF	Official Tuberculosis Free
OV	Official Veterinarian
PVD	Prefectural Veterinary Directorates
RBT	Rose Bengal Test
TB	Bovine Tuberculosis

1 INTRODUCTION

The mission took place in Greece from 19 to 30 of May 2008 and was part of the mission programme announced for 2008 by the Food and Veterinary Office (FVO).

The inspection team comprised two FVO inspectors and a national expert. The team was accompanied throughout the mission by representatives of the Central Competent Authorities (CCA).

2 OBJECTIVES OF THE MISSION

The objectives of missions were:

To evaluate the implementation of the bovine brucellosis and tuberculosis eradication programmes in 2006 and 2007, in order to assess the impact of the measures undertaken.

To evaluate the implementation of the ovi-caprine brucellosis eradication programme, with special regard to the effectiveness of the measures implemented in 2007, when the programme received a financial contribution from the EC.

In pursuit of these objectives, the following meetings were held and sites visited:

Visits			**Comments**
Competent authority	Central	2	Opening and final meetings
	Regional	4	Prefectural Veterinary Directorates (PVD)
	Local	4	Local Veterinary Stations (LVS)
Holdings		5	2 bovine, 3 ovi/caprine
Dealers		2	1 for sheep and goats, 1 for cattle
Laboratories		1	*Brucella* National Reference Laboratory (NRL)
Slaughterhouses		3	designated for reactors
Dairies		3	

3 LEGAL BASIS FOR THE MISSION

The mission was carried out under the general provisions of Community legislation, and, in particular Article 45 of Regulation (EC) 882/2004.

Legal acts quoted in this report are provided in Annex 1 and refer, where applicable, to the last amended version.

4 BACKGROUND

The European Commission (EC) gave financial support to the Greek bovine brucellosis eradication programme until 2006, under Commission Decision 2005/873/EC, and to the bovine tuberculosis eradication programme until 2005, under Commission Decision 2004/840/EC.

The eradication programme for ovine and caprine brucellosis has been given financial contributions by the Commission for several years, the last being approved for 2007 by Commission Decision 2006/875/EC.

No eradication programmes have been submitted to the EC by Greece for the year 2008, but a proposal for the ovine and caprine brucellosis eradication programme has been forwarded to the Commission for the year 2009.

5 MAIN FINDINGS

5.1 LEGISLATION

The relevant Community legislation has been transposed into the national Greek legislation by the following means:

- Council Directive 64/432/CEE by Presidential Decree 308/2000
- Council Directive 91/68/CEE by Presidential Decree 242/2005, in replacement of Presidential Decree 35/1995 which has been repealed.

Updated implementing rules for the eradication programmes have been laid down in three recent Ministerial Decisions published on 17 July 2007: N. 258733 for bovine Tuberculosis (TB), N. 258734 for bovine brucellosis and N.258735 for sheep and goats brucellosis.

5.2 COMPETENT AUTHORITIES

5.2.1 Services involved in the eradication programmes

The Department of Zoonoses (DZ) of the Animal Health Directorate under the General

Directorate of Veterinary Services from the Ministry of Rural Development and Food (MRDF) is responsible for the design, coordination and evaluation of the programmes and for liaison with the relevant Commission Services.

The Veterinary Directorates of the Prefectures (PVD) are responsible for supervision and coordination of the implementation of the activities in their geographical area. The Official Veterinarians (OV) of the Local Veterinary Stations (LVS) carry out tests and vaccinations.

5.2.2 Resources and personnel

Annually, the MRDF and the PVDs present a proposal for recruitment of permanent and temporary staff (eight or twelve month contracts) to the Ministry of Interior, which makes the final decision. Private veterinary practitioners do not participate in any official task.

Observations

- In the DZ, the staff involved in the design, coordination and evaluation of the eradication programmes consist of one permanent full time and one permanent seconded official. For 2008, the recruitment of nine permanent new staff was proposed but no final response had been given by the Ministry of Interior at the time of the mission.
- For the period 2007-2009, the recruitment of 443 temporary staff at national level was proposed for the Animal Health Directorate but the Ministry of Interior approved only 273.
- In 2007, 130 staff were recruited under twelve-month contracts. No recruitment of this nature is foreseen for 2008 and 2009.
- In the Prefectures visited the number of veterinarians employed was very low compared with the posts in the organisation chart (e.g. in one Prefecture 21 out of 76, in another one 3 out of 11).
- Due to the lack of veterinary staff, in one Prefecture visited one LVS was not in operation and in another one, only 6 LVSs out of 9 were actually in operation. In another Prefecture visited, the activities of the local level were performed by the official of the Prefectural level.

5.2.3 Training

No specific technical training has been organized at Central level for new or existing staff since 2003 and no training has been planned at central or Prefectural level for 2008 on issues related to the programmes.

5.2.4 Legal and enforcement powers

The enforcement power for the application of the provisions included in the programmes rests with the Prefect, who can apply sanctions to the farmers in case of non compliance with the national legislation, as required by Article 4, point 2(e) of Regulation (EC) No 882/2004.

Observations

- In all the PVDs visited, evidence was provided that obligations for vaccination and for compulsory slaughter of reactors were followed by the owners.

5.2.5 Coordination and information flow

The LVSs are obliged to send monthly reports to the PVD about the tests and vaccination carried out. The PVDs compile the information received and send monthly and annual reports to the DZ.

Committees for the coordination, monitoring and evaluation of each one of the three eradication programmes have been established at Central level since 1996. These Committees should meet at least every three months in order to assess the situation and take corrective action if planned targets are not achieved.

Observations

- No computerized system is available for collection and dispatch of data regarding the programmes from the LVSs to the PVDs and to the DZ. The information is sent on paper and is summarized at the DZ in tables drawn up by hand. The CCA stated that, in some cases, the information from the Prefectures did not arrive or arrived after the deadlines set.
- The different national databases (DBs) - holding registration, animal identification and animal health - are not linked, and the information contained in each is expressed differently (e.g. on the animal identification DB the information is kept by holding whereas in the animal health DB it is kept by herd).
- The implementation of the activities was not consistent in the LVSs visited. The OVs of the LVSs set their priorities to carry out the activities individually (e.g. some LVSs focus testing on keeping disease free status of the herds whereas others focused on testing herds of unknown status).
- All the LVSs visited were reporting monthly to the Prefectural office. However, in one LVS, the reports from 2007 did not include the number of rams that were tested under the *B. Melitensis* programme, and therefore they have not been included in the national figures.
- The CCA did not draw any conclusion and did not perform *ex-post* evaluation of the programmes implemented during 2006 and 2007. The problems encountered in their implementation were not identified and taken into account for strategies to be adopted in the following years.
- No meetings of the Coordination Committees have taken place since they were

established.

5.2.6 Audits and official controls within the veterinary services

A Central Audit Unit consisting of five staff has been established at the General Directorate of Veterinary Services, as required by Article 4.6 of Regulation (EC) No 882/2004. The Unit is in charge of auditing the various Directorates at central level as well as the PVDs.

The programme for audits is planned on a five-year basis. Between 16 and 18 audits are performed every year, of which two to four are on zoonoses.

In 2007, an audit to evaluate the activities performed under the *B. melitensis* programme for 2006 was carried out in one of the PVDs visited The report had identified most of the shortcomings pointed out by the mission team (e.g. low vaccination coverage, lack of training for staff, lack of testing for rams) and recommendations were issued.

According to the information received, the PVDs have the task of supervising the procedures of the OVs in the LVSs for testing and vaccination.

Observations

- The recommendations in the audit report were issued only to the Prefectural level, including for those issues beyond the power and responsibility of the PVDs (e.g. the lack of Rev-1 vaccine cannot be solved by the Prefecture since it is a problem of distribution from the CCA). As a consequence, the action plan presented by the Prefecture did not address all the shortcomings identified. No follow-up to verify the implementation of the proposed action plan has yet been carried out.
- The mission team was informed that meetings are organized between the PVDs and the LVSs, but no formal records are issued.
- The OV of one of the the LVS visited claimed to be regularly supervised by the Prefectural level, including during testing for the programmes. However, no reports of this supervision were available. In another Prefecture, the veterinarian in charge did not perform supervision at LVSs for lack of time.

5.3 HOLDING REGISTRATION, ANIMAL IDENTIFICATION AND MOVEMENT CONTROL

All animal holdings must be registered since no derogation according to Article 3 point 2 of Council Directive 92/102/EEC has been granted.

All animal movements must be accompanied by a health certificate issued by an OV. For bovines, only animals originating from T3 and B4 herds can enter other holdings.

In the mainland, only sheep originating from vaccinated flocks can be moved to another holding. In the islands, only animals originating from M4 flocks can enter other holdings. Movement of sheep from the mainland to the islands is forbidden.

Reactors can only be moved to slaughter. Pre-movement testing 30 days before dispatch is compulsory for animals moved for further production.

Observations

- All the holdings visited were registered and sheep, goats and cattle were identified.
- In the mainland, for movement to slaughterhouses or to other holdings, documents were issued and were available for the mission team. When animals are moved for grazing within the territory under the control of the same LVS, movement documents were not issued.
- In the island visited, no movement documents were seen for sheep and goats moved to different holdings. The CA stated that the farmers did not inform them and therefore movement documents were not issued. For the movement of animals to slaughterhouses movement documents were in place.

5.4 ERADICATION PROGRAMMES

5.4.1 Classification of herds

5.4.1.1 Bovine brucellosis

The Ministerial Decision N. 258734 sets out the requirements for achieving and maintaining officially brucellosis free (OBF) status, which reflect those in Annex A, Chapter II of Council Directive 64/432/EEC.

Herds are classified as B1, B2, B3 and B4, in accordance with Article 2 of Council Directive 78/52/EEC. Herds classified as B4 can be suspended following positive testing and when the testing interval is not respected. B2 herds can become B+ when giving positive results in control tests (see below).

Classification of herds	2006	2007
Total number of herds under the programme	**22 101**	**19 399**
% of B1	5.4	2.2
% of B2	1.3	1.8
% of B+	0.9	1.1
% of B3 (Thessalonika Prefecture)		0.8
% of OBF suspended	10.2	13.3
% of OBF (B4)	**82**	**80.5**

Observations

- The data provided by the CCA and the NRL for certain Prefectures tallied with the number of animals tested individually for brucellosis during 2007.
- In one Prefecture the B2 status was correctly suspended because the herd came into contact with a herd of unknown status.
- In some Prefectures visited, the OBF status for bovine brucellosis was granted and maintained on the base of two serological tests more than twelve months apart and, some other cases, not all the animals older than 12 months present in a holding had been tested.
- In one Prefecture visited, the OBF status was suspended only when the testing interval was longer than two years.

5.4.1.2 Bovine tuberculosis

The Ministerial Decision N. 258733 sets out the requirements for achieving and maintaining officially tuberculosis free (OTF) status, which reflects those in Annex A, Chapter I of Council Directive 64/432/EEC.

Herds are classified as T1, T2, and T3, in accordance with Article 2 of Council Directive 78/52/EEC. In addition, holdings classified T4 can be suspended following positive testing and when the testing interval is not respected. T2 herds can become T+ when giving positive results in control tests (see below).

Classification of herds	**2006**	**2007**
Total number of herds under the programme	26.770	**23.931**
% of T1	9	7.7
% of T2	0.8	1.3
% of T+	0.4	0.4
% of OTF suspended	15.5	10.8
% of OTF (T3)	**74.1**	**79.5**

Observations

- In the majority of the cases assessed, the testing intervals for granting and maintaining the statuses were respected but in several cases not all the eligible

animals kept in the holding were tested.

5.4.1.3 Ovine caprine brucellosis

According to the Ministerial decision N.258735, in the mainland flocks are classified as vaccinated or non-vaccinated.

The Ministerial Decision N. 258735 sets out the requirements for achieving and maintaining officially brucellosis free status, which reflects in many aspects those in Annex A, Chapter I of Council Directive 91/68/EEC.

In the islands, flocks are classified in four categories (M1, M2, M+ and M4). In addition, holdings classified M4 can be suspended following positive testing and when the testing interval is not respected. M2 herds can become M+ when giving positive results in control tests (see below).

Classification of flocks	2006	2007	Targets for 2007
Total flocks included in the programme	**21 437**	**22 352**	**20 268**
% of M1	16.7	9	**29.7**
% of M2	11.5	12.3	17.7
% of M+	0.2	0.1	**0.3**
% of OMF suspended	15	18.3	**38.8**
% of OMF (M4)	56.2	41.2	**13.2**

Observations

- According to the eradication programme, a flock can be considered M2 if only a given percentage of animals are tested, contrary to Council Directive 91/68/EEC, Annex A Chapter 1 providing that all animals must be initially tested for granting the status (see Endnote).
- M2 flocks maintain their status even though they are not tested for several years.
- An M4 status was granted to a holding where all animals were found negative at two tests at 7 years interval.
- The officially brucellosis free (OBF)- M4- status was maintained in the island visited with two serological test separated by more than twelve months, which is not in accordance with Council Directive 91/68/EEC, Annex A Chapter IB.
- The information provided to the mission team on M4 herds was inconsistent, and it

had not been analysed or controlled at Central level. It indicated, for example, that there were 187 flocks M4 in one Prefecture at the end of 2007, but only eleven flocks were actually tested during 2007.

5.4.2 Testing regime and follow up

5.4.2.1 Bovine brucellosis

For the eradication programmes for bovine brucellosis, test and slaughter of positive reactors is applied. In the prefecture of Thessalonica, where studies had shown that the prevalence is particularly high, vaccination of female calves is carried out with vaccine RB-51 in parallel with the eradication programme.

The Complement Fixation Test is used as a confirmatory test to verify the Rose Bengal Test (RBT) results and in dairy holdings, ELISA tests on pooled sample of milk are mainly used, as described in Annex C, paragraph 2 of Council Directive 64/432/EEC.

- In one PVD visited, records showed that only 50 herds out of 190 eligible were tested and that not all eligible animals were sampled.
- Significant discrepancies were found between the number of milk-tests performed in the National Reference Laboratory (NRL) and the data received from the Prefecture and the CCA on the number of herds tested. For instance, in 2007 in one prefecture 436 herds were OBF according to the CCA and most of them were tested using milk tests. However, the NRL performed only 281 tests for that Prefecture. In another Prefecture, 96 herds were OBF and 65 tests were carried out; in another one there were 146 OBF herds and only 59 milk tests had been performed. The CAs pointed out that the pooled sera of several herds belonging to the same holding might have been calculated as one sample in the laboratory, explaining the large difference in numbers.
- In the LVSs visited, the testing interval and the follow-up for the restoration of the status was adequate. However, the tests did not always include all the eligible animals kept in the holding, as required by Annex A, Chapter II of Council Directive 64/432/EEC.

5.4.2.2 Bovine tuberculosis

For the eradication programmes for tuberculosis (TB) the single intradermal test is applied with slaughter of positive reactors.

Tuberculin was bought from Spain via a tender procedure, for which technical specifications are in compliance with Annex B, Paragraph 2.1 of Council Directive 64/432/EEC. For 2008, the lack of bidders in the first tender delayed the supply. The CA expected to receive the first supply of tuberculin in June 2008.

Observations

- In three out of four Prefectures visited, the report of the TB testing did not include

the measurement of skin-fold thickness and not all the eligible animals were tested.

- In the Prefectures visited, the TB test could not be performed during 2008 due to lack of tuberculin. The OVs stated that they have faced similar problems in the previous years.
- In one Prefecture, the annual testing on a large dairy herd was not carried out on all animals but the herd was still classified as OTF.
- Isolation, cultivation and identification of *Mycobacterium* have not been carried out since 2006.
- In general the testing intervals after slaughter of reactors were adequate.

5.4.2.3 Ovine caprine brucellosis

In the mainland

In the mainland (and the islands of Evia and Lesbos) the programme includes vaccination of all breeding females between 3 months and older with Rev-1 and test and slaughter of all positive breeding rams. It is estimated that the replacement females consist of 10-15% of the flock. Vaccinated animals must be tattooed on the right ear with a V and the year of vaccination. In certain Prefectures, free-range cattle in close contact with sheep and goats are also vaccinated with Rev-1 and they are excluded from the eradication programme for bovine brucellosis.

1.6 million doses of Rev-1 vaccine were bought from Spain via a public tender in 2007. 50% of the doses arrived in March 2008 and the rest are expected to arrive in October 2008.

Observations

- The target for sheep and goats to be vaccinated for 2007 was around 1.6 million animals. According to the information received, 1.1 million animals were vaccinated.
- It was not possible to obtain data on the number of holdings that have never been vaccinated. The CA stated that around 85% of flocks had been vaccinated at least once since 1999.
- The tattoo was not legible in most of the vaccinated animals (even in recently vaccinated ones).
- In one LVS visited, is was explained that out of 320 flocks, 200 were vaccinated yearly (young females for breeding). In the other 120 flocks, which kept fewer than 20 animals each, mass vaccination was performed once every three years. In another LVS, only 370 flocks out of 870 were vaccinated annually. The other 500 flocks, which were small according to the OVs, were vaccinated on request of the owner.
- In one LVS visited, no serological test for rams was performed during 2006 and

2007. In 2005, two flocks were tested and they were both positive to *B.melitensis.*

- When rams are found positive, they are sent for slaughter and mass vaccination of females is carried out.
- No epidemiological investigation or further tests are performed, even when human cases have occurred.
- The 2007 programme foresaw an epidemiological survey to determine the prevalence of *B. melitensis* at national level and a serological survey to monitor the efficacy of vaccination. Neither of them has been carried out.
- In two LVSs visited, the vaccination of free-range bovines with Rev-1 was performed according to the programme.

In the islands

In the islands test and slaughter of reactors is applied. The priority set at Central level is to test flocks and herds of unknown status and those linked to human cases of the diseases.

The Complement Fixation Test is used as a confirmatory test to verify the Rose Bengal Test (RBT) results, as described in Annex C to Council Directive 91/68/EEC.

Observations

- In the island visited, the frequency of testing established in the *B. melitensis* eradication programme was not respected and sometime samples were taken only from a certain number of animals in the flock. The CA stated that the access to holdings and animals was sometimes very difficult and there was not enough staff to perform the activities.
- According to the data received, there were 3,601 flocks of unknown health status at the end of 2006 and 2,022 at the end of 2007. However, the same data indicate that only 1,095 flocks out of 21,437 eligible were tested during 2006 and 1,119 out of 18,141 during 2007.
- The CA did not receive notification of abortions during 2006 and 2007.
- The follow up of positive reactors was properly carried out. Positive reactors were sent to slaughter quickly and infected flocks were re-tested afterwards at the adequate interval.

5.4.3 Laboratory services

5.4.3.1 Brucellosis

The brucellosis laboratory network comprises a national reference laboratory (NRL) in Larissa and eight other laboratories. Most laboratories carry out serological tests using the RBT, the CFT for sera and the ELISA test for pooled milk samples. Since the beginning of 2008 bacteriology is only carried out in the NRL. At the time of the visit, the staff at NRL consisted of one head of department, 1 veterinarian and two technicians.

Observations

- The NRL is not accredited according to EN/ISOIEC 17025 and no quality system is implemented. No computerised system is used for the reception of samples and for recording or results. The samples are not anonymous.
- The NRL did not assess the reliability of the tests performed by the other laboratories (no ring test has been organised in the last three years). However, evidence was shown of inspections of the other laboratories involved in diagnosis.
- The primary international standard serum and the secondary reference national standard serum were not available. Instead, the commercial positive serum is diluted to the due concentration and distributed to the other laboratories. Each laboratory produces its own negative standard serum.
- During 2007, 204 samples (including aborted foetuses) were sent to the NRL for bacteriology analysis. Isolation and species identification of *Brucella* by biochemical tests were carried out.
- The antigens were tested according to the legislation before being distributed to other laboratories but no quality checks were performed for ELISA kits used in the country, as required by Annex C, Chapter 4 of Council Directive 64/432/EEC.
- All batches of Rev-1 vaccine were tested in the NRL before its release according to Chapter 2.4.2 of OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals.
- Periodically, the NRL is short of reagents and so tests cannot be performed.

5.4.3.2 Tuberculosis

The laboratory in Athens has been designated as NRL for TB but it is not operating yet due to the lack of equipment.

Observations

- No checks are performed on the tuberculin used in the country as required in Annex B, paragraph 4 of Council Directive 64/432/EEC.

5.4.4 Diseases statistic (epidemiological data)

The CCA provided the FVO with official tables concerning the implementation of the three programmes and the classification of the holdings at national level, as provided by Commission Decision 2002/677/EC (See below).

Bovine brucellosis	2006	2007
Total number of herds included in the programme	22 101	19 399
Number of herds examined	9 128	8070
% herd coverage	**41.3**	**41.6**
herd prevalence	2.89	3.42
herd incidence	1.93	1.75

Bovine TB	2006	2007
Total number of herds included in the programme	26 136	23 931
Number of herds examined	9 205	8 017
% herd coverage	**35.22**	**33.5**
herd prevalence	1.37	1.46
herd incidence	0.71	0.71

Ovine brucellosis islands	2006	2007	Targets for 2007
Total number of herds included in the programme	21 437	18 141	20.268
Number of herds examined	1 095	1 119	6.344
% of herds coverage	**5.11**	**6.17**	**31.3**
herd prevalence	4.66	3.04	1.92
herd incidence	1.46	0.45	1.09

Ovine brucellosis mainland	2006	2007	Targets for 2007
Total number of herds in vaccination programme	?	94 117	103 562
Number herds vaccinated	21 703	26 968	83.042
% of herds coverage	**?**	**28.6**	**80.1**

From the tables provided, it appears that the coverage of herd testing for all three diseases remains below 35%.

The coverage for vaccination for ovines and caprines reached 6% of the herds, in comparison with a target of 31.3%. Nevertheless, the information can not be considered reliable for the following reasons:

Observations

- Not all the prefectures had sent the information, so the tables presented were not always complete. For example, for bovine brucellosis, 13 out of 54 prefectures supplied no data in 2007.
- The crosscheck of the figures included in the official tables with the data available at PVD and at LVSs show serious discrepancies, in terms of number of herds and animals tested and number of animals vaccinated that could not be justified.
- Data were expressed in different units (e.g. holdings-herds) from different sources. Therefore, the comparison and analysis of data at different organisational levels were sometimes nearly impossible.

5.4.5 Transhumance

According to the relevant Ministerial decisions, transhumance is not allowed without a health certificate issued by the LVS and the Prefecture of destination must be informed and authorize the movement. The CCA informed that only negative and vaccinated herds and flocks can go for transhumance.

Observations

- The pastures used for transhumance are not registered in the national DB. A health certificate is issued for the movement of animals during the summer months to common pastures, but movement to those fields are not recorded on the DB.
- The conditions for transhumance were not uniformly understood and applied in the different PVDs and LVSs

- In one LVS visited, a herd positive for TB was allowed to move for transhumance. The CA stated that that was allowed based on animal welfare (high temperatures) if the LVS of destination was informed (and that was done) and if the herd was kept isolated from others at destination. The epidemiological investigation carried out in 2007 when that herd shown positive reactors concluded that the origin of the TB was the contact with infected animals during transhumance the previous year.

5.4.6 Epidemiological studies of infected herds

According to the eradication programme, epidemiological enquiries must be performed by the LVS the first time that positive reactors are found in a holding. A standard questionnaire is available. When there is a human case linked to a holding, the epidemiological survey must be sent to the CCA.

Observations

- Epidemiological studies were carried out in most of the positive cases checked, but not in all. In one LVS, the OV stated that the epidemiological enquiry was carried out only in case of human infection.
- In a case when the hypothesis of infection was the contact with animals from other areas during transhumance, no information was sent from the Prefecture to other Prefectures to follow up the investigation.

5.4.7 Identification, isolation and removal of reactors animals, and depopulation of infected herds

According to the eradication programmes, reactors must be marked with a notch in the ear and be kept in isolation from the other animals in the herd.

Depopulation takes place when at least 50% of the animals are infected. The proposal is made at PVD level and the final decision is taken by the CCA.

Observations

- In the holding visited, where reactors had been disclosed, the operations for identification, isolation and removal were carried out according to the requirement of the national Programmes, and for bovine animals also according to Council Directive 78/52/EEC and they were under official control.
- The procedures for depopulation seen in a LVS were applied according to the procedures set in the eradication programmes.

5.4.8 Sanitary slaughter and compensation system

Positive reactors should be removed from the holding as soon as possible and slaughtered in slaughterhouses designated by the PVD. The order to slaughter reactors is signed by the Prefect, on proposal of the PVD. The SH is informed in advance of the arrival of the animals.

The valuation of the animals for compensation is done by an *ad hoc* committee and it

must be eventually approved by the Prefectural Veterinary Authority. The farmer should receive the compensation within 90 days. A decision is issued annually establishing the terms for compensation.

Observations

- The time to slaughter reactors was short (normally less than 30 days) in all the cases checked, apart from one case when the reactor was pregnant. It was slaughtered at a later stage and the owner did not claim compensation.
- In most of the cases seen, the farmer received compensation within the 90 days following the slaughter of reactors.

5.4.9 Disinfection procedures on infected holdings/transport vehicles

According to the eradication programmes, disinfection after removal and transportation of reactors is compulsory.

Observations

- Verbal instructions were given to the farmers to carry out the disinfection after the removal of reactors. The procedures were monitored up by the OV, who issued certificates.
- Certificates of cleaning and disinfection of vehicles signed by the OV were available in the slaughterhouses visited.

5.5 FOOD SAFETY CONTROL

5.5.1 Controls on milk

When positive reactors are found in dairy holdings, the plant receiving the milk is informed by the Prefecture. Nevertheless, in one of the Prefectures the OVs stated that they are notified of positive case only by the neighbouring Prefectures.

When positive reactors are found in a holding, the owner is informed in writing on the measures that should be taken and the prohibition to deliver milk from positive animals to the dairies.

Observations

- In the Prefectures visited, the dairies were informed in writing by the Prefectural Veterinary Authority when outbreaks of TB or brucellosis occurred.
- A dairy plant receiving sheep and goat milk from positive flocks was visited. A list of all the milk suppliers with their health status, sent by the PVD was available. The records kept indicated that the milk was always heated to at least at 65°C for 15 minutes.
- A dairy plant visited receiving milk from vaccinated flocks had automatic records to

demonstrate the pasteurisation of the milk. The HACCP did not include verification of the pasteurisation, which was a critical control point. The official controls seen did not include the verification of the heat treatment.

- On the mainland, dairy establishments do not receive information when positive reactors (rams) are found in flocks supplying milk.

5.5.2 Control at slaughterhouses

According to the national legislation, detailed procedures are in place for slaughter of reactors and all suspicious lesions found during post-mortem should be sent to the NRL. In case of positive results, the OV has to inform the Veterinary Directorate of the Prefecture to check the animals in the holding.

Observations

- Ante and post-mortem records were available in all the slaughterhouses visited. The records showed that positive reactors were slaughtered at the end of the day. Written procedures for cleaning and disinfection after the slaughter of reactors were available in two SHs. In the other one, evidence was provided that the official veterinarian was present during the disinfection and a certificate was issued.
- Sampling of organs for further laboratory examination was done only on a sporadic base.

5.6 BRUCELLOSIS AND TB IN HUMANS

Liaison has been established centrally between the Ministry of Health and the MRDF and in the Prefectures between the PVDs and the Health Directorates.

The notification of human cases of TB and Brucellosis is compulsory. In such cases, the Health Directorate of the Prefecture informs the PVD which forward the information to the DZ.

According to the information provided by the Department of Epidemiological Surveillance and Intervention (DESI) of the Ministry of Health the trend of notified human cases of Brucellosis has been as follows:

Year	2002	2003	2004	2005	2006	2007
Cases	331	239	233	337	284	153

Some studies revealed that the actual number of cases is probably two or three times higher, due to under notification. 95% of the cases are found in small holders who habitually consume products derived from unpasteurized milk. The species of B*rucella*

involved in human cases is not routinely investigated but some pilot studies suggest that the very great majority, if not all cases, are due to *B. melitensis* No human cases due to consumption of commercial dairy products have been notified to the DESI.

No cases of human tuberculosis due to *M. bovis* have been reported for many years.

Observations

- Leaflets to increase awareness of the farmers and of the public in general were available in the LVSs visited.
- In the action plan presented by the Prefecture to the audit, the Veterinary Directorate stated that they were not informed about the human cases by the Heath Directorate.

6 CONCLUSIONS

Competent authorities

The CA did not have the appropriate resources, personnel, facilities and equipment to implement the activities foreseen in the eradication programmes for 2006 and 2007, as required by Article 4(b) and (d) of Regulation (EC) No 882/2004.

The CA did not ensure that its staff involved in the eradication and control programmes received appropriate training and their duties were not always performed competently and in a consistent manner, as required by Article 6(a) of Regulation (EC) No 882/2004. The procedures in place to verify the effectiveness of the controls carried out, as foreseen by Article 4.2(a) of Regulation (EC) No 882/2004, could not identify and correct these shortcomings.

The procedures in place for coordination and cooperation between the DZ and the local authorities, as required by Article 4.3 of Regulation (EC) No 882/2004 do not ensure effective exchange of information which hampers the success of the eradication and control programmes.The lack of connection between the DBs available and the inefficacy of the information and reporting system imposes a burden for the analysis of data and increases unnecessarily the workload and the risk of mistakes.

With reference to the reported persistence of serious shortage of staff in the services responsible for veterinary controls in Greece, it can therefore be concluded that the situation of non-compliance with the requirements of Art. 4.2 of Regulation (EC) No 882/2004, which led the European Commission to bring an action against Greece before the EC Court of Justice (Case C-331/07), has not been addressed yet.

Eradication programmes

Classification of holdings

The procedures in place for achieving and maintaining the herds status with regard to bovine brucellosis and tuberculosis were not in line with Annex A, chapter I and II of Council Directive 64/432/EEC and those for achieving and maintaining the status in the ovi/caprine holdings were not in compliance with Council Directive 91/68/EEC because test intervals in most of the PVD visited were not respected, not all eligible animals were

always tested and movement controls were poorly enforced. As a consequence the figures about classification of herds presented in the official tables can not be considered reliable.

Testing regime and follow-up

Bovine brucellosis and tuberculosis

A combination of factors such as the large number of un-tested herds every year, the low frequency of testing in those covered and the inaccuracy and lack of harmonisation of the data available made it impossible to assess the progress made in the eradication of the diseases during the implementation of the programme during 2006 and 2007.

Although when positive cases are detected the follow up procedures are properly implemented to eliminate the disease from the herd, the fact that not all eligible animals are always covered and the incompleteness of the reports compromise the effectiveness reliability of the measures taken.

The lack of isolation of *M. bovis* does not guarantee that all positive animals are disclosed and non specific reactions are not taken into account.

Since the activities included in the programmes were not properly implemented, the prevalence and incidence rates presented in the official table for bovine brucellosis and TB are not reliable.

Ovi/caprine brucellosis

The impossibility to identify vaccinated animals and the lack of a uniform approach for the vaccination of a large number of small flocks implies that many female sheep remain unvaccinated every year. This, together with the lack of data to assess the efficacy of the vaccination, make it impossible to know the level of protection in the population. As the testing of males is not carried out as foreseen, it is not possible to know which flocks are infected.

The data presented in the official tables show that vaccination coverage in 2007 was very low (6% of herds in comparison with the target of 31.3%).

In the islands, due to the small percentage of flocks tested every year, to their incorrect classification and incorrect testing regime applied and to the lack of movement controls that undermines the health status attributed to the flocks, there are no data available to provide a reliable overview of the implementation of the eradication programme.

Laboratory services

The NRL for brucellosis did not perform all the activities foreseen in Council Directive 64/432/EEC, Annex C, paragraph 4 and has not started the procedures to be accredited, as required by Article 18 of Commission Regulation (EC) No 2076/2005.

The lack of a quality system impairs the accuracy and repeatability of the test performed. The lack of proficiency ring trials does not guarantee the reproducibility of the tests carried out in the country.

The NRL for TB does not perform the activities foreseen in Council Directive

64/432/EEC, Annex B, paragraph 4.1.

Statistical data

The data presented by the CCA for the programmes for 2006 and 2007, still showing an extremely low coverage of testing and vaccination of herds were not reliable and the real prevalence and incidence rates of the three diseases could not be determined.

The unreliable data made impossible for the mission team to assess the impact of the programmes on the diseases and did not provide the CCA with suitable information to steer the future programmes.

Transhumance

The procedures in place for transhumance do not prevent animals of different heath status from coming into contact. The lack of registration of transhumance pastures does not allow accurate tracing of animals.

Epidemiological enquires

As epidemiological enquiries are not always performed and completed, possible sources of infection cannot be always identified and traced back and further spread of the disease can occur, particularly in view of the poor control of animal movements.

Sanitary slaughter

The procedures related to identification, isolation and removal of reactors, sanitary slaughter and disinfection and compensation were carried out in accordance to Council Directive 78/52/EEC (for bovine animals) and with the National Eradication Programmes (for ovi/caprine animals).

Food safety control

Procedures are in place to prevent milk from positive reactors going for human consumption and to ensure that milk from positive herds and flocks receives appropriate heat treatment, as required by Regulation (EC) No 853/2004, Annex III, Section IX, Chapter I, point 3 (a) and (b).

Animals that react positively to any of these diseases are slaughtered at the end of the shift, the meat is inspected and the premises and means of transport are cleaned and disinfected in accordance with Regulation (EC) No 854/2004, Annex I, Section II, Chapter III, point 5.

Brucellosis and TB in humans

Collaboration and exchange of information between the Ministry of Health and the MRDF is in place.

7 CLOSING MEETING

A final meeting was organised in Athens on 30 May 2008 with representatives of the CCA, in the course of which the mission's main findings and preliminary conclusions were presented by the inspection team to the CCA

The CCA took note of the findings and preliminary conclusions and provided some factual corrections of findings and some additional information requested by the mission team.

8 RECOMMENDATIONS

No.	Recommendation
1	To provide sufficient resources, staff, equipment and adequate training to implement the eradication programmes in order to guarantee that official controls are performed competently and in a consistent manner and that procedure are in place to verify the effectiveness of the control carried out, as required by Regulation (EC) No 882/2004.
2	To guarantee that conditions and procedures for achieving and maintaining the health status of bovine and ovi/caprine herds are performed in accordance with Council Directives 64/432/EEC and 91/68/EEC.
3	To take action in order to guarantee that all eligible herds and animals are tested at the due intervals and that the official controls are properly documented so that data provided about prevalence and incidence will be reliable.
4	To carry out studies on the efficacy of vaccination in order to assess the level of protection in the ovine population and reconsider the importance of testing all males to disclose all possibly infected herds, as prescribed in the Ovine caprine Brucellosis Eradication Programme.
5	To improve the coordination between the DZ, the PVDs and the LVS, as required by Article 4.3 of Regulation (EC) No. 882/2004, by establishing a reliable system for generating, transmitting and analyzing the data about the implementation of the programmes so they can be usefully used to assess the impact of the measures and to set targets for future programmes that should be realistic, achievable and proportionate to the available resources.
6	To guarantee that the Brucellosis NRL will start the accreditation procedures, as required by Article 18 of Commission Regulation (EC) No. 2076/2005 and that the TB NRL will be equipped in order to start the activities foreseen by Annex B, paragraph 4 of Council Directive 64/432/EEC.

The competent authority's response to the recommendations can be found at:

http://ec.europa.eu/food/fvo/ap/ap_greece_7793_2008.pdf

9 ENDNOTES

Concerning	Detail
Section 5.4.1.3	MRDF Decision No 258963/20.08.08 amended Decree No 258735/17.07.2007 (GG 1220-B), so the control will include 100% of the animals as provided for in Directive 91/68/EEC

ANNEX 1 - LIST OF LEGISLATION REFERENCED IN THE REPORT

Reference	OJ Ref.	Detail
Legislation relating to Animal Health		
Directive 64/432/EEC	OJ 121, 29.7.1964, p. 1977–2012	Council Directive 64/432/EEC of 26 June 1964 on animal health problems affecting intra-Community trade in bovine animals and swine
Directive 77/391/EEC	OJ L 145, 13.6.1977, p. 44–47	Council Directive 77/391/EEC of 17 May 1977 introducing Community measures for the eradication of brucellosis, tuberculosis and leucosis in cattle
Directive 78/52/EEC	OJ L 15, 19.1.1978, p. 34–41	Council Directive 78/52/EEC of 13 December 1977 establishing the Community criteria for national plans for the accelerated eradication of brucellosis, tuberculosis and enzootic leukosis in cattle
Directive 91/68/EEC	OJ L 46, 19.2.1991, p. 19–36	Council Directive 91/68/EEC of 28 January 1991 on animal health conditions governing intra-Community trade in ovine and caprine animals
Decision 90/424/EEC	OJ L 224, 18.8.1990, p. 19–28	90/424/EEC: Council Decision of 26 June 1990 on expenditure in the veterinary field
Decision 90/638/EEC	OJ L 347, 12.12.1990, p. 27–29	90/638/EEC: Council Decision of 27 November 1990 laying down Community criteria for the eradication and monitoring of certain animal diseases
Directive 97/12/EC	OJ L 109, 25.4.1997, p. 1–37	Council Directive 97/12/EC of 17 March 1997 amending and updating Directive 64/432/EEC on health problems affecting intra-Community trade in bovine animals and swine
Decision 2006/875/EC	OJ L 337, 5.12.2006, p. 46–56	2006/875/EC: Commission Decision of 30 November 2006 approving programmes for the eradication and monitoring of animal diseases, of certain TSEs, and for the prevention of zoonoses presented by the Member States for the year 2007
legislation on official veterinary controls		
Directive 89/662/EEC	OJ L 395, 30.12.1989, p. 13–22	Council Directive 89/662/EEC of 11 December 1989 concerning veterinary checks in intra-Community trade with a view to the completion of the internal market
Directive 90/425/EEC	OJ L 224, 18.8.1990, p. 29–41	Council Directive 90/425/EEC of 26 June 1990 concerning veterinary and zootechnical checks applicable in intra- Community trade in certain live

Reference	OJ Ref.	Detail
		animals and products with a view to the completion of the internal market
Regulation (EC) No 882/2004	OJ L 165, 30.4.2004, p. 1, Corrected and re-published in OJ L 191, 28.5.2004, p. 1	Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules
Legislation on the identification of animals and control of animal movements		
Directive 92/102/EEC	OJ L 355, 5.12.1992, p. 32–36	Council Directive 92/102/EEC of 27 November 1992 on the identification and registration of animals
Regulation (EC) No 1760/2000	OJ L 204, 11.8.2000, p. 1–10	Regulation (EC) No 1760/2000 of the European Parliament and of the Council of 17 July 2000 establishing a system for the identification and registration of bovine animals and regarding the labelling of beef and beef products and repealing Council Regulation (EC) No 820/97
Regulation (EC) No 21/2004	OJ L 5, 9.1.2004, p. 8–17	Council Regulation (EC) No 21/2004 of 17 December 2003 establishing a system for the identification and registration of ovine and caprine animals and amending Regulation (EC) No 1782/2003 and Directives 92/102/EEC and 64/432/EEC
Regulation (EC) No 1505/2006	OJ L 280, 12.10.2006, p. 3–6	Commission Regulation (EC) No 1505/2006 of 11 October 2006 implementing Council Regulation (EC) No 21/2004 as regards the minimum level of checks to be carried out in relation to the identification and registration of ovine and caprine animals
Legislation related to food safety		
Regulation (EC) No 853/2004	OJ L 139, 30.4.2004, p. 55, Corrected and re-published in OJ L 226, 25.6.2004, p. 22	Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin
Regulation (EC) No	OJ L 139, 30.4.2004, p.	Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004

Reference	OJ Ref.	Detail
854/2004	206, Corrected and re-published in OJ L 226, 25.6.2004, p. 83	laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption